

# **TELECOMMUNICATIONS LAW**

## **in South Africa**



**Edited by Lisa Thornton, Yasmin Carrim, Patric Mtshaulana and Pippa Reburn**

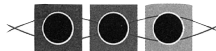
# TELECOMMUNICATIONS LAW

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Edited by

Lisa Thornton, Yasmin Carrim,  
Patric Mtshaulana and Pippa Reyburn

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## Preface

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**T**his book came out of two ideas – to write a reference book on telecommunications law and to empower a new generation of lawyers with skills and knowledge in telecommunications law.

The project was conceived and developed in 2002, with valuable input from a number of different persons and organisations. It was decided that several young lawyers would be chosen on open application to contribute chapters to a book on telecommunications law. This was done in early 2003. The authors developed a book outline, chapter outlines and drafted chapters, under the guidance of a team of advisors. A number of workshops were held with the authors, both on substantive areas of telecommunications law and on research and writing skills.

This book is not intended to be the definitive text on South African telecommunications law. We do hope however that we have succeeded in producing a much-needed reference book. We also hope that we have contributed to the development of telecommunications lawyers.

We also hope that this project will continue and grow. We would like to publish the contents of the book on a website and provide access to resource materials. We also hope to provide chapter updates and new chapters, as appropriate. We welcome any suggestions in this regard. We welcome also any comments on the contents of this book and suggestions for improvement.

Finally, I would like to take this opportunity to thank some of those people without whom this project could not have happened.

- The other members of the advisory team, Advocate Patric Mtshaulana, Ms Yasmin Carrim and Ms Pippa Reyburn.
- The project accountant, Ms Nerine Butler of Douglas & Velcich Chartered Accountants, with special thanks to Ms Butler for invaluable administrative and editing assistance as well.

- Ms Kim Morgan, for helping to administer the project.
- The International Development Research Centre (IDRC), with special thanks for encouragement, support and advice from Ms Heloise Emdon.
- Those who presented at workshops, Ms Carrim, Mr Mike Brierley, Mr Brian Adams and Mr John Linnegar. Thanks also to Mobile Telephone Networks (Pty) Ltd and MTN Network Solutions (Pty) Ltd for hosting such workshops.
- The Hivemind Network hosted by the Future Foundation Management CC for hosting a list serve on behalf of the project, with a special thanks to Mr Anthony Brooks.
- To Mr Mike Brierley for his invaluable chapter on telecommunications technology.
- To Mr James Hodge and Mr Keith Weeks for their invaluable chapter on telecommunications economics.
- To Mr John Linnegar and Ms Kerron Edmunson for editing assistance.
- The publishers, STE Publishers (Pty) Ltd.

Lastly, I would like to thank the authors for their participation in the project. I wish them all well in their careers.

**Lisa Thornton**  
**Director, Lisa Thornton Inc**

## Note from Funders

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**K**nowledge is information at work, and information can only work if there are networks! Networks that criss-cross and intertwine the globe have become the new arteries to our new lifeblood of information.

It is these networks that make possible multi-trillion dollar transactions hourly. At a fraction of the cost of an international call, a Voice over Internet (VoIP) call can connect a migrant student halfway around the globe to her rural parents back home in Africa.

These networks also make possible an emergency call to the local hospital, or an email containing an .mpeg file showing the extent of crop disease in the Eastern Cape to an agricultural research centre based anywhere in the world.

It is networks that enable a German tourist to download images of a township B&B in the Cape Flats, or the extraction from a huge relational database of an SMS back to a rural HIV-positive patient to remind him of a follow-up visit to the rural clinic, and his latest CD count.

These are what dreams are made of! We see a networked world that allows the developed and the developing worlds to engage. We see ICTs bringing empowerment. But we also see very poor levels of access to information and communication technologies and to telecommunications in developing communities. While the ITU reveals in its April 2004 statistics that 6% of all Africans have access to cellular telephony, it also points out that only one person in 50 on the continent is “wired” to the Internet.

Our work with development partners who do research into the interface between developing communities and ICTs reveals that in Africa, as in other regions, communities have to overcome high barriers of entry to participate in the ICT revolution. Telecommunications access is one of those barriers. Access to the information age equates to access to dial tone. That access also translates to affordability.

This book interrogates the technologies and the economics of telecommunications, the international and national policy contexts, the regulator and its role in broadening participation in the telecommunications sector. It goes further to bring us up to date on matters of convergence, electronic communications law and the state of play with interception and monitoring legislation in South Africa.

The IDRC is excited about the innovative approach Lisa Thornton's project team has taken by creating the opportunities for young lawyers, technologists and researchers to learn by doing the research for this book.

We also acknowledge that in many respects the liberalisation model that South Africa chose in telecommunications has been emulated by other African countries. We believe that a thorough and thoughtful analytical work of this nature would help not only South Africans but other countries to learn from the lessons of experience and of the context here appraised on their journey towards the Network Economy.

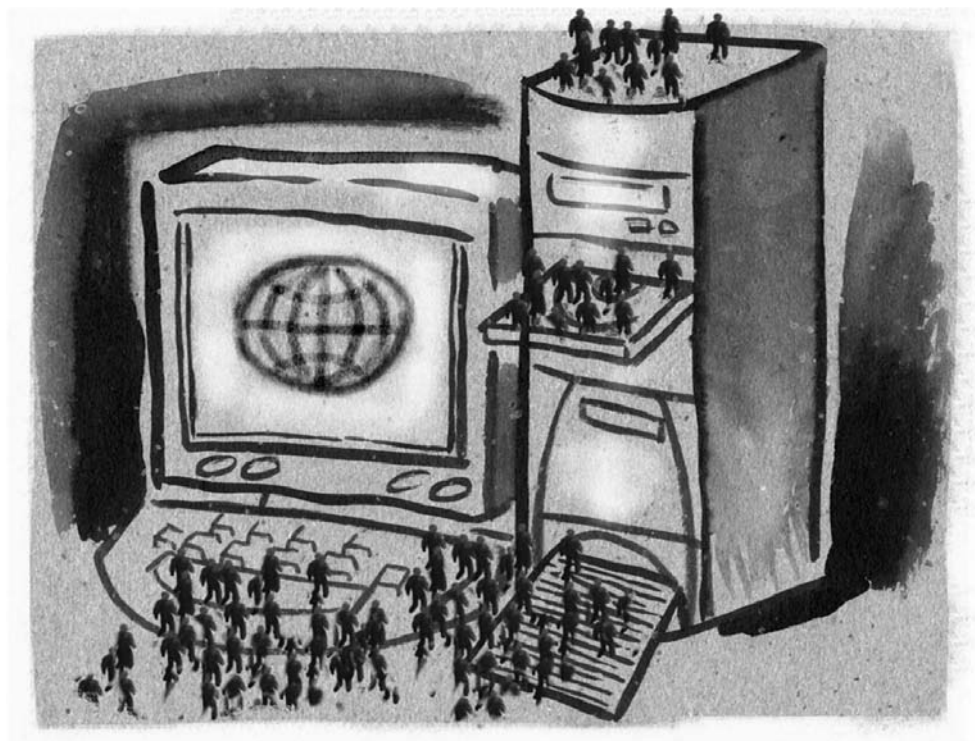
**Heloise Emdon**

**Senior Programme Officer: Acacia and Connectivity Africa, International Development Research Centre (IDRC)**



# Telecommunications Law — an Overview

<sup>1</sup>Lisa Thornton



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<sup>1</sup>The author would like to thank Sanette Nel and Lee Mendelsohn for reviewing parts of previous drafts of this chapter and Yasmin Carrim, Elize van der Walt, Tanya Scott, Mandla Msimang, Keith Weeks and Devan Naidoo for providing valuable information.

# Introduction

Internationally, the International Telecommunication Union is in place to regulate telecommunications. Domestically, in South Africa, there is a myriad of legislation – including telecommunications-specific legislation, the Telecommunications Act, 103 of 1996 – and a specialist regulator has been established to regulate telecommunications: the Independent Communications Authority of South Africa (Icasa). Why is this so? What is it about telecommunications that requires such a high degree of regulation?

This chapter begins by addressing these questions, by looking at the question ‘what is telecommunications?’ and then by identifying reasons why the industry is so highly regulated. The chapter then looks generally at the way in which telecommunications is regulated and finally specifically at how it is regulated in South Africa.

The chapter is intended to provide a big-picture overview of how telecommunications is regulated in South Africa. More detail will follow in the succeeding chapters, which will deal with specific issues, such as licensing, interconnection, pricing and universal service.

Primarily, the following are discussed in this chapter: the constitutional framework; national policy; international law; and national legislation, including the Telecommunications Act, the Independent Communications Authority of South Africa Act, 13 of 2000 (the *Icasa Act*), the Competition Act, 89 of 1998, the Electronic Communications and Transactions Act, 25 of 2002 (the *ECT Act*) and the Regulation of Interception of Communications and Provision of Communication-Related Information Act, 70 of 2002 (later in this chapter, this Act will be referred to as ‘the *Interception Act*’). The chapter concludes with a few suggestions for improving the regulatory framework for telecommunications in South Africa.

## 1. WHAT IS TELECOMMUNICATIONS?

‘Telecommunications’ is defined in *Newton’s Telecom Dictionary* as:

The art and science of ‘communicating’ over a distance by telephone, telegraph and radio. The transmission, reception and the switching of signals, such as electrical or optical, by wire, fibre, or electromagnetic (ie through-the-air) means.<sup>2</sup>

The definition holds two concepts. The first is the act of communicating, in other words, imparting and receiving information. The second is the means of communicating, in other words, communications infrastructure.

The Constitution of the Republic of South Africa Act, 108 of 1996 guarantees the right to communicate. Section 16(1) states:

Everyone has the right to freedom of expression, which includes –  
(b) freedom to receive or impart information or ideas ...<sup>3</sup>

<sup>2</sup> H Newton *Newton’s Telecom Dictionary* 18 ed (2002) 733.

<sup>3</sup> s 16(1)(b) of the Constitution.

The right to freedom of expression has been interpreted to mean not only the right to speak and the right to hear speech but also the right to have access to the means by which to communicate.<sup>4</sup>

The Telecommunications Act, which provides for the primary regulation of the telecommunications industry in South Africa, defines telecommunications more narrowly as the means by which to communicate, as follows:

the emission, transmission or reception of a signal from one point to another by means of electricity, magnetism, radio or other electromagnetic waves, or any other agency of a like nature, whether with or without the aid of tangible conductors.<sup>5</sup>

## 2. WHY TELECOMMUNICATIONS IS SPECIALLY REGULATED

There is nothing obvious in definitions or the concept of telecommunications that tells us why it is so specially and highly regulated. So why is this the case?

Traditionally, the answer to why telecommunications has been so regulated has been threefold. First, telecommunications was seen in the same light as other public utilities, such as water and electricity. Governments generally believed that it was their duty to ensure universal access to such services by providing the services themselves.<sup>6</sup> In the White Paper on Telecommunications Policy, 1996, the South African Government articulated the importance of communications in the development of South Africa.<sup>7</sup> Although history has proven that creating and protecting government-owned monopolies may not be the best way to ensure universal service, the development and implementation of effective policies to spur universal service will continue to prove to be key in regulating telecommunications for the future.

Secondly, governments historically thought about telecommunications as a 'natural monopoly'.<sup>9</sup> Therefore, most governments protected a monopoly supplier of services by not allowing competitors to be licensed.<sup>10</sup> This economic model, however, is increasingly becoming inadequate for a number of reasons, not least of which is the advancement of technology.<sup>11</sup> Today, regulatory policy and law

<sup>4</sup> See *TS Masiyiwa Holdings (Pvt) Ltd and Another v Minister of Information, Posts and Telecommunications* 1998 (2) SA 755 (ZS) at 767–8; *Retrofit (Pvt) Ltd v Posts and Telecommunications Corporation (Attorney-General of Zimbabwe Intervening)* 1996 (1) SA 847 (ZS) at 858–865. Although the cases cited are Zimbabwean, the Zimbabwean Constitution is substantially similar to the South African Constitution in regard to the right to freedom of expression.

<sup>5</sup> s 1 of the Telecommunications Act.

<sup>6</sup> H Intven (ed) *Telecommunications Regulation Handbook* Module 1 – Overview of Telecommunications Regulation (2000) 1–2.

<sup>7</sup> The White Paper on Telecommunications Policy, GN 291 of 1996 in GG 16995 dated 13 March 1996, chapter 1. See also *The New Partnership for Africa's Development*, October 2001, para V.B.ii.

<sup>8</sup> Minister of Communications, Dr I Matsepe-Casaburri, Address at the National Colloquium on Convergence Policy, 15 July 2003, [docweb.pwv.gov.za/Convergence/speech.html](http://docweb.pwv.gov.za/Convergence/speech.html) ('In bridging the digital divide through the utilization of the new technologies and expedited by convergence, our perspective on information and communications technology should be to continue to promote universal service, to ensure access for disadvantaged people and ensure that they participate as active producers in the information society, not merely as passive recipients of an imported and distant content').

<sup>9</sup> CT Foreman (ed) *The Telecommunications Debate in Regulating for the Future – The Creative Balance* (1991) 176.

<sup>10</sup> In terms of s 36(3) of the Telecommunications Act, Telkom SA Limited was granted an exclusive licence to provide certain public switched telecommunication services for a period to be specified in its licence. The period specified was five years (para 3, Licence Issued to Telkom SA Limited to Provide Telecommunication Services under s 36 of the Telecommunications Act, 1996, GN 768 of 1997 GG 17984 dated 7 May 1997). However, despite the period of exclusivity having ended on 7 May 2002, Telkom enjoys a *de facto* monopoly because, as of June 2004, a competitor has not been issued a licence as required by ss 32A(1) and 32B of the Telecommunications Act.

<sup>11</sup> Foreman (note 9 above) 175.

regarding telecommunications are more focused on controlling monopolistic behaviour than on protecting monopolies.<sup>12</sup> The regulation of interconnection and pricing (in addition to regulating for universal service) will be critical in the transition from a monopoly to a competitive market.<sup>13</sup>

Thirdly, it is important to regulate telecommunications specially to the extent that a valuable national resource is involved, namely the radio frequency spectrum. Without the exercise of control over how the spectrum is used and who gets to use it, anarchy might prevail or, perhaps even worse – the dominant participants might prevail at great cost to all other participants and consumers. Historically, governments have seen the radio frequency spectrum as a valuable national resource over which the government must exercise some control. That is still true today to a large extent, although the emergence of new digital technologies will make it less so in the future.<sup>14</sup>

Currently, the main reasons advanced for specialised regulation of telecommunications are –

- to maintain control over the use of a valuable national resource, namely the radio frequency spectrum;
- to control anti-competitive behaviour by dominant players in the market, which in turn will lead to the realisation of universal service and to increased quality and choice; and
- to ensure the development and implementation of effective universal service policies.

### 3. HOW TELECOMMUNICATIONS IS REGULATED

The nature of telecommunications is that it is borderless. In other words, it does not stop at national borders. It therefore makes sense that at least some of the regulation of telecommunications should be (and is) through international law. To some extent, this is true; however, there is still quite a lot of domestic regulation of telecommunications.

In a constitutional state such as South Africa, such domestic regulation is founded in the Constitution. There are also usually one or more pieces of legislation applicable to the industry, usually a telecommunications-specific statute supplemented by other general legislation also applicable to the industry, such as competition legislation. It is argued by some that, as the industry becomes more competitive, there will be less need for telecommunications-specific legislation and increasing reliance on general competition legislation for effective regulation of the industry.<sup>15</sup>

There is also usually some entity responsible for regulating the industry, inter

<sup>12</sup> Minister of Communications, Dr I Matsepe-Casaburri, Address at the National Colloquium on Convergence Policy, 15 July 2003, [docweb.pwv.gov.za/Convergence/speech.html](http://docweb.pwv.gov.za/Convergence/speech.html) ('[Government] must achieve [its] goal and objective through promoting the interests of [its] people through the encouragement of effective competition, ensuring that social obligations are met and that services are matched with commitments to sustainability, resilience and protection of users.').

<sup>13</sup> Intven (note 6 above) 1-1-1-4.

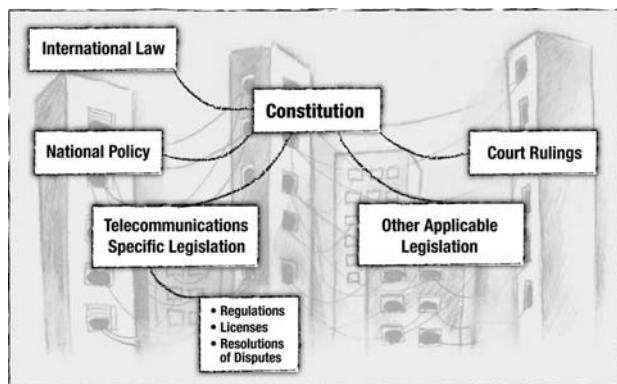
<sup>14</sup> White Paper on Telecommunications Policy para 5.5. With regard to control of the telecommunications frequency spectrum, see inter alia chapter IV of the Telecommunications Act; with regard to the broadcasting frequency spectrum, see inter alia chapter IV and ss 41 and 43 of the Independent Broadcasting Authority Act, 153 of 1993 and chapter VIII of the Broadcasting Act, 4 of 1999 regarding the Frequency Spectrum Directory of the Department of Communications.

<sup>15</sup> See T Gilbertson *Telecommunications-Specific Competition Regulation in Australia: What Next?* 30 March 2001 available at [www.gtlaw.com.au/binaries/pdf/publications/telecomspecific.pdf](http://www.gtlaw.com.au/binaries/pdf/publications/telecomspecific.pdf), which includes a discussion of the issue not only in Australia but also in the United Kingdom, New Zealand and the European Union.

alia, by issuing licences, resolving disputes and making more detailed rules for the industry. Often, the regulator is independent of both the government and the various players in the industry. Sometimes the various regulatory functions are shared by different government entities.<sup>16</sup>

Also, in most jurisdictions, the courts play a role in either resolving disputes or reviewing decisions of the regulator, or both.

South Africa's regulatory framework follows this general model to a large extent. The diagram below is a bird's-eye view of the regulatory framework. The South Africa-specific diagram at the end of this chapter follows from the discussion set out in the remainder of this chapter.



## 4. THE REGULATION OF TELECOMMUNICATIONS IN SOUTH AFRICA

### 4.1 Constitutional Framework

#### 4.1.1 Supremacy of the Constitution

Since the 1994 elections, South Africa has been a constitutional state.<sup>17</sup> The Constitution is the supreme law of the land. All legislation must be consistent with it and all acts of the government must be consistent with it.<sup>18</sup>

In terms of the Constitution, South Africa has three levels or spheres of government, namely, national, provincial and local.<sup>19</sup> The regulation of telecommunications generally falls to the national sphere.<sup>20</sup>

In terms of the Constitution, there are also three branches of national government, namely, the legislative authority,<sup>21</sup> the executive authority,<sup>22</sup> and the judicial authority.<sup>23</sup>

<sup>16</sup> African Information and Telecommunication Policy Study Group, Telecommunication Development Bureau, International Telecommunication Union African Green Paper: *Telecommunication Policies for Africa approved by the African Regional Telecommunication Development Conference* (Abidjan, 6–10 May 1996) 35–8, 42.

<sup>17</sup> The Constitution of the Republic of South Africa Act, 200 of 1993 (known as the interim Constitution) was promulgated in preparation of the historic 1994 democratic elections in South Africa, and has since been superseded by the Constitution of the Republic of South Africa, 1996 (known as the final Constitution).

<sup>18</sup> § 2 of the final Constitution states that the 'Constitution is the supreme law of the Republic; law or conduct inconsistent with it is invalid, and the obligations imposed by it must be fulfilled'.

<sup>19</sup> § 40(1) of the Constitution.

<sup>20</sup> Telecommunications does not fall within Schedule 4 ('Functional areas of concurrent national and provincial legislative competence') or Schedule 5 ('Functional areas of exclusive provincial legislative competence'). There are items, such as 'building regulations', that do fall within those schedules that are peripherally relevant to telecommunications law, but are not covered in this book.

<sup>21</sup> Chapter 4 of the Constitution.

<sup>22</sup> Chapter 5 of the Constitution.

<sup>23</sup> Chapter 8 of the Constitution.

#### 4.1.2 National legislative authority

The national legislative authority is exercised by the national Parliament,<sup>24</sup> which consists of the National Assembly and the National Council of Provinces.<sup>25</sup> National legislation is passed by Parliament.

Just as legislation must be consistent with the Constitution, subordinate legislation, such as regulations, must be consistent with both the legislation in terms of which it is made, and the Constitution.<sup>26</sup> For example, sections 95 and 96 of the Telecommunications Act empower the regulator, Icasa, to make regulations,<sup>27</sup> which must be approved and published by the Minister of Communications.<sup>28</sup> Such regulations must be consistent with the Telecommunications Act and with the Constitution.<sup>29</sup>

The Telecommunications Act also empowers Icasa, among other things, to issue licences<sup>30</sup> and make orders in relation to disputes.<sup>31</sup> Similar to regulations, licences issued and decisions and orders made by Icasa in relation to disputes must be consistent with both the Telecommunications Act and the Constitution. In other words, Icasa must act in terms of legislation and the Constitution.

The Minister of Communications is empowered in terms of section 5(4) of the Telecommunications Act to issue policy directions to Icasa. Icasa must carry out its functions in terms of such policy directions.<sup>32</sup> Like regulations, policy directions made in terms of the Telecommunications Act must be consistent with both the Telecommunications Act and the Constitution.<sup>33</sup>

The Telecommunications Act also empowers the Minister of Communications, among other things, to invite applications for certain kinds of telecommunication services licences,<sup>34</sup> to make decisions on the granting of certain licences,<sup>35</sup> and in certain instances to determine the manner in which applications for telecommunication services licences may be made and the licensing process.<sup>36</sup> Like Icasa, when the Minister carries out her functions in terms of the Telecommunications Act, she must do so consistently with the Act and the Constitution.<sup>37</sup>

<sup>24</sup> s 43(a) of the Constitution.

<sup>25</sup> s 42(1) of the Constitution.

<sup>26</sup> Required by s 33(1) of the Constitution, lawful administrative action. See also the Promotion of Administrative Justice Act, 3 of 2000.

<sup>27</sup> ss 95(1) and 96(1) of the Telecommunications Act.

<sup>28</sup> ss 95(3) and 96(6) of the Telecommunications Act.

<sup>29</sup> s 239 of the final Constitution defines 'national legislation' as including inter alia 'subordinate legislation made in terms of an Act of Parliament'.

<sup>30</sup> See chapters IV, V and VI of the Telecommunications Act.

<sup>31</sup> See, inter alia, s 100 of the Telecommunications Act.

<sup>32</sup> s 5(4)(d) of the Telecommunications Act.

<sup>33</sup> s 5(4)(a) of the Telecommunications Act indicates that policy directions must in particular be consistent with the objects of the Telecommunications Act.

<sup>34</sup> ss 34(2) and 32C(3) of the Telecommunications Act.

<sup>35</sup> ss 35(2), 30(3)(a), (c) and (e); 36(1), (6), (7), (8) and (9) and 40(1)(a) of the Telecommunications Act (regarding Telkom SA Limited's frequency, public switched telecommunication services and value added network services licences); and s 37(1) of the Telecommunications Act (regarding Vodacom (Pty) Ltd's and Mobile Telephone Networks (Pty) Ltd's mobile cellular telecommunication services licences).

<sup>36</sup> s 35A of the Telecommunications Act.

<sup>37</sup> The Universal Service Agency is also empowered to act in terms of the Telecommunications Act to do certain things. Similarly, s 37 of the Broadcasting Act, 4 of 1999 empowers the Frequency Spectrum Directorate of the Department of Communications to do certain things above. The Department of Communications (the public service arm of the Ministry of Communications) is also empowered in various respects in terms of the Electronic Communications and Transactions Act. Other government departments or organs of state are empowered in terms of legislation, such as the Competition Commission in terms of the Competition Act and the South African Council for Space Affairs in terms of the Space Affairs Act, 84 of 1993. In all cases, the actions of such entities must be consistent with the relevant empowering legislation as well as the Constitution.

### 4.1.3 National executive authority

In terms of section 85(2)(b) of the Constitution, the President exercises executive authority together with the other members of the Cabinet by, inter alia, ‘developing and implementing national policy’. National policy is sometimes articulated in government white papers, such as the White Paper on Telecommunications Policy.<sup>38</sup> White papers often lead to the promulgation of legislation, which is primarily the responsibility of Parliament.<sup>39</sup> For example, the White Paper on Telecommunications Policy led to the passage of the Telecommunications Act in 1996.

### 4.1.4 Judicial authority

In terms of section 165(2), (3) and (4) of the Constitution, South African courts are independent and subject only to the Constitution. Their role is to exercise judicial authority over the whole of South Africa.<sup>40</sup> In respect of telecommunications, this is carried out primarily in reviewing administrative acts or decisions in terms of section 33 of the final Constitution (‘the right to just administrative action’).<sup>41</sup>

## 4.2 National Policy

National policy is the responsibility of the national executive. The Minister of Communications (formerly the Minister for Posts, Telecommunications and Broadcasting), supported by the Department of Communications, is primarily responsible for telecommunications policy. However, other ministries – including the ministers of Trade and Industry, Justice and Constitutional Development, and Public Enterprises – are also involved in regulating the industry. The Cabinet cluster that the Ministry of Communications belongs to is the economic cluster, which includes not only the ministries of Communications, Trade and Industry, and Public Enterprises but also the Ministry of Finance.

In addition to the ministerial and departmental involvement in policy-making in the telecommunications industry, the President has established the Presidential National Commission on Information Society and Development<sup>42</sup> and the Presidential International Advisory Council on Information Society and Development to advise the government on information and communications policy with an eye to development.

<sup>38</sup> Note 7 above.

<sup>39</sup> s 43 of the Constitution. In terms of s 85(2)(d) of the Constitution the national executive is responsible for ‘preparing and initiating legislation’. The President must assent to and sign legislation into law in terms of s 84(2)(a) of the Constitution.

<sup>40</sup> s 165(1) of the Constitution.

<sup>41</sup> See also the Promotion of Administrative Justice Act, 3 of 2000, which is legislation promulgated in terms of s 33(3) of the Constitution.

<sup>42</sup> See [www.pnc.gov.za/](http://www.pnc.gov.za/).

### 4.2.1 Telecommunications policy

Telecommunications Policy is articulated in the White Paper on Telecommunications Policy,<sup>43</sup> which deals with, among other things, universal service,<sup>44</sup> market structure,<sup>45</sup> and an independent regulator.<sup>46</sup>

With regard to market structure, the White Paper on Telecommunications Policy set out that there would be an initial period of exclusivity for Telkom SA Limited (Telkom) to provide basic services in return for an obligation to roll out services to South Africans who had previously not had access to them.<sup>47</sup>

During that period of exclusivity, certain market segments would be open to competition, namely, the customer premises equipment (CPE),<sup>48</sup> private network<sup>49</sup> and value added network services (Vans)<sup>50</sup> segments. In addition, cellular and certain other radio services that had previously been partially competitive – such as paging services – would remain so.<sup>51</sup>

In terms of the White Paper on Telecommunications Policy, the resale of telecommunication facilities leased from Telkom by private and Vans operators was going to be allowed at the beginning of year four of the period of exclusivity,<sup>52</sup> which was May 2001.<sup>53</sup> Furthermore, at the beginning of year six of Telkom's exclusivity period, which was May 2002, it was envisaged that the following additional market segments would be opened up for competition: local loops, public payphones, and national long-distance and metropolitan area networks.<sup>54</sup> It was also envisaged that a second full services operator to compete with Telkom would be licensed by May 2003.<sup>55</sup>

The market structure policy exposition was accompanied by the articulation of several principles. First, it was stated that the definitions of the different market segments were to be determined by an independent regulator and not by Telkom.<sup>56</sup> This principle recognised that Telkom had an inherent ability to act anti-competitively. It was to have a monopoly over basic services and compete in other

<sup>43</sup> For a discussion of the history of telecommunications policy in South Africa, see RB Horwitz *Communication and Democratic Reform in South Africa* (Cambridge University Press 2001).

<sup>44</sup> Chapter 1 of the White Paper on Telecommunications Policy. See chapter 8 herein for a discussion of universal service policy.

<sup>45</sup> Chapter 2 of the White Paper on Telecommunications Policy.

<sup>46</sup> Chapter 5 of the White Paper on Telecommunications Policy. See chapter 4 herein for a discussion of the independent regulator.

<sup>47</sup> Chapter 2 of the White Paper on Telecommunications Policy para 2.6.

<sup>48</sup> White Paper on Telecommunications Policy para 2.10.3. Although the Telecommunications Act does not mention CPE, the CPE market segment is competitive. This issue was discussed in *Findings and Conclusions in terms of Section 27(8)(a) of the Telecommunications Act (No 103 of 1996) on the Section 27 Enquiry on the Provisioning of Wireless Internet Access using ISM Frequencies* in GN 2610 of 2003, GG 25594 dated 16 October 2003. See also the unreported judgment of the High Court (Transvaal Provincial Division) in the matter of *Telkom South Africa Ltd v Nedtel Cellular (Pty) Ltd and 11 Others* (TPD, 22 October 2003, case no 20836/2000) regarding least cost routing devices attached to PABX (private automatic branch exchange) equipment, which automatically choose the 'least cost' route for outgoing calls.

<sup>49</sup> White Paper on Telecommunications Policy paras 2.10.6 and 2.11.2.

<sup>50</sup> White Paper on Telecommunications Policy paras 2.8 and 2.13.

<sup>51</sup> White Paper on Telecommunications Policy chapter 2 figure 1.

<sup>52</sup> White Paper on Telecommunications Policy paras 2.11.2, 2.11.3, 2.12 and chapter 2 figure 1.

<sup>53</sup> This, as of June 2004, has not happened. The Minister of Communications has not acted in terms of s 40(2) of the Telecommunications Act to lift the restriction with regard to Vans providers.

<sup>54</sup> White Paper on Telecommunications Policy para 2.21 and chapter 2 figure 1. This, as of June 2004, also has not happened.

<sup>55</sup> White Paper on Telecommunications Policy para 2.22 and chapter 2 figure 1. Although the process for licensing a second full services licensee in terms of s 32B of the Telecommunications Act has begun, as of June 2004 a licence has not been issued.

<sup>56</sup> White Paper on Telecommunications Policy paras 2.3 and 2.8. The regulator has had occasion to decide such definitions in *Pronouncement – P0001* dated 14 October 1997 (review pending) and *Telkom SA Limited v Internet Solutions (Pty) Ltd*, 14 June 2002, [www.icasa.org.za/contents/?Cmd=Download&ResourceID=313](http://www.icasa.org.za/contents/?Cmd=Download&ResourceID=313) regarding Internet services; and *Independent Communications Authority of South Africa Finding and Conclusions on the s 27 Enquiry on Whether a Virtual Private Network (VPN) constitutes a Managed Data Network Service (MDNS) or not* in GN 1414 of 2001, GG 22349 dated 1 June 2001, [www.icasa.org.za/contents/?Cmd=Download&ResourceID=756](http://www.icasa.org.za/contents/?Cmd=Download&ResourceID=756) and *Telkom SA Limited v AT&T Global Network Services (South Africa) (Pty) Ltd*, 21 June 2002, [www.icasa.org.za/contents/?Cmd=Download&ResourceID=328](http://www.icasa.org.za/contents/?Cmd=Download&ResourceID=328) (review pending) (*Telkom v AT&T*) regarding VPN services.



market segments such as Vans. It was recognised that the regulator had to control such activity.<sup>57</sup>

Secondly, it was stated that telecommunications policy must accommodate new services and technologies,<sup>58</sup> for example, international call-back services<sup>59</sup> and Internet telephony services.<sup>60</sup> It was also stated that telecommunications policy must take account of South Africa's commitments in terms of the General Agreement on Trade in Services (Gats).<sup>61</sup>

Thirdly, the convergence trend was recognised as inevitable, but was not dealt with in any detail in the White Paper on Telecommunications Policy.<sup>62</sup>

On 21 August 2001, the Minister of Communications issued policy directions in terms of section 5(4) of the Telecommunications Act with regard to, among other things, the market structure.<sup>63</sup> The 'policy directions' do not appear in all instances to be directions to Icasa and therefore do not fit the concept of policy directions.<sup>64</sup> They also do not appear to be consistent with the Telecommunications Act in all instances.<sup>65</sup> In fact, the policy directions recommended certain changes to the Telecommunications Act,<sup>66</sup> which were in time effected by the Telecommunications Amendment Act, 64 of 2001.<sup>67</sup>

Nevertheless, the policy directions with regard to market structure provided for the following –

- A Second National Operator (SNO) to compete fully with Telkom would be licensed in 2001.<sup>68</sup>
- Telkom's licence would be amended to allow it to provide fixed-mobile services.<sup>69</sup>
- The Telecommunications Act would be amended to licence Sentech (Pty) Ltd (Sentech) to provide international telecommunication gateway services and multimedia services from 7 May 2002.<sup>70</sup>
- The Minister would direct the regulator to conduct a market assessment (to be completed by 31 December 2004) into the economic feasibility of the provision of additional public switched telecommunication services (PSTS)

<sup>57</sup> White Paper on Telecommunications Policy paras 2.10, 2.10.7 and 2.13. The regulator has had occasion to control such activity in *SAVA/Telkom Section 53 Determination*, 10 September 1999 (set aside on procedural grounds in *Telkom Limited v Mayimele-Hashatse NO and Others*, (TPD, 17 April 2000, case no 27451/99, unreported); *Judgement of the Authority in the Matter heard before the South African Telecommunications Regulatory Authority on the 6 & 7 June 2000*, 28 June 2000 (set aside on procedural grounds in *Telkom SA Limited v Dikgale NO and Others*, (TPD, 20 March 2001, case no 19341/2000, unreported) and *Telkom v AT&T* (note 56 above).

<sup>58</sup> White Paper on Telecommunications Policy para 2.4.

<sup>59</sup> Despite this policy statement, the regulator issued a ruling on 12 August 1997 that call-back services require international telecommunication services licensing in terms of s 32(1) of the Telecommunications Act, published in GN 1200 of 1997 in GG 18214 dated 15 August 1997. A review of this ruling is still pending in the High Court in case number 97/023795. Icasa has indicated that it will not attempt to initiate criminal proceedings in terms of s 101 of the Telecommunications Act pending the outcome of the review proceedings (see attachment SA1 to the Applicant's Supplementary Affidavit to its Founding Affidavit).

<sup>60</sup> Despite this policy statement, s 40(3)(a) of the Telecommunications Act provides that 'no person who provides a value-added network service shall permit that service to be used for the carrying of voice until a date to be fixed by the Minister by notice in the Gazette'. Thus, Internet telephony is prohibited, until the Minister acts in terms of s 40(3)(a) of the Telecommunications Act.

<sup>61</sup> White Paper on Telecommunications Policy para 2.4.

<sup>62</sup> White Paper on Telecommunications Policy para 2.5.

<sup>63</sup> GN 791 of 2001 in GG 22603 dated 21 August 2001.

<sup>64</sup> See, for example, para 4.2 of the policy directives regarding additional services licences, para 6.4 regarding voice over Vans and paras 7.2–7.3 and 8.1 regarding spectrum fees.

<sup>65</sup> See, for example, para 2 regarding Telkom and fixed-mobile services and paras 7.1 and 8.1 regarding spectrum licensing.

<sup>66</sup> See, for example, paragraph 3 of the policy directives regarding services licenses for Sentech (Pty) Ltd.

<sup>67</sup> s 32C of the Telecommunications Act.

<sup>68</sup> The policy direction was amended by GN 652 of 2002 in GG 23372 dated 26 April 2002. As at June 2004, this licensing process has not been completed.

<sup>69</sup> s 36A was inserted into the Telecommunications Act by the Telecommunications Amendment Act, 2001 to define 'public switched telecommunication services' to include, inter alia, fixed-mobile services.

<sup>70</sup> s 32C was inserted into the Telecommunications Act by the Telecommunications Amendment Act, 2001, to indicate that Sentech must be granted an international telecommunication gateway services licence and a multimedia services licence with effect from 7 May 2002.

licences and the Minister would issue an invitation to apply (ITA) for at least one more services-based licence to commence services by the year 2005.<sup>71</sup>

- SMMEs (small, medium and micro-enterprises) would be licensed to provide services in under-served areas from 7 May 2002.<sup>72</sup>
- The Minister would conduct a policy review in order to determine the feasibility of allowing voiceover Vans after 21 August 2003.<sup>73</sup>
- Telkom, the SNO and the three mobile cellular telecommunication services providers would be licensed to use 1800 MHz by 21 February 2002 and would be allowed to apply for and be automatically granted use of third-generation (3G) services licenses.<sup>74</sup>

Apart from guaranteeing certain existing licensees and other state-owned entities additional services licences and access to the frequency spectrum, all of the policy directions could have been carried out in terms of the existing legislation, which gives the regulator the authority to prescribe additional licence categories for licensing,<sup>75</sup> in terms of the procedural provisions of the Act.<sup>76</sup>

#### 4.2.2 Convergence policy

Conceptually, 'convergence' is a term used in the information and communications industries to apply to the blurring of the lines between information services, the technologies or media used to carry services and the entities that provide services or technologies. Thus, the term encompasses the convergence of services (for example, telecommunications, computing, consumer electronics, publishing and broadcasting), technologies or media (wireless and wireline communications conduits, computers, newspapers and other traditional print media) and companies.<sup>77</sup>

Convergence has received some attention in policy-level debates in South Africa. In addition to being mentioned in the White Paper on Telecommunications Policy, it was one of the issues addressed in the White Paper on Broadcasting Policy 1998.<sup>78</sup> This policy was followed by, inter alia, the promulgation of the Icasa Act – the merger of the Independent Broadcasting Authority (IBA) and the South African Telecommunications Regulatory Authority (Satra) into Icasa being prompted partly by convergence.

Convergence was again raised in the Green Paper on E-Commerce, 2000.<sup>79</sup> It stated, inter alia –

<sup>71</sup> s 32A(5) was inserted into the Telecommunications Act by the Telecommunications Amendment Act, 2001, to indicate that the Minister would determine by way of a market study the feasibility of granting more PSTS licences; and s 32A(6) was inserted to indicate that such licence could come into effect only by 8 May 2005 and that at least one additional licensee would be licensed to provide services-based competition. The Minister has not, as at June 2004, published her determination of the market study required by s 32A(5); nor has the regulator published its findings of a market assessment in terms of the policy directions. No services-based competitors have been licensed as at June 2004.

<sup>72</sup> As at June 2004, the licensing process for under-served area licences has not as been completed.

<sup>73</sup> As at June 2004, the Minister has not published the findings of a policy review regarding voice over Vans.

<sup>74</sup> ss 30A (regarding 1800 MHz) and 30B (regarding 3G) were inserted into the Telecommunications Act by the Telecommunications Amendment Act, 2001, allowing PSTS and MCTS licensees access to the 1800 MHz and 3G frequency spectrum.

<sup>75</sup> s 33(1)(b) of the Telecommunications Act.

<sup>76</sup> ss 34 and 35 of the Telecommunications Act.

<sup>77</sup> L Thornton 'South African Broadcasting Policy and Law in the Light of Convergence' (2002) vol 8, no 1 *Southern African Media Law Briefing* 6.

<sup>78</sup> White Paper on Broadcasting Policy, May 1998, chapter 7 ('Digital Convergence and Multi-media') and para 11.3 ('A Single Regulator for Broadcasting and Telecommunications').

<sup>79</sup> Green Paper on Electronic Commerce for South Africa, November 2000, chapter 9 ('Infrastructure, Access and Convergence').

With the convergence on Broadcasting, Telecommunications and Information Technologies, the infrastructure capable of supporting e-commerce has become almost ubiquitous in developed countries. Electronic services infrastructures must converge to support electronic commerce applications. Convergence will have broad consequences for domestic policies such as technology and innovation policies, trade policy, telecommunications policy, broadcasting policy and competition policy.<sup>80</sup>

Convergence also found some recognition in the 2001 amendments to the Telecommunications Act,<sup>81</sup> in particular in the addition of section 32C of the Act regarding multimedia services.

In July 2003, the Minister of Communications opened the National Colloquium on Convergence Policy, which will probably lead to a national policy and legislation on convergence.<sup>82</sup> Following the National Colloquium, the Department of Communications engaged certain industry players and representatives in the development of convergence legislation. This process of engagement led to the publication for public comment of a draft Convergence Bill in December 2003.<sup>83</sup>

A policy process such as that which led to the White Paper on Telecommunications Policy has not been followed and therefore there has been no clear articulation of government policy regarding communications convergence preceding and informing the legislative process.

Convergence policy is discussed more fully in chapter 9 herein.

### **4.2.3 Competition policy**

The government's policy document that led to the promulgation of the Competition Act was the Proposed Guidelines for Competition Policy – A Framework for Competition, Competitiveness and Development, published by the Department of Trade and Industry in November 1997.<sup>84</sup> It deals with general competition policy, which applies, inter alia, to the telecommunications industry. Relevant provisions of the Competition Act are set out in brief in paragraph 4.4.3 below.

### **4.2.4 Electronic communications policy**

In July 1999, the Department of Communications issued a Discussion Paper on Electronic Commerce Policy.<sup>85</sup> The Discussion Paper was followed by a Green Paper on Electronic Commerce for South Africa in November 2000.<sup>86</sup> However, a White Paper articulating national policy on electronic communications did not precede the promulgation of the ECT Act in 2002. The policy around electronic communications is discussed more fully in chapter 5 herein.

<sup>80</sup> Green Paper on Electronic Commerce, November 2000, para 9.1.

<sup>81</sup> Telecommunications Amendment Act, 64 of 2001.

<sup>82</sup> Minister of Communications, Dr I Matsepe-Casaburri, Address at the National Colloquium on Convergence Policy, 15 July 2003; available at [docweb.pwv.gov.za/Convergence/speech.html](http://docweb.pwv.gov.za/Convergence/speech.html).

<sup>83</sup> GN 3382 of 2003 in GG 25806 dated 3 December 2003.

<sup>84</sup> Available at [www.polity.org.za/html/govdocs/policy/competition.html?rebookmark=1](http://www.polity.org.za/html/govdocs/policy/competition.html?rebookmark=1).

<sup>85</sup> Discussion Paper on Electronic Commerce Policy, 1999 available at [docweb.pwv.gov.za/Ecomm-Debate/myweb/docs/discuss-full.html](http://docweb.pwv.gov.za/Ecomm-Debate/myweb/docs/discuss-full.html). Attached to the Discussion Paper was a Report on Electronic Commerce Legal Issues available at [docweb.pwv.gov.za/Ecomm-Debate/myweb/docs/report.html](http://docweb.pwv.gov.za/Ecomm-Debate/myweb/docs/report.html).

<sup>86</sup> Green Paper on Electronic Commerce for South Africa, 2000 available at [docweb.pwv.gov.za/Ecomm-Debate/myweb/greenpaper/index.htm](http://docweb.pwv.gov.za/Ecomm-Debate/myweb/greenpaper/index.htm).

#### 4.2.5 Interception and monitoring policy

The White Paper on Telecommunications Policy dealt briefly with interception matters. It was stated at paragraph 10.4, *inter alia*, that the Interception and Monitoring Prohibition Act, 127 of 1992 should be reviewed in order to ensure that sufficient safeguards are in place to ensure that government's right to intercept telecommunications traffic should be stringently controlled.

The South African Law Review Commission presented a Report on the Interception and Monitoring Prohibition Act in October 1999 to the Minister of Justice and Constitutional Development, which included proposals for amending the Interception and Monitoring Prohibition Act.<sup>87</sup> The Regulation of Interception of Communications and Provision of Communication-Related Information Act, 70 of 2002 (Interception Act) followed, being passed finally by Parliament in 2002 and signed by the President in January 2003.<sup>88</sup> Interception policy and legislation is discussed more fully in chapter 12 herein.

#### 4.2.6 Policy regarding state-owned enterprises

Chapter 3 of the White Paper on Telecommunications Policy mentioned that the policy of state-owned enterprises in the telecommunications industry would be subject to the government's general policy on state-owned assets. National policy with regard to state-owned enterprises is set out in a policy framework document, entitled *An Accelerated Agenda Towards the Restructuring of State Owned Enterprises – Policy Framework*, published by the Minister of Public Enterprises in August 2000 (State Owned Enterprises Policy Framework).<sup>89</sup>

With regard to the telecommunications, it was stated generally –

Since the late 1980s, there have been trends towards the restructuring of nationalised telecommunications services. New technology has meant that telecommunications is no longer a natural monopoly, and the international trend is towards private sector development in the telecommunications sector and privatisation of state-owned monopoly providers. There is a trend toward vigorous competition, which has lowered prices and improved services. ...<sup>90</sup>

The policy document was published after the government had sold a 30 percent stake in Telkom to Thintana Communications LLC<sup>91</sup> and a three percent stake to Ucingo Investments (Pty) Ltd, a consortium of black investors. The policy document indicated that the government was considering the possibility that Transnet Limited (Transnet) and Eskom Holdings Limited (Eskom) could form part of a competitor to Telkom (which has become known as the SNO) and was working on the proposed initial public offering for Telkom.<sup>92</sup>

<sup>87</sup> South Africa Law Review Commission – Project 105 – Report on the Interception and Monitoring Prohibition Act (Act 127 of 1992), October 1999; available at [wwwserver.law.wits.ac.za/salc/report/seclegsum.html](http://wwwserver.law.wits.ac.za/salc/report/seclegsum.html).

<sup>88</sup> The Interception Act is, as at June 2004, not yet in force.

<sup>89</sup> Available at [www.dpe.gov.za/resourceLib/Policy%20Document%20-%20Full%20Version.pdf](http://www.dpe.gov.za/resourceLib/Policy%20Document%20-%20Full%20Version.pdf).

<sup>90</sup> State Owned Enterprises Policy Framework at 141.

<sup>91</sup> Thintana Communications is a partnership between SBC Communications Inc (60 percent) and Telekom Malaysia Berhad (40 percent). The 30 percent stake in Telkom was sold in a tender process in which only one final offer was received, in 1997.

<sup>92</sup> State Owned Enterprises Policy Framework at 144–5.

State-owned enterprises involved in telecommunications include Telkom, Transnet, Eskom and Sentech. Legislation regarding state-owned entities is discussed at paragraph 4.4.13 below.

#### **4.2.7 Future policy proceedings**

Section 96B of the Telecommunications Act requires the Minister of Communications to develop an information, communication and technology (ICT) strategy, which must be reviewed every two years, in order to 'bridge the digital divide' in terms of section 2(s) of the Act.<sup>93</sup>

Chapter II, Part 1 of the ECT Act concerns a national e-strategy. Section 5 directs the Minister of Communications to develop a national e-strategy, to be reviewed annually.<sup>94</sup> The national e-strategy is to deal with, among other things, universal access,<sup>95</sup> maximising benefits for historically disadvantaged persons,<sup>96</sup> the development of human resources<sup>97</sup> and facilitating the use of electronic communications and transactions by SMMEs.<sup>98</sup>

Chapter II, Part 2 of the ECT Act concerns an electronic transactions policy. In terms of section 10 of the ECT Act, the Minister is directed to develop an electronic transactions policy.<sup>99</sup> The Minister must publish policy guidelines in the Government Gazette on issues relevant to the electronic transaction policy.<sup>100</sup>

### **4.3 International Law**

In addition to domestic law and policy, South Africa is also obliged in terms of international law to regulate telecommunications.

One example<sup>101</sup> of South Africa's international obligations is in terms of Gats.<sup>102</sup> Generally, Gats provides that any signatory country cannot treat service providers from other countries any less favourably than it treats service providers from its own country. This is known as the 'most favoured nation treatment' principle.<sup>103</sup> Gats also requires all laws affecting trade in services to be published.<sup>104</sup>

The Annex on Telecommunications, which forms part of Gats, requires access to telecommunication facilities (essential facilities) on a non-discriminatory basis.<sup>105</sup> It also requires publication of, amongst other things, conditions affecting access to essential facilities.<sup>106</sup> In 1994, South Africa also made specific initial commitments in terms of Gats to open up the value added telecommunications services market segment to competition.<sup>107</sup>

<sup>93</sup> As at June 2004, no policy has been published.

<sup>94</sup> As at June 2004, no policy has been published.

<sup>95</sup> s 6 of the ECT Act.

<sup>96</sup> s 7 of the ECT Act.

<sup>97</sup> s 8 of the ECT Act.

<sup>98</sup> s 9 of the ECT Act.

<sup>99</sup> As at June 2004, no policy has been published.

<sup>100</sup> s 10(3) of the ECT Act.

<sup>101</sup> For other examples of how international law interacts with telecommunications policy, see L Thornton 'International Law Relating to Electronic Communications and its Relationship to South African Law', paper presented at the E-Commerce Law conference hosted by the Institute for International Research at Sandton, South Africa, 22 January 2004.

<sup>102</sup> South Africa is a signatory to the Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, 15 April 1994, which includes the Agreement Establishing the World Trade Organisation and the Gats.

<sup>103</sup> Article II of Part II of Gats.

<sup>104</sup> Article III of Part II of Gats.

<sup>105</sup> Item 5 of the Annex on Telecommunications, Gats.

<sup>106</sup> Item 4 of the Annex on Telecommunications, Gats.

<sup>107</sup> South Africa, Schedule of Specific Commitments, GATS/SC/78, 15 April 1994.

The Annex on Negotiations on Basic Telecommunications also forms part of Gats. The negotiations in terms of this Annex led to the Fourth Protocol on Basic Telecommunications, which has formed part of Gats since 1998. In terms of the Fourth Protocol, South Africa made certain additional commitments to open up other telecommunications market segments. These included –

- basic fixed line (duopoly by and feasibility study for more competitors by the beginning of 2004);
- mobile cellular (three providers by beginning of 2004 and a feasibility study for more competitors by January 1999);
- satellite (duopoly by and feasibility study for more competitors by the beginning of 2004); and
- resale (liberalisation by end of 2003).<sup>108</sup>

At the same time, South Africa made commitments with regard to establishing an appropriate regulatory environment, including for, among other things, competitive safeguards and interconnection. Such commitments are contained in a document called the Reference Paper, which forms part of South Africa's Schedule of Specific Commitments, Supplement 2.

Unlike with domestic law, a private party generally may not call upon South Africa to abide by its international obligations in South Africa.<sup>109</sup> Only another signatory to the relevant international agreement may do so. Ultimately, governments must settle disputes at the World Trade Organisation (WTO) in terms of the Understanding on Rules and Procedures Governing the Settlement of Disputes, which also forms part of the Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations.

However, in terms of certain provisions of telecommunications legislation, administrative bodies must act in terms of international law and therefore South African courts can order them to do so. Icasa must act in a manner that is consistent with South Africa's international law obligations in terms of section 4(1)(c) of the Icasa Act. Similarly, sections 32A(5)(b) and 37(4)(b) of the Telecommunications Act provide that the Minister must conduct market studies to determine whether South Africa should license additional competitors in the PSTS and mobile cellular telecommunication services (MCTS) market segments, respectively. In conducting the market studies, the Minister must consider South Africa's international obligations, among other things. Section 1(2) of the Telecommunications Act also states that, 'in interpreting any provision of this Act regard must be had to the International Telecommunication Conventions concluded at Malaga and Torremolinos in 1973 and Nairobi in 1982 and the Radio Regulations of the International Telecommunication Union'.<sup>110</sup>

<sup>108</sup> South Africa, Schedule of Specific Commitments, Supplement 2, GATS/SC/78/Suppl 2, 11 April 1997. As at June 2004, only the obligation regarding a third MCTS licensee had been met.

<sup>109</sup> s 231(4) of the final Constitution provides two exceptions to this general proposition: it states that '[a]ny international agreement becomes law in the Republic when it is enacted into law by national legislation; but a self-executing provision of an agreement that has been approved by Parliament is law in the Republic unless it is inconsistent with the Constitution or an Act of Parliament'. Once an international agreement forms part of South African law, it may be enforced by South African courts.

<sup>110</sup> The Constitution and Convention of the International Telecommunication Union has been amended since the plenipotentiary conferences in Malaga/Torremolinos in 1973 and Nairobi in 1982 referred to in the Telecommunications Act. In addition, amendments were made in Nice in 1989, Geneva in 1992, Kyoto in 1994, and Minneapolis in 1998. Presumably s 1(2) of the Telecommunications Act applies in regard to such amendments as well.

Similarly, in terms of section 1(2)(b) of the Competition Act, it must be interpreted ‘in compliance with the international law obligations’ of South Africa. Section 1(3) also states that ‘[a]ny person interpreting or applying’ the Competition Act, ‘may consider appropriate foreign and international law’.

Finally, the final Constitution provides, in section 233, that when interpreting legislation, a court must prefer any reasonable interpretation that is consistent with international law, to an interpretation that is not consistent with it. Similarly, section 39 of the final Constitution states that when interpreting the Bill of Rights, a court, tribunal or forum must, *inter alia*, consider international law and may consider foreign law.

## 4.4 National Legislation

### 4.4.1 Telecommunications Act

The primary legislation regulating telecommunications in South Africa is the Telecommunications Act. Section 2 of the Telecommunications Act provides that the primary object of the Act ‘is to provide for the regulation and control of telecommunications matters in the public interest’.

The Telecommunications Act basically does three things.<sup>111</sup> First, it sets out fundamental rules for the telecommunications industry. For example, section 32 states that no one may provide a telecommunications service without a licence.<sup>112</sup> Similarly, section 30 states that no one may transmit a signal by radio or use radio apparatus to receive a signal without a licence.<sup>113</sup> Sections 43 and 44 of the Telecommunications Act require PSTS licensees to interconnect with and provide telecommunication facilities to any other licensee who makes a request.<sup>114</sup>

Secondly, the Telecommunications Act initially established the telecommunications regulator, known as Satra (South African Telecommunications Regulatory Authority). Satra was later merged into Icasa in terms of the Icasa Act. At the same time the establishment provisions in the Telecommunications Act were repealed and replaced by provisions in the Icasa Act.<sup>115</sup> In addition, the Telecommunications Act established the Universal Service Agency (USA)<sup>116</sup> to, among other things, manage the Universal Service Fund (USF).<sup>117</sup>

Thirdly, the Telecommunications Act also sets out that Icasa must establish other rules for the telecommunications industry by, *inter alia*, making regulations. Regulations are made by Icasa, and approved and published by the Minister of Communications, in terms of sections 95 (radio regulations) and 96 (regulations) of the Telecommunications Act.<sup>118</sup>

<sup>111</sup> The major issues covered in the Telecommunications Act are licensing, interconnection, pricing and universal service.

<sup>112</sup> See chapter 5 herein.

<sup>113</sup> See chapter 5 herein.

<sup>114</sup> See chapter 6 herein.

<sup>115</sup> See chapter 4 herein.

<sup>116</sup> Chapter VII of the Telecommunications Act. See chapter 8 herein.

<sup>117</sup> s 59(4) of the Telecommunications Act. In terms of s 64 of the Telecommunications Act, the President may, any time after 15 November 2001, issue a proclamation for the dissolution of the USA and for its functions to be assumed by Icasa.

<sup>118</sup> For a discussion of the regulation making process, see *Telkom South Africa Limited v Icasa, Mandla Langa NO, Wireless Business Solutions (Pty) Ltd and the Minister of Communications* (TPD, 19 March 2001, case no 109014/2000, unreported).

Icasa is specifically empowered by the Telecommunications Act to make the following regulations, *inter alia* –

- in terms of section 34(1) – the manner in which applications for certain telecommunications service licences are to be made.<sup>119</sup>
- in terms of section 30(2)(b) – the procedures in relation to applications for frequency use licences.
- in terms of sections 43(3) and 44(5) – rules to be used by the parties in negotiating interconnection or facilities leasing agreements.<sup>120</sup>
- in terms of section 45 – the manner of determining fees and charges for the kinds of telecommunication services licensees where insufficient competition exists, for example for PSTS licensees.
- in terms of section 46 – the way in which telecommunication services licensees keep accounts and records.
- in terms of section 67 – the annual contributions for telecommunication services licensees to the USF.<sup>121</sup>

Icasa also prepares a frequency band plan in terms of section 29 of the Telecommunications Act<sup>122</sup> and prescribes a numbering plan in terms of section 89 of that Act.<sup>123</sup> In addition, Icasas also is empowered to make certain licensing decisions.<sup>124</sup> Icasas also holds enquiries,<sup>125</sup> monitors compliance with the Telecommunications Act,<sup>126</sup> considers contraventions by licensees<sup>127</sup> and initiates prosecutions for contraventions of the Telecommunications Act that are listed as offences.<sup>128</sup>

To a large extent, the market structure is determined by the Telecommunications Act. Section 33(1)(a) indicates that licences will be granted only in the categories set out in the Telecommunications Act, namely:

<sup>119</sup> However, in terms of ss 34(2) and (3) and 35A, the Minister of Communications determines the manner in which applications are to be made under certain circumstances.

<sup>120</sup> The rules must include rules regarding 'the time by or period within which interconnection pursuant to the agreement shall be carried out' (s 43(3)(a)), 'the quality or level of service to be provided by means of the one telecommunication system for the other telecommunication service' (s 43(3)(b)), and 'the fees and charges payable for such interconnection' (s 43(3)(c)). The Act refers to the regulations as 'guidelines'. However, the use of the term 'guidelines' does not mean that the rules are not binding. ss 43(2) and 44(4) of the Telecommunications Act state that every agreement for interconnection and facilities leasing must be lodged with Icasas and Icasas must determine whether the agreement is consistent with the relevant guidelines. Also, s 43(6) (which is applicable to facilities leasing (see s 44(6)) as well as interconnection) states that, where terms of an agreement are not consistent with the relevant guidelines, they are not enforceable between the parties.

<sup>121</sup> In terms of s 66(2) of the Telecommunications Act, the Minister of Communications determines the formula for distributing funds out of the USF in line with the various purposes set out in s 66(1) of the Act. In terms of s 66(4), the Minister of Communications also determines categories of needy persons, the manner of making application for funds and the manner in which funds will be distributed.

<sup>122</sup> Basically, a frequency band plan sets out how the frequency spectrum may be used: s 29(2) of the Telecommunications Act.

<sup>123</sup> A numbering plan is basically a scheme of identification to ensure that telecommunications is correctly directed to the point of intended reception: s 89(2) of the Telecommunications Act.

<sup>124</sup> s 35(1) of the Telecommunications Act. However, the Minister of Communications makes the decision to grant or not to grant certain licences such as PSTS and MCTS licences in terms of s 35(1)(a) read with s 34(2)(a) of the Telecommunications Act.

<sup>125</sup> s 27 of the Telecommunications Act. For example, Icasas held a s 27 inquiry into the trial and launch of new services and in conclusion issued guidelines to promote fair trading principles and discourage uncompetitive behaviour by dominant licensees: GN 3165 of 2003 in GG 25659 dated 3 November 2003.

<sup>126</sup> See, *inter alia*, ss 98 and 99 of the Telecommunications Act.

<sup>127</sup> See s 100 of the Telecommunications Act regarding disputes generally and ss 43, 44 and 32A(3) and (4) of the Telecommunications Act regarding interconnection and facilities leasing and sharing.

<sup>128</sup> s 101 of the Telecommunications Act.

<sup>129</sup> 'Public switched telecommunication services' is defined in s 1 of the Telecommunications Act as 'the provision of telecommunication services to an end-user on a subscription basis or for a fee referred to in section 36'. S 36A defines it as a 'telecommunication service to the general public on a subscription basis'. Telkom is, as at June 2004, the only PSTS licensee.



- public switched telecommunication services (PSTS);<sup>129</sup>
- mobile cellular telecommunication services (MCTS);<sup>130</sup>
- national long-distance telecommunication services;<sup>131</sup>
- international telecommunication services;<sup>132</sup>
- local access telecommunication services;<sup>133</sup>
- public pay-telephone services;<sup>134</sup>
- international telecommunication gateway services (carrier of carriers);<sup>135</sup>
- multimedia services;<sup>136</sup>
- under-served area services;<sup>137</sup>
- value added network services (Vans);<sup>138</sup>
- private telecommunication network services.<sup>139</sup>

Its license was granted in terms of s 36 of the Telecommunications Act. The second PSTS licensee, the SNO, is to be granted a licence in terms of s 32B of the Telecommunications Act, however, as at June 2004, the licence has not yet been granted.

<sup>130</sup> See s 37 of the Telecommunications Act. Vodacom (Pty) Ltd, Mobile Telephone Networks (Pty) Ltd and Cell C (Pty) Ltd are licensed as MCTS providers.

<sup>131</sup> 'National long-distance telecommunication service' is defined in s 1 of the Telecommunications Act as 'a telecommunication service comprising the conveyance of signals between the network of any licensee providing local access telecommunication services in an area, and the network of the same or of another licensee providing such service in another area, and includes ...'. See s 38 of the Telecommunications Act. No such licences have been granted as at June 2004, although the Minister could invite applications in terms of s 38 read with s 34(2) of the Telecommunications Act. Telkom may provide such services in terms of its PSTS licence in terms of s 36(1)(b)(i) of the Telecommunications Act.

<sup>132</sup> 'International telecommunication service' is defined in s 1 of the Telecommunications Act as 'a telecommunication service ... which – (a) originates in a telecommunication system in the Republic and terminates in a telecommunication system in another country or vice versa; or (b) originates and terminates in a telecommunication system in another country but is conveyed via a telecommunication system in the Republic'. No such licences have been granted as at June 2004, although the Minister could invite applications in terms of s 34(2) of the Telecommunications Act. Telkom may provide such services in terms of its PSTS licence in terms of s 36(1)(b)(i) of the Telecommunications Act.

<sup>133</sup> 'Local access telecommunication service' is defined in s 1 of the Telecommunications Act as 'a telecommunication service provided within a defined geographic area, comprising the conveyance of signals – (a) between any customers of the licensee within that area; and (b) to and from a customer of the licensee and the network of any public service telecommunication licensee with whom the licensee is interconnected at a point in that area, and includes ...'. See s 39 of the Telecommunications Act. No such licences have been granted as at June 2004, although applications may be made in terms of s 39(1) of the Telecommunications Act. Telkom may provide such services in terms of its PSTS licence in terms of s 36(1)(b)(ii) of the Telecommunications Act.

<sup>134</sup> See s 39 of the Telecommunications Act. No public pay-telephone services licences have been granted as at June 2004, although applications may be made in terms of s 39(2) of the Telecommunications Act. Telkom may provide such services in terms of its PSTS licence in terms of s 36(1)(b)(ii) of the Telecommunications Act.

<sup>135</sup> 'Carrier of carriers' is defined in s 1 of the Telecommunications Act as 'a telecommunication service ... which – (a) originates on the telecommunication system of a public switched telecommunication service licensee or mobile cellular telecommunication services licensee or an under-served area licensee in the Republic and terminates in a telecommunication system in another country or vice versa; or (b) originates and terminates in a telecommunication system of an operator licenses in another country to provide international services, but is conveyed via a telecommunication system in the Republic on a wholesale basis, but which specifically excludes the termination of international telecommunication services to end-users directly in the Republic'. Sentech Limited is licensed to provide international telecommunications gateway services, enabling it to operate as a carrier of carriers in terms of s 32C of the Telecommunications Act.

<sup>136</sup> 'Multimedia service' is defined in s 1 of the Telecommunications Act as 'a telecommunication service that integrates and synchronises various forms of media to communicate information or content in an interactive format, including services such as (a) Internet through television; (b) pay-per-view; (c) video on demand; (d) electronic transactions (including e-commerce); (e) text; (f) data; (g) graphics; (h) animation; (i) audio; (j) visual content, but shall not include ...'. Sentech Limited is licensed to provide multi-media services in terms of s 32C of the Telecommunications Act. Additional licence applications could be invited by the Minister in terms of s 32C(2) of the Telecommunications Act.

<sup>137</sup> Under-served area licenses to provide any telecommunication services may be granted, on application invited by the Minister of Communications, to small businesses as defined, in under-served areas determined by the Minister, in terms of s 40A of the Telecommunications Act. As at June 2004, no under-served area services licenses have been issued.

<sup>138</sup> 'Value-added network service' is defined in s 1 of the Telecommunications Act as 'a telecommunication service provided by a person over a telecommunication facility ... to one or more customers of that person concurrently, during which value is added for the benefit of the customers, which may consist of ...'. Many Vans providers are currently licensed to provide Vans and others may apply in terms of s 40 of the Telecommunications Act.

<sup>139</sup> 'Private telecommunication network' is defined in s 1 of the Telecommunications Act as 'a telecommunication system provided by a person for purposes principally or integrally related to the operations of that person and which is installed onto two or more separate, non-contiguous premises and where the switching systems (nodes) of at least two of these premises are interconnected to the public switched telecommunication network as contemplated in section 41'. Many private telecommunication network licensees are currently licensed and others may apply in terms of s 41 of the Telecommunications Act.

<sup>140</sup> The only other categories that have been prescribed are those of GMPCS service and GMPCS earth gateway service, GMPCS referring to global mobile personal communication by satellite. Both categories were prescribed in GN R27 published in GG 23012 dated 8 January 2002. Although Icasas has accepted applications, as at June 2004 no licences have been issued. Icasas issued a notice of intention to prescribe new categories for certain legacy categories, such as paging, communal repeater, broadcasting distribution, asset tracking, special event, test, mobile data and trunk services (GN 357 of 2002 published in GG 23235 dated 15 March 2002), but as at June 2004, Icasas has not prescribed any of those categories.

Section 33(1)(b) of the Telecommunications Act provides that Icasa may prescribe other categories of licence that may be issued.<sup>140</sup> In terms of section 33(2) of the Telecommunications Act, Icasa may also prescribe telecommunication services and activities that may be provided without a service licence.<sup>141</sup>

Also, section 42(1) of the Telecommunications Act is a deeming provision, which provides that anyone who had authority to provide telecommunication services in terms of section 78(2)(b) or (5) of the then Post Office Act, 1958 prior to the commencement of the Telecommunications Act is deemed to be licensed in terms of the Telecommunications Act. Such licences include, for example, the mobile data telecommunication services licence issued to Wireless Business Solutions.<sup>142</sup>

#### **4.4.2 Independent Communications Authority of South Africa Act (Icasa Act)**

The Icasa Act was promulgated in 2000 to create Icasa, an independent regulator,<sup>143</sup> to replace both the IBA<sup>144</sup> and Satra.<sup>145</sup> In terms of section 2 of the Icasa Act, Icasa is, inter alia, to 'regulate telecommunications in the public interest'. A more detailed discussion and analysis of the Act appears in chapter 4 herein.

Icasa acts through its Council.<sup>146</sup> It may, however, establish committees to which it may delegate or assign functions.<sup>147</sup> It may also delegate any power or duty (excluding the power to make regulations) to any councillor or to the chief executive officer, who is appointed by Icasa in terms of section 14(1)(a) of the Icasa Act.<sup>148</sup>

In terms of the Icasa Act, Icasa exercises powers and performs functions in terms of the underlying telecommunications and broadcasting legislation, namely, the Telecommunications Act, the Independent Broadcasting Authority Act, 153 of 1993 (IBA Act) and the Broadcasting Act, 4 of 1999.<sup>149</sup> The Icasa Act is primarily administrative or procedural legislation, whereas the underlying statutes are primarily substantive legislation. Icasa must perform its functions in accordance with the Icasa Act as well as the underlying legislation, in order to 'achieve the objects' of the underlying statutes.<sup>150</sup>

In addition, Icasa must perform in terms of other primarily procedural legislation, such as the Public Finance Management Act, 1 of 1999 (PFMA),<sup>151</sup> the Promotion of Administrative Justice Act, 3 of 2000 (PAJA),<sup>152</sup> and the Promotion of Access to Information Act, 2 of 2000 (PAIA).

<sup>141</sup> To date, no such services or activities have been prescribed. But see 'Findings and conclusions in terms of s 27(8)(a) on the s 27 enquiry on the provisioning of wireless internet access using ISM frequencies' GN 2610 of 2003 in GG 25594 dated 16 October 2003 regarding wireless local area networks, more commonly known as hotspots.

<sup>142</sup> National Mobile Data Telecommunications Licence issued on 27 June 1997 by the Director-General of the Department of Communications to Vula Mobile Data (Pty) Ltd trading as Wireless Business Solutions.

<sup>143</sup> s 2 of the Icasa Act. See also s 192 of the final Constitution requiring an independent regulator for the broadcasting industry.

<sup>144</sup> The IBA was established by the Independent Broadcasting Authority Act, 153 of 1993 to regulate broadcasting.

<sup>145</sup> See chapter 4 herein.

<sup>146</sup> s 3(2) of the Icasa Act.

<sup>147</sup> s 17 of the Icasa Act.

<sup>148</sup> s 91(1)–(5) of the Telecommunications Act. In terms of s 91(3) of this Act the chief executive officer may allocate any staff member to perform powers or duties delegated to him or her.

<sup>149</sup> s 4(1)(a) and (b) of the Icasa Act.

<sup>150</sup> s 2(c) of the Icasa Act.

<sup>151</sup> See ss 4(2), 15(2) and 16(1)(b)(2) of the Icasa Act.

<sup>152</sup> See, in particular, s 35(8) of the Telecommunications Act regarding telecommunication services licensing.

<sup>153</sup> s 2 of the PFMA. In terms of s 3 of the Act, the Act applies to government departments; public entities such as the Competition Commission, constitutional institutions such as Icasa, and to parliament and provincial legislatures.

The object of the PFMA is ‘to secure transparency, accountability, and sound management of the revenue, expenditure, assets and liabilities of the institutions to which the Act applies’.<sup>153</sup>

The object of the PAJA is to give effect to section 33 of the Constitution, which provides for the right to just administrative action.<sup>154</sup> The requirements of just administrative action are threefold:

- procedural fairness, including the right to reasons when rights have been adversely affected;
- lawfulness; and
- reasonableness.

Where the legislature, judiciary, executive or any organ of state<sup>155</sup> – for example, the Minister and Department of Communications, Icasa, or the USA (as well as state-owned enterprises<sup>156</sup>) – acts administratively (as opposed to legislatively or judicially), it must do so in accordance with section 33 of the Constitution.<sup>157</sup>

A large portion of the PAJA is dedicated to the meaning of ‘procedural fairness’.<sup>158</sup> Other provisions deal with judicial review of administrative decisions, including setting out grounds for review. Such grounds include grounds relating to procedural fairness,<sup>159</sup> lawfulness<sup>160</sup> and reasonableness.<sup>161</sup> Consistent with the right to just administrative action, section 6(1) provides that all administrative action is subject to review.

Although a constitutional right to just administrative action is unusual in comparison with other constitutional dispensations around the world, it is consistent with the striving towards open, fair, responsive and accountable government that permeates South Africa’s Constitution.<sup>162</sup> Another notable piece of legislation that public bodies must comply with in relation to open and accountable government is the PAIA, promulgated in terms of section 32 of the

<sup>154</sup> s 33 of the final Constitution states that ‘(1) Everyone has the right to administrative action that is lawful, reasonable and procedurally fair. (2) Everyone whose rights have been adversely affected by administrative action has the right to be given written reasons. (3) National legislation must be enacted to give effect to these rights, and must – (a) provide for the review of administrative action by a court or, where appropriate, an independent and impartial tribunal; (b) impose a duty on the state to give effect to the rights in subsections (1) and (2), and (c) promote an efficient administration.’

<sup>155</sup> s 8 of the final Constitution indicates to whom the Bill of Rights is applicable. s 239 of the Constitution defines organ of states as: ‘(a) any department of state or administration in the national or provincial or local sphere of government; or (b) any other functionary or institution – (i) exercising a power or performing a function in terms of the Constitution or a provincial constitution; or (ii) exercising a public power or performing a public function in terms of any legislation, but does not include a court or a judicial officer’.

<sup>156</sup> If a state-owned enterprise is exercising a power or performing a function in terms of a constitution or exercising a public power or performing a public function in terms of any legislation, then it is considered to be an organ of state in terms of s 239 of the Constitution.

<sup>157</sup> Although the PAJA excludes from its ambit certain decisions made by the national executive in terms of s 1(i) (in the definition of ‘administrative action’), it does not exclude decisions taken in ‘implementing legislation’ in terms of s 85(2)(a) of the Constitution.

<sup>158</sup> See ss 3, 4 and 5 of the PAJA. Generally, procedural fairness includes adequate notice, the right to be heard, and the provision of reasons for decisions. See s 3(2)(b) of PAJA.

<sup>159</sup> See s 6(2)(c) of PAJA.

<sup>160</sup> See s 6(2)(a), (b), (d)–(g) and (i) of the PAJA. ‘Lawfulness’ means that administrative action was taken in the terms of the empowering provision.

<sup>161</sup> See s 6(2)(h). South African courts have not yet defined reasonableness; however, recent decisions seem to suggest that reasonableness means ‘justifiable in relation to the reasons given’, which is the wording that was set out in s 24(d) of the interim Constitution. See *MEC for Public Works, Roads and Transport, Free State and Another v Morning Star Minibus Hiring Services (Pty) Ltd and Others* 2003 (4) SA 429 (O); *Ampofo v MEC for Education, Arts, Culture, Sports and Recreation, Northern Province and Another* 2001 (2) SA 215 (T).

<sup>162</sup> L Thornton ‘The Constitutional Right to Just Administrative Action – Are Political Parties Bound?’ (1999) 15 SAJHR 351 at 360.

<sup>163</sup> s 32 of the final Constitution states that ‘(1) Everyone has the right of access to – (a) any information held by the state; and (b) any information that is held by another person and that is required for the exercise or protection of any rights. (2) National legislation must be enacted to give effect to this right, and may provide for reasonable measures to alleviate the administrative and financial burden on the state.’

Constitution, which guarantees a right of access to information.<sup>163</sup> The objects of the PAIA, as set out in the preamble, are to foster a culture of transparency and accountability in public and private bodies by giving effect to the right of access to information and to promote actively a society in which the people of South Africa have effective access to information to enable them to more fully exercise and protect all of their rights.<sup>164</sup>

#### 4.4.3 Competition Act

The Telecommunications Act is industry-specific legislation for the telecommunications industry. It regulates a number of issues, including competition issues.<sup>165</sup> The Competition Act, on the other hand, is not industry-specific, but relates generally to competition matters across all industries. It applies *inter alia* to the telecommunications industry. Section 3(1) of the Competition Act indicates that it applies to ‘all economic activity within, or having an effect within’ South Africa.

Section 3(1A), which was inserted by the Competition Second Amendment Act, 39 of 2000, deals with concurrent jurisdiction and states –

In so far as this Act applies to an industry, or sector of an industry, that is subject to the jurisdiction of another regulatory authority,<sup>166</sup> ... , this Act must be construed as establishing concurrent jurisdiction in respect of that conduct.

A regulatory authority would include, for example, Icasa and the USA.

Sections 3(1A)(b), 21(1)(h) and 82(1) and (2) deal with how concurrent jurisdiction is to be exercised. Section 3(1A)(b) provides as follows –

The manner in which the concurrent jurisdiction is exercised in terms of this Act and any other public regulation,<sup>167</sup> must be managed, to the extent possible, in accordance with any applicable agreement concluded in terms of sections 21(1)(h) and 82(1) and (2).

Section 21(1)(h) makes it the responsibility of the Competition Commission to negotiate agreements with other regulatory entities and to coordinate and harmonise the exercise of jurisdiction over competition matters with the relevant industry regulatory authority, and to ensure the consistent application of the

<sup>164</sup> The specific objects are expanded upon in s 9 of the PAIA.

<sup>165</sup> For example, specifically, s 53(1) of the Telecommunications Act provides that ‘[i]f it appears to the Authority that the holder of a telecommunication licence is taking or intends taking any action which has or is likely to have the effect of giving an undue preference to or causing undue discrimination against any person or category of persons, the Authority may, after giving the licensee concerned an opportunity to be heard, direct the licensee by written notice to cease or refrain from taking such action, as the case may be’. Similarly, s 36(1)(d) provides that ‘[w]here it appears to the Authority that Telkom, in the provision of its telecommunication services, is taking or proposing to take any step which confers or may confer on it an undue advantage over any person who may in future be granted a licence in competition with Telkom, the Authority may direct Telkom to cease or refrain from taking such step, as the case may be’.

<sup>166</sup> ‘Regulatory authority’ is defined in s 1(1) of the Competition Act as ‘an entity established in terms of national, provincial or local government legislation or subordinate legislation responsible for regulating an industry, or sector of an industry’.

<sup>167</sup> ‘Public regulation’ is defined in s 1(1) of the Competition Act as ‘any national, provincial or local government legislation or subordinate legislation, or any license, tariff, directive or similar authorisation issued by a regulatory authority or pursuant to any statutory authority’.

<sup>168</sup> s 82(2) (regarding the Competition Commission) and 82(1) (regarding the other regulatory authority, such as Icasa) of the Competition Act.

<sup>169</sup> s 82(3) of the Competition Act.

principles of the Competition Act. Section 82 also obliges the Competition Commission as well as other regulatory agencies to negotiate the agreement contemplated in section 21(1)(h).<sup>168</sup> It also provides for certain matters to be covered in the agreement.<sup>169</sup> The Competition Commission and Icasa entered into an agreement in terms of sections 21(1)(h) and 82(1)–(3) with effect from 16 September 2002.<sup>170</sup>

In terms of subsections (i) and (j) respectively of section 21(1), the Competition Commission also has the responsibility to participate in proceedings of another regulatory authority, such as Icasa, and advise and receive advice from another regulatory authority.

Not unlike the Telecommunications Act, certain basic rules are set out in the Competition Act. Chapter 2 prohibits certain anti-competitive practices. Part A of chapter 2 prohibits agreements or practices between parties in a horizontal relationship if such agreements or practices are anti-competitive.<sup>171</sup> Price fixing, dividing markets and collusive tendering are per se considered anti-competitive practices.<sup>172</sup> Part A of Chapter 2 also prohibits agreements between parties in a vertical relationship if such agreements are anti-competitive.<sup>173</sup>

Part B of Chapter 2 of the Competition Act prohibits abuses of dominant positions. Such abuses include charging an excessive price,<sup>174</sup> refusing to give access to an essential facility,<sup>175</sup> engaging in an exclusionary act,<sup>176</sup> and price discrimination.<sup>177</sup>

Part C of Chapter 5 indicates that complaints may be initiated by the Competition Commission<sup>178</sup> or by any person.<sup>179</sup> It also sets out that complaints must be investigated by the Competition Commission<sup>180</sup> and referred to the Competition Tribunal for adjudication if a prohibited practice has been determined.<sup>181</sup>

Chapter 3 of the Competition Act sets out the rules with regard to mergers, defined in terms of section 12(1)(a) as any transaction ‘where one or more firms directly or indirectly acquire or establish direct or indirect control over the whole or part of the business of another firm’. Mergers generally will not be approved if they are anti-competitive.<sup>182</sup>

There are different rules with regard to small, intermediate and large mergers. Parties do not automatically have to notify the Competition Commission regarding a small merger.<sup>183</sup> However, intermediate and large mergers require

<sup>170</sup> GN 1747 of 2002, published in GG 23857 dated 20 September 2002.

<sup>171</sup> s 4(1)(a) of the Competition Act.

<sup>172</sup> s 4(1)(b) of the Competition Act.

<sup>173</sup> s 5(1) of the Competition Act.

<sup>174</sup> s 8(a) of the Competition Act.

<sup>175</sup> s 8(b) of the Competition Act.

<sup>176</sup> s 8(c) and (d) of the Competition Act.

<sup>177</sup> s 9 of the Competition Act.

<sup>178</sup> s 49B(1) of the Competition Act.

<sup>179</sup> s 49B(2) of the Competition Act.

<sup>180</sup> s 49B(3) and (4) of the Competition Act.

<sup>181</sup> s 50 of the Competition Act. s 51 of the Competition Act allows a complainant to refer the complaint to the Competition Tribunal for adjudication even if the Competition Commission does not do so.

<sup>182</sup> s 12A of the Competition Act.

<sup>183</sup> s 13 of the Competition Act.

<sup>184</sup> s 13A of the Competition Act.

<sup>185</sup> ss 13 and 14 of the Competition Act. However, certain matters regarding small and intermediate mergers may be considered by the Competition Tribunal upon the request of the parties, in terms of s 16(1) of the Competition Act.

<sup>186</sup> ss 14A and 16(2) of the Competition Act. Decisions by the Competition Tribunal regarding mergers may be appealed to the Competition Appeal Court in terms of s 17 of the Competition Act.

<sup>187</sup> s 19 of the Competition Act.

notification before implementation.<sup>184</sup> The Competition Commission considers and determines whether to allow small and intermediate mergers,<sup>185</sup> whereas the Competition Tribunal considers and determines whether to allow large mergers.<sup>186</sup>

The Competition Act also establishes the Competition Commission,<sup>187</sup> the Competition Tribunal<sup>188</sup> and the Competition Appeal Court.<sup>189</sup> The functions of the Competition Commission include the investigation of anti-competitive vertical and horizontal agreements and practices, abuses of dominant positions, and mergers.<sup>190</sup> Part B of chapter 5 of the Competition Act provides the Competition Commission with powers to enter and search under a warrant and the power to summons when investigating compliance with the Competition Act.

The functions of the Competition Tribunal include the adjudication of prohibited anti-competitive conduct and the hearing of appeals or reviews of decisions of the Competition Commission.<sup>191</sup> The Competition Tribunal has wide powers to make appropriate orders, including ordering administrative penalties and divestiture.<sup>192</sup>

The functions of the Competition Appeal Court include the hearing of appeals and reviews of decisions of the Competition Tribunal.<sup>193</sup>

Decisions of the Competition Appeal Court, as well as those of the Competition Tribunal and the Competition Commission, may be 'served, executed and enforced' as if they were orders of the High Court.<sup>194</sup>

Section 78 of the Competition Act empowers the Minister of Trade and Industry to make regulations in terms of the Act. Section 79 empowers the Competition Commission to prepare non-binding guidelines to indicate the Commission's approach to matters within its jurisdiction.

#### 4.4.4 *Electronic Communications and Transactions Act (ECT Act)*

The primary object of the ECT Act is to 'enable and facilitate electronic communications and transactions in the public interest'.<sup>195</sup> It does not regulate telecommunications infrastructure in the manner of the Telecommunications Act. Rather, it removes some of the either real or perceived legal uncertainties regarding electronic communications and transactions and facilitates the use of telecommunications, the conduit over which electronic communications and transactions take place.

The ECT Act deals with a number of specific matters, including:<sup>196</sup>

<sup>188</sup> s 26 of the Competition Act.

<sup>189</sup> s 36 of the Competition Act.

<sup>190</sup> s 21 of the Competition Act sets out the functions of the Competition Commission.

<sup>191</sup> s 27 of the Competition Act sets out the functions of the Competition Tribunal.

<sup>192</sup> ss 58, 59 and 69 of the Competition Act.

<sup>193</sup> s 37 sets out the functions of the Competition Appeal Court.

<sup>194</sup> s 64(1) of the Competition Act.

<sup>195</sup> s 2(1) of the ECT Act.

<sup>196</sup> See A de Villiers and L Thornton 'The South African Electronic Communications and Transactions Act' (2002) vol 3, issue 11 *World Internet Law Report* 18; L Thornton 'Staying on good terms with the ECT Act' (2003) vol 3, no 5 *Without Prejudice* 9.

<sup>197</sup> Chapter II, Part 1 of the ECT Act.

<sup>198</sup> Chapter II, Part 2 of the ECT Act.

<sup>199</sup> Chapter III of the ECT Act.

<sup>200</sup> Chapter IV of the ECT Act.

- a national e-strategy;<sup>197</sup>
- an electronic transactions policy;<sup>198</sup>
- legal recognition of electronic communications and transactions;<sup>199</sup>
- e-government;<sup>200</sup>
- cryptography;<sup>201</sup>
- authentication services;<sup>202</sup>
- consumer protection;<sup>203</sup>
- personal data protection;<sup>204</sup>
- critical databases;<sup>205</sup>
- administration of the .za domain space;<sup>206</sup>
- limitations of liability for information system services providers;<sup>207</sup>
- cyber inspectors;<sup>208</sup>
- cyber crimes.<sup>209</sup>

Chapter III of the ECT Act removes some of the legal uncertainties regarding electronic communications and transactions. Fundamentally, it provides that information and agreements are not without legal force and effect merely on the grounds that they are wholly or partly in the form of a data message.<sup>210</sup> ‘Data message’ is defined as ‘data generated, sent, received or stored by electronic means and includes voice, where the voice is used in an automated transaction; and a stored record’. ‘Data’ in turn is defined as ‘electronic representations of information in any form’.<sup>211</sup> The remaining provisions of chapter III provide detail to this fundamental premise. The detail is with regard to, among other things, the legal requirements for a writing,<sup>212</sup> a signature,<sup>213</sup> an original,<sup>214</sup> the retention of documents<sup>215</sup> and the admission of electronic evidence.<sup>216</sup>

Although many of the provisions of the Act have not been fully implemented and therefore tested, most of them appear to be geared to facilitate the use of electronic communications. The key to whether the provisions will actually facilitate electronic communications, and to what extent, will be how, and how effectively, they will be implemented.

Chapter X establishes a ‘za Domain Name Authority’ to assume responsibility for the .za domain name space. Essentially, the Authority will administer or license others to administer the distribution of names and corresponding numbers for the South African country code, .za, used for communicating over the Internet. This function is similar to the function that Icasa assumes with regard to number distribution in telecommunications systems other than the Internet in terms of section 89 of the Telecommunications Act.

<sup>197</sup> Chapter V of the ECT Act.

<sup>198</sup> Chapter VI of the ECT Act.

<sup>199</sup> Chapter VII of the ECT Act.

<sup>200</sup> Chapter VIII of the ECT Act.

<sup>201</sup> Chapter IX of the ECT Act.

<sup>202</sup> Chapter X of the ECT Act.

<sup>203</sup> Chapter XI of the ECT Act.

<sup>204</sup> Chapter XII of the ECT Act.

<sup>205</sup> Chapter XIII of the ECT Act.

<sup>206</sup> ss 11(1) and 22(1) of the ECT Act.

<sup>207</sup> s 1 of the ECT Act.

<sup>208</sup> s 12 of the ECT Act.

<sup>209</sup> s 13 of the ECT Act.

<sup>210</sup> s 14 of the ECT Act.

<sup>211</sup> s 16 of the ECT Act.

<sup>212</sup> s 15 of the ECT Act.

Chapter XI of the ECT Act provides for a limitation of liability for information system services providers under certain circumstances. The circumstances include membership in an industry representative body recognised by the Minister in terms of section 71 of the ECT Act and the adoption of the code of conduct of that representative body.<sup>217</sup> Once a services provider has met the requisite conditions, it is not liable as a mere conduit of information<sup>218</sup> for the storage of data for the purposes of onward transmission (caching),<sup>219</sup> for hosting data,<sup>220</sup> or for providing location tools.<sup>221</sup> Although there is no obligation on services providers to monitor the use of their information systems,<sup>222</sup> there is an obligation to take down offending information upon receiving a complaint.<sup>223</sup>

A more detailed review of all of the provisions of the ECT Act is set out in chapter 10 herein.

#### ***4.4.5 Regulation of Interception of Communications and Provision of Communication-Related Information Act (Interception Act)***

Similar to the ECT Act, the Interception Act does not regulate telecommunications infrastructure in the manner of the Telecommunications Act. Rather, it sets out the circumstances under which government entities or other persons may or must intercept or monitor communications and establishes that in all other circumstances such interception or monitoring is prohibited.<sup>224</sup>

When it comes into force, the Interception Act will repeal the Interception and Monitoring Prohibition Act, 127 of 1992, which currently and similarly provides that interception and monitoring are prohibited<sup>225</sup> except if a judge directs otherwise.<sup>226</sup> Unlike the current legislation, the Interception Act sets out other exceptions and also establishes certain obligations on telecommunication services providers with regard to intercepting and monitoring communications and facilitating the interception and monitoring of communications.<sup>227</sup>

Section 2 of the Interception Act provides that, subject to the Act, no person may intentionally intercept or attempt to intercept, or authorise or procure any other person to intercept or attempt to do so, at any place in South Africa, any communication.<sup>228</sup> The proviso ‘subject to the Act’ means, *inter alia*, subject to the

<sup>217</sup> s 72 of the ECT Act.

<sup>218</sup> s 73 of the ECT Act.

<sup>219</sup> s 74 of the ECT Act.

<sup>220</sup> s 75 of the ECT Act. Knowledge of the offending information or activity will negate the limitation of liability in terms of s 75(1)(a) and (b) of the ECT Act.

<sup>221</sup> s 76 of the ECT Act. Knowledge of the offending information or activity or receiving financial benefit will negate the limitation of liability in terms of s 76(a), (b) and (c) of the ECT Act.

<sup>222</sup> s 78 of the ECT Act.

<sup>223</sup> See ss 74(1)(e), 75(1)(c) and (2), 76(d) and 77 of the ECT Act.

<sup>224</sup> Chapters 2, 3 and 4 of the Interception Act. Chapter 6 establishes interception centres for the interception of communications.

<sup>225</sup> s 2(1) of the Interception and Monitoring Prohibition Act.

<sup>226</sup> s 2(2) of the Interception and Monitoring Prohibition Act. Interception directions are issued by designated judges to certain law enforcement personnel in terms of s 3 of the Interception and Monitoring Prohibition Act and are executed in terms of s 5 of the Act.

<sup>227</sup> Chapters 5 and 7 of the Interception Act. Telecommunication services providers are defined in s 1 of the Interception Act as those persons providing services in terms of chapter V of the Telecommunications Act.

<sup>228</sup> s 2 of the Interception Act. ‘Intercept’ is defined in s 1 of the Interception Act as ‘the aural or other acquisition of the contents of any communication through the use of any means, including an interception device, so as to make some or all of the contents of a communication available to a person other than the sender or recipient or intended recipient of that communication, and includes the – (a) monitoring of any such communication by means of a monitoring device; (b) viewing, examination or inspection of the contents of any indirect communication; and (c) diversion of any indirect communication from its intended destination to any other destination’.

<sup>229</sup> s 3 of the Interception Act. Interception directions, *inter alia*, are issued by designated judges to certain law-enforcement personnel in terms of chapter 3 of the Interception Act and are executed in terms of chapter 4 of that Act.

<sup>230</sup> s 4 of the Interception Act.



exceptions set out in the Interception Act. Such exceptions are:

- Where an interception direction has been issued;<sup>229</sup>
- By a party to the communications;<sup>230</sup>
- With the written consent of one of the parties to the communications;<sup>231</sup>
- Indirect communications<sup>232</sup> in the carrying on of any business,<sup>233</sup> but only under certain conditions;<sup>234</sup>
- By certain law enforcement personnel to prevent serious bodily harm;<sup>235</sup>
- By certain law enforcement personnel to determine the location of a person in an emergency;<sup>236</sup>
- In a prison;<sup>237</sup>
- The monitoring of signals by persons responsible for installing, operating and maintaining equipment;<sup>238</sup>
- The monitoring of the radio frequency spectrum by Icasa.<sup>239</sup>

Similarly to the prohibition on intercepting communications, the Interception Act also prohibits telecommunication services providers from providing real-time or archived communication-related information.<sup>240</sup> There are the following exceptions.

- Where an interception direction has been issued;<sup>241</sup>
- Where the information relates to a customer, the information may be provided to that customer;<sup>242</sup> and
- With the written consent of the customer to which the information pertains.<sup>243</sup>

Chapter 5 of the Interception Act obliges telecommunication services providers, at their own expense, to have the capability to intercept communications over their telecommunication services networks and to store communication-related information.<sup>244</sup> The details of, inter alia, the type of capabilities required and the

<sup>229</sup> s 5 of the Interception Act.

<sup>232</sup> 'Indirect communications' is defined in s 1 of the Interception Act as 'the transfer of information, including a message or any part of a message, whether – (a) in the form of – (i) speech, music or other sounds; (ii) data; (iii) text; (iv) visual images, whether animated or not; (v) signals; or (vi) radio frequency spectrum; or (b) in any other form or in any combination of forms, that is transmitted in whole or in part by means of a postal service or a telecommunication service'.

<sup>233</sup> s 6 of the Interception Act.

<sup>234</sup> In terms of s 6 of the Interception Act, the conditions are (1) that the purpose of the interception must coincide with one or more of the purposes set out in the Act, (2) that the interception must be affected by or approved by the system controller as that term is defined in the Act; (3) that the telecommunication system involved must be provided for use, wholly or partly, in connection with the relevant business; and that the system controller must have made all reasonable efforts to inform in advance any person who intends to use the telecommunication system concerned that indirect communications transmitted by means thereof may be intercepted or the indirect communication is intercepted with the express or implied consent of the person who uses the telecommunication system. In this regard, see I. Thornton 'Where legislation stands on personal e-mail in the office' (15 October 2003) *Business Report*.

<sup>235</sup> s 7 of the Interception Act.

<sup>236</sup> s 8 of the Interception Act.

<sup>237</sup> s 9 of the Interception Act.

<sup>238</sup> s 10 of the Interception Act.

<sup>239</sup> s 11 of the Interception Act.

<sup>240</sup> s 12 of the Interception Act.

<sup>241</sup> s 13 of the Interception Act. Real-time and archived communication-related directions, inter alia, are issued by designated judges to certain law-enforcement personnel in terms of chapter 3 of the Interception Act and are executed in terms of chapter 4 of that Act.

<sup>242</sup> s 12 of the Interception Act.

<sup>243</sup> s 14 of the Interception Act.

<sup>244</sup> s 30(1)(a) and (b), (4) and (5) of the Interception Act.

<sup>245</sup> s 30(2), (3), (6)–(8) of the Interception Act. The Department of Communications invited all telecommunication services providers to participate in a consultative process regarding such details by GN 2611 of 2003, GG 25597 dated 16 October 2003. As at June 2004, however, no such details have been finally determined by the Minister.

<sup>246</sup> s 46 of the Interception Act.

type of communication-related information to be kept and for how long, are to be determined by the Minister of Communications.<sup>245</sup> The Minister also may exempt small Internet service providers from compliance and may impose conditions on such exemption.<sup>246</sup> In terms of section 56 of the Interception Act, telecommunication services providers who have been convicted more than once of the offence of not providing such capability may have their licences revoked by the Minister of Communications after consultation with Icasa.

Chapter 7 of the Interception Act obliges telecommunication services providers to gather, retain and disclose certain personal information about customers.<sup>247</sup> In terms of section 41 of the Interception Act, whenever a cellular phone or SIM-card<sup>248</sup> is lost, stolen or destroyed, the owner or possessor must report the loss, theft or destruction to the police.

Section 44 of the Interception Act provides that the Minister of Justice and Constitutional Development must declare electronic equipment that is primarily useful for the interception of communications to be 'listed equipment'. In terms of section 45 of the Interception Act, such listed equipment may not be manufactured, assembled, possessed, sold, purchased or advertised unless in accordance with a certificate issued by the Minister in terms of section 46.

A more detailed discussion of the Interception Act is set out in chapter 11 herein.

#### 4.4.6 Space Affairs Act

The Space Affairs Act was promulgated in 1993 (Act 84 of 1993). It provides, inter alia, that the Minister of Trade and Industry is to determine policy regarding space affairs.<sup>249</sup>

It also provides for the establishment of the South African Council for Space Affairs (SACSA).<sup>250</sup> The functions of the SACSA are generally to 'take care of the interests, responsibilities and obligations' of South Africa 'regarding its space and space-related activities in compliance with international conventions, treaties and agreements'.<sup>251</sup> In particular, the SACSA may issue licences in terms of section 11 of the Space Affairs Act with regard to:

- Launching from South Africa;
- Launching from another state by a South African entity;
- Operating a launch facility in South Africa;
- Participation by private entities in space activities where South Africa has international obligations or where national interests may be affected; and
- Any other space activities prescribed by the Minister of Trade and Industry.

'Launching' is defined in the Space Affairs Act as:

the placing or attempted placing of any spacecraft into a suborbital trajectory or

<sup>247</sup> ss 39 (with regard to telecommunication services providers other than MCTS providers) and 40 (with regard to MCTS providers).

<sup>248</sup> 'SIM-card' is defined in s 1 of the Interception Act as 'the Subscriber Identity Module which is an independent, electronically activated device designed for use in conjunction with a cellular phone ...'.

<sup>249</sup> s 2 of the Space Affairs Act. As at June 2004, no policy has been determined.

<sup>250</sup> s 4 of the Space Affairs Act.

<sup>251</sup> s 5(2) of the Space Affairs Act.

into outer space, or the testing of a launch vehicle or spacecraft in which it is foreseen that the launch vehicle will lift from the earth's surface.

And 'spacecraft' is defined as 'any object launched with the purpose of being put and operated in outer space'. As at June 2004, no licences have yet been issued.

#### **4.4.7 Post Office Act (regarding Telkom)**

The Post Office Act, 44 of 1958 provides for the formation of, inter alia, Telkom,<sup>252</sup> and for the transfer of certain assets and liabilities from the State to Telkom.<sup>253</sup> Chapters 1B and II [sic] deal with staff and pension matters and finances, respectively, regarding Telkom.

Telkom has the authority to provide telecommunication services in terms of sections 36 (PSTS) and 40(1)(a) (Vans) of the Telecommunications Act.<sup>254</sup>

Section 130 of the Telecommunications Act provides that, notwithstanding any provision of law to the contrary, the Minister of Communications may transfer so much of the government's equity interest in Telkom as the Cabinet shall approve for achieving the objects of the Telecommunications Act. In March 2003, Telkom sold 27,7 percent of its shares to the public.

#### **4.4.8 Legal Succession to the South African Transport Services Act (regarding Transnet)**

The Legal Succession to the South African Transport Services Act, 9 of 1989 provides for the formation of, inter alia, Transnet,<sup>255</sup> and for the transfer of certain assets and liabilities from the South African Transport Services to Transnet.<sup>256</sup> Section 9 ('Telecommunication and Electricity Supply Networks') of Schedule 1 ('Operating Provisions, Operating Powers and Offences') of the Legal Succession to the South African Transport Services Act provides that, subject to section 2 of the Telecommunications Act, which sets out the objects thereof, Transnet may construct and operate telecommunications networks.

Transnet has the authority to operate a private telecommunications network (PTN) in terms of section 41(1)(c) of the Telecommunications Act. Section 32C of the Telecommunications Act indicates that Transnet (as well as Eskom) will hold such percentage of the equity interest of the SNO set aside for them by the Minister of Communications with the concurrence of the Minister of Public Enterprises,<sup>257</sup> but that the final equity interest will be determined by the value of the contributions each of them makes to the SNO.<sup>258</sup> In April 2002, the Minister of Communications determined that a 30 percent interest in the SNO will be allocated to Transnet and Eskom.<sup>259</sup> In May 2002, the Minister of Communications

<sup>252</sup> s 3 of the Post Office Act.

<sup>253</sup> s 4 of the Post Office Act.

<sup>254</sup> See also ss 30(3)(a), (c) and (e); 30A(2); and 30B(2) of the Telecommunications Act regarding frequency use licences.

<sup>255</sup> s 2 of the Legal Succession to the South African Transport Services Act.

<sup>256</sup> s 3 of the Legal Succession to the South African Transport Services Act.

<sup>257</sup> s 32B(2) of the Telecommunications Act.

<sup>258</sup> s 32B(3)–(5) of the Telecommunications Act.

<sup>259</sup> GN 652 of 2002, in GG 23372 dated 26 April 2002.

<sup>260</sup> GN 755 of 2002, in GG 23427 dated 15 May 2002. As at June 2004, this final determination has not been made.

indicated that the final determination will later be determined.<sup>260</sup>

#### 4.4.9 Eskom Conversion Act (regarding Eskom)

The Eskom Conversion Act, 13 of 2001 concerns the conversion of Eskom into a public company to be owned by the state, to be known as Eskom Holdings Limited.<sup>261</sup> Before the coming into force of the Telecommunications Act, Eskom had the right to operate a private telecommunications network (PTN) in terms of an authority granted to it by the then Postmaster-General in terms of the then Post Office Act.

Eskom now has the authority to operate its PTN in terms of section 41(1)(c) of the Telecommunications Act. Section 32C of that Act indicates that Eskom (and Transnet) will hold such percentage of the equity interest of the SNO set aside for them by the Minister of Communications, with the concurrence of the Minister of Public Enterprises,<sup>262</sup> but that the final equity interest will be determined by the value of the contribution of each of them in the SNO.<sup>263</sup> In this regard, see further paragraph 4.4.8 above regarding Transnet.

#### 4.4.10 Sentech Act (regarding Sentech)

The Sentech Act, 63 of 1996 provides for the transfer of ownership of Sentech from the South African Broadcasting Corporation (SABC) to the state,<sup>264</sup> for the transfer of assets and liabilities regarding broadcasting signal distribution from the SABC to Sentech,<sup>265</sup> and for the conversion of Sentech to a public company to be known as Sentech Limited.<sup>266</sup>

Traditionally, Sentech was a company with the object of providing broadcasting signal distribution services only.<sup>267</sup> However, its objects were amended by the Telecommunications Amendment Act of 2001 to include ‘telecommunications services in accordance with the provisions of the Telecommunications Act’.<sup>268</sup> The Telecommunications Amendment Act also provided that Sentech would be issued with two types of telecommunication services licence, namely an international telecommunication gateway service licence enabling it to operate as a carrier of carriers, and a multimedia services licence.<sup>269</sup>

<sup>261</sup> s 3 of the Eskom Conversion Act.

<sup>262</sup> s 32B(2) of the Telecommunications Act.

<sup>263</sup> s 32B(3)–(5) of the Telecommunications Act.

<sup>264</sup> s 2 of the Sentech Act.

<sup>265</sup> s 3 of the Sentech Act.

<sup>266</sup> s 4 of the Sentech Act.

<sup>267</sup> ‘Broadcasting signal distribution’ is defined in the Independent Broadcasting Authority Act (s 1) as ‘the process whereby the output signal of a broadcasting service is taken from the point of origin, being the point where such signal is made available in its final content format, from where it is conveyed to any geographical broadcast target area by means of a telecommunications process, but excluding the use of facilities which operate on frequencies outside the broadcasting services frequency bands’.

<sup>268</sup> s 5 of the Sentech Act.

<sup>269</sup> s 32C(1) of the Telecommunications Act. Sentech’s licences were published by GNN 684, 685, 686 and 687, GG 23405 dated 8 May 2002 (frequency licences amended by GN 1300, GG 24783 dated 22 April 2003).

<sup>270</sup> Amendments to the Sita Act were promulgated in the State Information Technology Agency Amendment Act, 38 of 2002, however, only certain of the provisions of the 2002 Sita Amendment Act have come into force. Proclamation R3 of 2003, GG 24348 dated 31 January 2003.

<sup>271</sup> s 2(1) of the Sita Act.

<sup>272</sup> s 6 of the Sita Act.

<sup>273</sup> s 3(4)(a) of the Sita Act.

<sup>274</sup> s 3(4)(b) of the Sita Act.

#### 4.4.11 State Information Technology Agency Act (regarding State Information Technology Agency)

The State Information Technology Agency Act, 88 of 1998 (Sita Act) was promulgated in 1998,<sup>270</sup> to create the State Information Technology Agency (Pty) Ltd (Sita).<sup>271</sup> The object of Sita is 'to provide information technology, information systems and related services in a maintained information systems security environment to, or on behalf of, participating departments and organs of state'.<sup>272</sup>

Participating departments and organs of state initially were the Central Computer Services of the Department of State Expenditure,<sup>273</sup> Infoplan,<sup>274</sup> the sub-component Information Systems within the Department of Safety and Security,<sup>275</sup> and any other department approved by the Minister of Public Service and Administration.<sup>276</sup> Section 3(5) of the Sita Act provides that government departments (as defined<sup>277</sup>) must participate in the formation of Sita, subject to section 3(6), which provides that participation will be phased in over a period determined by Cabinet on the recommendation of the Minister of Public Service and Administration.

Sita may exercise the following powers and functions in order to carry out its object, in terms of section 7 of the Sita Act:

- Provide data processing services;<sup>278</sup>
- Provide information technology and information systems training;<sup>279</sup>
- Provide application software development and maintenance services;<sup>280</sup>
- Promote the effective utilisation of information technology to enhance the efficiency at all levels of the public service;<sup>281</sup>
- Provide technical, functional and business advice and support regarding information technology;<sup>282</sup>
- Provide information technology and information systems management services<sup>283</sup>; and
- With regard to any of the stated functions, act as a procurement agency in respect of information technology requirements.<sup>284</sup>

Sita may also perform any other function as determined by the Minister of Public Service and Administration.<sup>285</sup>

Chapter 6 ('Service Delivery') of the Act provides that Sita and participating

<sup>275</sup> § 3(4)(c) of the Sita Act.

<sup>276</sup> § 3(4)(d) of the Sita Act.

<sup>277</sup> 'Department' is defined in s 1 of the Sita Act as 'a national department, provincial administration or organizational component listed in Schedules 1 and 2 of the Public Service Act 1994 (Proclamation 103 of 1994), and for the purpose of this Act, the entity known as Infoplan will be regarded as a department'. Schedule 1 of the Public Service Act sets out departments (and their heads) and Schedule 2 sets out provincial departments (and their heads).

<sup>278</sup> § 7(2)(a) of the Sita Act.

<sup>279</sup> § 7(2)(b) of the Sita Act.

<sup>280</sup> § 7(2)(c) of the Sita Act.

<sup>281</sup> § 7(2)(d) of the Sita Act.

<sup>282</sup> § 7(2)(e) of the Sita Act.

<sup>283</sup> § 7(2)(f) of the Sita Act.

<sup>284</sup> § 7(2)(g) of the Sita Act.

<sup>285</sup> § 7(2)(h) of the Sita Act.

<sup>286</sup> Amendments to the Cosmec Act were promulgated in the General Intelligence Laws Amendment Act, 52 of 2003; however, most of the provisions of the 2003 General Intelligence Laws Amendment Act relating to the Cosmec Act have commenced. The others will commence on a date to be proclaimed by the President in terms of s 26 of the Amendment Act.

<sup>287</sup> § 2 of the Cosmec Act.

departments and organs of state must enter into agreements to regulate the relationship between them.

#### **4.4.12 Electronic Communications Security (Pty) Ltd Act (regarding Electronic Communications Security)**

The Electronic Communications Security (Pty) Ltd Act, 68 of 2002 (Comsec Act) was promulgated in 2002<sup>286</sup> to create Electronic Communications Security (Pty) Ltd (Comsec).<sup>287</sup> The Comsec Act's principal object is to ensure the security and protection of critical electronic communications,<sup>288</sup> which are defined as 'electronic communications held by organs of state which are necessary for the protection of the national security of the Republic'.<sup>289</sup>

In terms of section 7(2) of the Comsec Act, Comsec must do certain things in order to carry out the purposes of its functions, which functions are set out in section 7(1) of the Act. The things that Comsec must do are:

- Develop, design, procure, invent, install or maintain secure electronic communications systems or products and do research in this regard;
- Provide secure electronic communications services, systems and products;
- Provide cryptographic services;<sup>290</sup>
- Train and support users of the electronic communications systems, products and related services provided; and
- Provide consultancy services on the security and protection of electronic communications services, systems and products.

Its functions are:

- To protect and secure critical electronic communications against unauthorised access or technical, electronic or any other related threats;
- To provide, with the concurrence of the National Intelligence Agency defined in the Intelligence Services Act, 38 of 1994, verification services for electronic communications security systems, products and services used by organs of state;
- To provide and coordinate research and development with regard to electronic communications security systems, products, services and any other related services; and
- To perform any other function not inconsistent with the Comsec Act that is necessary for the effective functioning of Comsec.

Section 7(6) of the Comsec Act requires telecommunication services providers to assist Comsec as necessary for the execution of the functions of the Comsec Act

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<sup>286</sup> s 3 of the Cosmec Act.

<sup>289</sup> s 1 of the Cosmec Act.

<sup>290</sup> 'Cryptography service' is defined in the ECT Act as a service 'designed to facilitate the use of cryptographic techniques' to ensure the authenticity and integrity of electronic data, to ensure the source can be correctly ascertained or to ensure that only the intended recipient can access the data. The phrase used in the Cosmec Act, 'cryptographic services', however, is not defined in the Cosmec Act or any other legislation.

by Comsec. Comsec must make a request and the assistance is to be provided at the expense of Comsec.

In terms of section 7(7) of the Comsec Act, Comsec is exempt from any of the licensing requirements of the Telecommunications Act.

In terms of section 17(1) of the Comsec Act, no organ of state may procure or access electronic communications products without verification and approval by Comsec. In terms of section 17(4), if an organ of state does not obtain the verification and approval of Comsec, any expenditure is regarded as unauthorised for the purposes of the PFMA.

Section 17(1), (2) and (5) of the Comsec Act provides that Comsec must request an analysis of the electronic communications security needs of organs of state every two years, and organs of state must submit such analysis to Comsec. Thereafter, Comsec, if it believes that it should attend to the electronic communications security needs of an organ of state, must enter into an agreement with that organ of state for the provision of the necessary services by Comsec.

Section 21 of the Comsec Act provides that Comsec must for its own account provide protection to the critical electronic communications infrastructure of organs of state. It must also coordinate research and development regarding possible security risks to critical electronic communications infrastructure. The Minister of Intelligence Services identifies critical electronic communications infrastructure on the recommendation of Comsec.

#### ***4.4.13 Legislation regarding other state-owned enterprises***

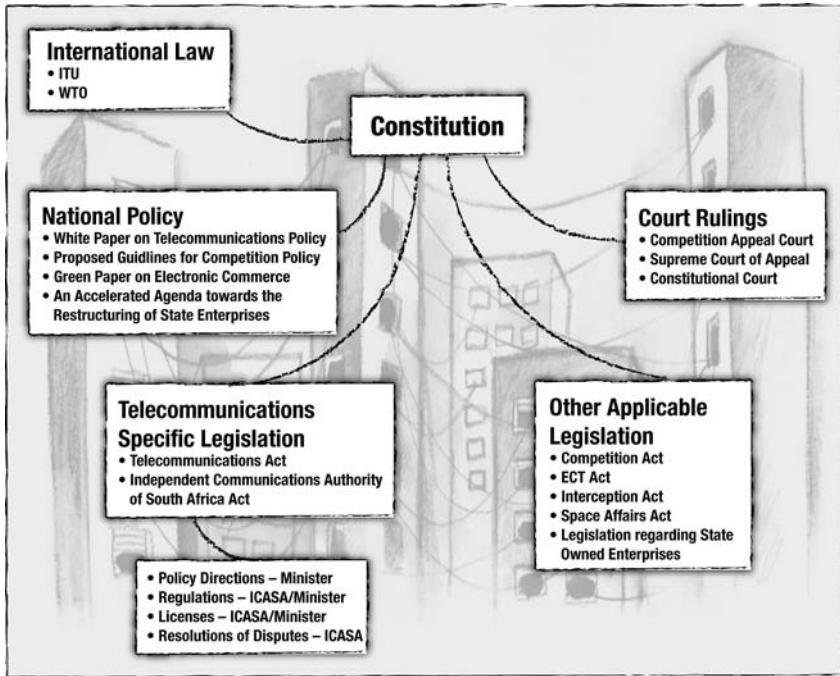
In addition to those state-owned enterprises mentioned above, section 41(1) of the Telecommunications Act instructs the Minister of Communications, with the concurrence of the Minister of Education, to establish an entity to construct and operate a PTN for public schools and public further education and training institutions and other institutions determined by the Minister of Education.

Similarly, section 41(11) instructs the Minister of Communications, with the concurrence of the Minister of Transport, to establish an entity to be known as Maritime and Aeronautical Radio Services to construct and operate a PTN to fulfil South Africa's international obligations in terms of the following conventions:

- International Convention for the Safety of Life at Sea 1974-78;
- Annexure 12 to the Convention on International Civil Aviation 1944;
- International Convention on Maritime Search and Rescue 1979.

As at June 2004, neither of the entities mentioned in section 41 of the Telecommunications Act has been established.

The diagram below is a bird's-eye view of the regulatory framework for telecommunications in South Africa, summarising the preceding discussion.



## Conclusion

South Africa has made great strides in developing best practice telecommunications policy and regulation over the past 10 years, since the inception of democracy. The White Paper on Telecommunications Policy was an excellent and forward-looking policy document. Unfortunately, however, not all of the policy articulated in that document has actually been implemented. The ECT Act is hailed in some circles as ranking amongst the best electronic communications legislation in the world. Time will tell whether the implementation of that legislation will be effective.

As can be gathered from the overview presented in this chapter as well as the discussions in the rest of the chapters of this book, there are some areas of concern in the regulation of telecommunications that should be addressed urgently. Some of these areas include:

- The licensing of an SNO;
- The implementation of carrier pre-select and number portability;
- The further liberalisation of the market and licensing of additional



- competitors;
- The lifting of the restriction on telecommunication services licensees to obtain telecommunication facilities from Telkom only;
- The lifting of the restriction on PTNs to not resell spare capacity;
- Fast-tracking of interconnection and facilities leasing disputes;
- Enforcement of the regulatory framework requirement on Telkom to produce regulatory accounts;
- Review of the rate regime;
- Changing the rate review process to allow public participation; and
- More effectively implementing universal service policy.

The development of a convergence policy has also become urgent. Technology convergence is here. The regulatory framework must follow if South Africa is not to be left behind the next generation of telecommunications. What is required immediately is the lifting of the restriction on voice over Vans – which would facilitate the regulatory convergence of voice and data telecommunication services. The convergence of mobile and fixed telecommunication services began in 2001, with the Telecommunications Act being amended to allow Telkom, the SNO and the under-served area licensee to provide fixed-mobile services and Telkom and the SNO access to the 1800 MHz and 3G frequency spectrum. The eventual convergence of telecommunication and broadcasting services has already begun with the granting to Sentech of a multimedia licence.

In the process of following drafting convergence legislation, the opportunity should be taken to draft legislation that is clear, flexible and forward looking. It should also be used to consolidate many varied pieces of legislation that regulate the industries, in particular the Telecommunications Act, the Icasa Act and the various pieces of broadcasting legislation.

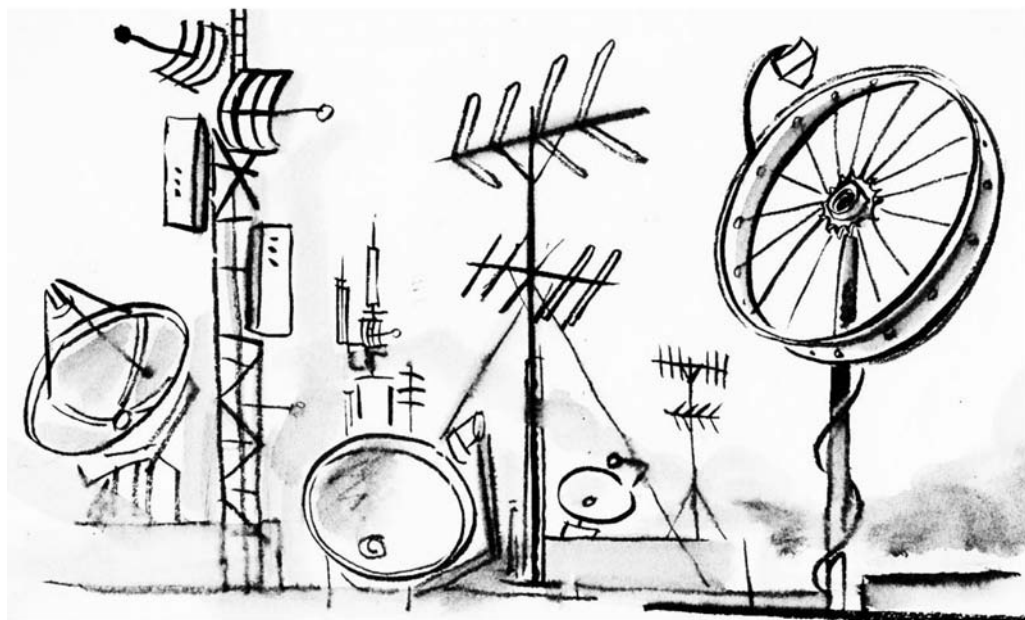
Also, it is critical that the regulators, Icasa and the Competition Commission, be given the required resources in terms of both money and human resources to enable them effectively to regulate rampant anti-competitive conduct in the industry. It is also important that Icasa be given more independence in the carrying out of its powers and duties.

With the changes suggested, the regulators can and should act decisively in regulating an industry that is good for South Africans and South Africa.



# Telecommunications Technologies

Mike Brierley<sup>1</sup>



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<sup>1</sup> The author would like to thank Lynne Orrock for her assistance in reviewing this chapter.

# Introduction

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The aim of this chapter is to describe many of the key technologies used in the telecommunications industry in a simple manner that will be understood by non-technical readers. This will assist anyone dealing with technical terminology to understand what they are dealing with. A glossary of technical terms has also been included at the end of this chapter. It should be noted that the glossary also contains terms not specifically mentioned in this chapter as it is intended to be a more general reference.

## 1. WHAT IS TELECOMMUNICATIONS?

Telecommunications<sup>2</sup> is a broad term for a very wide range of technologies and forms of communication. However, the primary areas are:

- radio
- telephone
- television
- data.

Prior to the era of telecommunications, communication between human beings was severely restricted by distance and speed. It required face to face contact, line of sight or written documents couriered by horse rider, messenger, ship or railway. This often took days and was limited to those who could read and write (a select few before 1900), and old news had little value. The dream for the modern age of telecommunications was simple enough: it was for one human to be able to communicate with another with sound, text (letters or numbers) or pictures in real time over any distance.

The human requirement has not changed markedly, and the many forms of telecommunications now available have come close to satisfying these needs. Why, then, is there still so much focus on telecommunications and why all this talk about convergence?

The history of telecommunications shows how rapidly things have progressed since 1835, when Samuel Morse first commercialised the telegraph; and since the radio was invented in 1896.<sup>3</sup>

Radio and television<sup>4</sup> are today huge communications industries, but they are grouped into the category of broadcasters, or deliverers of a single, common message to many. Listeners and viewers can select the channel but not the content.

The invention of the telephone<sup>5</sup> in 1870 made possible one to one voice communication,<sup>6</sup> and with the advent of the first generation cellular phone just over a century later in the 1980s, the personalisation of telecommunications moved one step closer. This, coupled with the Internet and e-mail, meant that we are closer to the ideal

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<sup>2</sup> <http://cisco.com>.

<sup>3</sup> [http://inventors.about.com/library/bl/bl\\_3.htm](http://inventors.about.com/library/bl/bl_3.htm).

<sup>4</sup> <http://www.people.emson.edu>.

<sup>5</sup> <http://inventors.about.com/library/inventors/bltelephone.htm>.

<sup>6</sup> <http://iath.virginia.edu/albell/homepage.html>.

of communicating between one person and another anywhere, at any time, and through any medium. The world of converged telecommunications will deliver just this.

How has this all become possible? The next few sections will show how, by being able to express the three core elements of communication – sound, picture and text (data) in the same form, namely digital – as a series of zeros and ones, convergence has become attainable. The only remaining constraints, then, are the device and the capacity of the linking bearer type or pipe. We will see that everything is getting faster, often also smaller, and that we can get more and more down the same pipe so that the day when your mobile device will be a telephone, a television set and a computer all rolled into one is not too far off.

Technological convergence is the coming together of all the telecommunications technologies and capabilities into a single seamless form, where one system will be able to provide all your communications requirements, person to person, anywhere and at any time.

## 2. WHERE DID TELECOMMUNICATIONS START?

The first building block of telecommunications, besides the harnessing of electricity, was the invention of the electromagnet by William Sturgeon in 1825. This was the cornerstone of all the analogue systems to follow and its invention enabled sound to be translated into an electric signal, carried across a wire as a current and reverse engineered at the receiving end, so that the electrical current could be converted back into sound. Today the microphone and the loudspeaker still work on this same principle.<sup>7</sup>

Since this date, there have been many other important inventions that have driven the pace of development of telecommunications faster and faster. Some of the key inventions were the cathode ray tube (CRT) in 1897, the first transistor in 1948, the first integrated circuit in 1958, and the first memory (RAM) chip in 1970. These are the key building blocks of today's modern world of telecommunications, television, radio, satellites, computers, the Internet, telephones, CD and DVD players.

## 3. DIGITAL VERSUS ANALOGUE COMMUNICATIONS

The big breakthrough for telecommunications came with the advent of the computer (or integrated circuit), and when analogue<sup>8</sup> was replaced by digital<sup>9</sup> — the ability to express sound and pictures as a series of bits and bytes, or zeros and ones. This enables data to be sent between two distant devices as a string or packet of zeros and ones.

Everyday examples of this conversion from analogue to digital are vinyl records to CD, the VCR videotape to DVD, and the introduction of digital television.

One of the key benefits derived from this is that digital data can be processed, stored, compared, calculated and manipulated.

In all telecommunications, signal strength (and, in particular, the signal : noise ratio) weakens over distance due to resistance in the wire (or air), and the induction and

<sup>7</sup> <http://inventors.about.com/library/inventors/blelectromagnet.htm>.

<sup>8</sup> <http://webopedia.com/TERM/a/analog.html>.

<sup>9</sup> <http://webopedia.com/TERM/d/digital.htm>.

generation of noise signals in the same transmission medium. As a result, the signals need to be filtered and amplified periodically to maintain an adequate signal : noise ratio. When a digital signal is amplified, the quality (or data) is retained, as a digital signal can be copied or amplified over and over without losing its content (remember, it can only be a zero or a one). So, unlike an analogue signal, which loses quality with each amplification and hence has distance limitations, digital overcomes this problem. This is because, on receipt, each packet can be verified to detect whether the data has arrived correctly. If it does not arrive correctly, in time or at all, then the packet can be sent again because it was stored at the originating device. This is unlike analogue, where the communication is always real time and cannot be stored or easily repeated.

As all analogue signals can be translated to digital (zeros and ones), once in digital form there is really no difference between data, voice or video. Thus the transmission of the data can be common and over the same link, and only when the bits and bytes reach the final destination is it necessary to know how to translate the signal back into its original analogue form. This factor lies at the heart of the convergence paradigm, and is what makes it possible to deliver all forms of communication down a single 'pipe' through a single communications technology. This removes the need for separate infrastructures or licences for voice, data, television, and radio.

## 4. CIRCUIT VERSUS PACKET TECHNOLOGIES

In the early days of telecommunications (in the days of Alexander Graham Bell) telephones were all analogue devices. To hold a conversation, a contiguous link (of copper wire) was required between two telephones. Each generated an analogue signal across a wire which, when received at the other end, was amplified into a (loud) speaker and heard as voice. To achieve this requirement, the first 'circuit-switching'<sup>10</sup> was done by people in manual telephone exchanges, who connected one line to another, initially within a town, and later to the next town, where another operator connected the caller to the local (receiver's) line. Again, a contiguous copper link had been established. As networks and volumes grew, this manual circuit switching became impracticable and new technology was introduced to replace human operators. These were electro-mechanical devices that could recognise the numbers being dialled from the analogue signal (sets of uniform pulses) generated from the dialling device – a very short set of pulses for 1, increasing to a much longer set of pulses for 9 and the longest set for 0.<sup>11</sup>

Although today this has almost all been replaced by digital devices, the fundamental principle of circuit switching<sup>12</sup> has remained. Simply put, when a call is established between two parties, a contiguous electrical circuit is established for the full duration of the call between the two devices. This is, however, inefficient for a number of reasons a simple example being that when we talk, a lot of time is spent saying nothing, and the circuit is not being used for a large percentage of the time. Also, today, technology has enabled the same piece of copper wire that comes to the home to be used for more than one conversation at a time. Since a major part of the cost of

<sup>10</sup> [http://webopedia.com/TERM/c/circuit\\_switching.html](http://webopedia.com/TERM/c/circuit_switching.html).

<sup>11</sup> <http://inventors.about.com/gi/dynamic/offsite.htm?site=http://www.ce.org/publications/books%5FPreferences/digital%5Famerica/history.telecom.asp>.

<sup>12</sup> [http://searchnetworking.techtarget.com/sDefinition/0,,sid7\\_gci211787,00.html](http://searchnetworking.techtarget.com/sDefinition/0,,sid7_gci211787,00.html).

providing telecommunication services lies in the physical cables, there is a growing need to use this expensive infrastructure more efficiently.

With digital came the concept of ‘packets’.<sup>13</sup> A packet is a piece of data (a string of zeros and ones) or a set of data broken up into a large number of discrete envelopes (or packets) to form a conversation. Each packet is structured and contains a header where data about the packet is stored. Each packet is also numbered sequentially and has a send and a receive address and some information about the data in the packet. This enables the transmission to be broken up into many small pieces. Each packet travels its own route, so perhaps not all the packets go down the same route. This can result in some packets arriving early and some late (and not necessarily sequentially). Packet switching enables the content of a packet to be checked for completeness on arrival. It also enables packets to be stored for a short while at the sending end, so if a packet is not received (and acknowledged) within a set period of time, a packet can be re-sent. It even enables packets from two or more ‘conversations’ to be sent at the same time down the same circuit. This overcomes many of the capacity problems experienced with analogue transmissions.

But what happens if a packet is delayed or there are too many packets to fit down a circuit? There is a key difference between circuit switching and packet switching. In circuit switching the link is exclusively provided for the duration of the transmission and data is delivered sequentially and without delays. This is called deterministic communication – the time a bit of data will take to get from point A to B is known and can be relied on. Packet switching is ‘non-deterministic’ as neither the route it will travel, nor the order in which it will arrive, (or even that it will arrive), can be assumed or determined. Hence, when dealing with content such as voice, using a packet-based technology such as Transmission Control Protocol/Internet Protocol (TCP/IP) requires technology intervention to ensure that this problem of non-determinism is resolved, as the human ear cannot tolerate delays in excess of 180 milliseconds.

## 5. SPEED OF TRANSMISSION

### 5.1 It’s all about speed!

One of the big advances in technology is that the speed of data transmission down the same bearer (copper wire, Ethernet cable<sup>14</sup>, fibre cable, etc) has increased massively.

For example, Ethernet (over a copper twisted pair) was originally introduced in 1976 and supported speeds of 10 Mbps. This progressed to 100 Mbps in 1997, followed shortly by 1 Gbps in 1998, and already 10 Gbps is available. This is a 1000-fold increase in throughput in just a few years.

The home telephone line, originally installed to carry only analogue voice, was then used to carry data, with the first modems at 2,4 Kbps. This increased to 128 Kbps with the introduction of Integrated Services Digital Network (ISDN)<sup>15</sup> and now, with the appropriate equipment, the same copper wire, using Asymmetric Digital Subscriber Line (ADSL), can simultaneously support a voice call and a download of data at a combined speed of about 512 Kbps.

<sup>13</sup> <http://searchnetworking.techtarget.com>.

<sup>14</sup> <http://webopedia.com/TERM/E/Ethernet.html>.

<sup>15</sup> <http://webopedia.com/TERM/I/ISDN.html>.

## 5.2 How has this been possible?

The computer processor speed and rapidly reducing costs have made this possible. With digital, the computation speed of new processors has made it possible to package, reassemble, compress and check data and manage multiple protocols in very short time frames. However, to do this we need to buffer or store large volumes of data for short periods. The advent of cheap memory (RAM) has enabled this to happen.

Simply put, speed can fix most of the non-deterministic problems associated with packet-switching and speed can fix most of the problems associated with large volumes of data, such as those involved with television. When integrated with technologies such as Multiprotocol Label Switching (MPLS)<sup>16</sup> all of these problems are soon overcome.

## 6. TELECOMMUNICATIONS TECHNOLOGIES

### 6.1 Multiplexing Mechanisms<sup>17</sup>

The laying of cables in the ground or even above the ground or across oceans is an expensive business, and the productivity of such investments needs to be optimised. To achieve optimisation it is necessary to run many data transmissions or conversations over the same cable at the same time. To do this multiplexing was invented. There are four basic kinds of multiplexing, all of which help to optimise the use of large cables<sup>18</sup> time division multiplexing; statistical multiplexing; frequency division multiplexing, and wavelength-division multiplexing. Each of these is described below.

#### 6.1.1 Time division multiplexing<sup>19</sup>

Time-division multiplexing (TDM) is a method of putting multiple data streams in a single signal by separating the signal into many segments, each having a very short duration. Each individual data stream is reassembled at the receiving end based on timing.

The device that combines signals at the source (transmitting) end of a communications link is known as a multiplexer. It accepts the input from each individual end-user, breaks each signal into segments, and assigns the segments to the composite signal in a rotating, repeating sequence. The composite signal thus contains data from multiple senders. At the other end of the cable, the individual signals are separated out by means of a device called a demultiplexer and routed to the proper end-users. A two-way communications circuit requires a multiplexer / demultiplexer at each end of the cable or radio link.

<sup>16</sup> <http://webopedia.com/TERM/I/label.html>.

<sup>17</sup> [http://searchnetworking.techtarget.com/sDefinition/0,,sid7\\_gci212614,00.html](http://searchnetworking.techtarget.com/sDefinition/0,,sid7_gci212614,00.html).

<sup>18</sup> <http://searchnetworking.techtarget.com/gateway/search/1,294070,sid38,00.html?ctype=ALL&start=0&num=10&within=text&query=multiplexing&sid=0>.

<sup>19</sup> [www.whatis.com/wsearchResults/1,290214,sid9,00.html?query=Time+Division+Multiplexing](http://www.whatis.com/wsearchResults/1,290214,sid9,00.html?query=Time+Division+Multiplexing).



### 6.1.2 Statistical multiplexing

Statistical multiplexing<sup>20</sup> is a system that was developed to overcome some inefficiencies of standard TDM, where time slices are still allocated to channels even if they have no information to transmit. In such instances the cable bandwidth capacity is wasted.

Statistical Time Division Multiplexing (STDM)<sup>21</sup> uses a variable time-slot length and allows channels to compete for any free slot space. It employs a buffer memory, which temporarily stores the data during periods of peak traffic. This scheme allows STDM to waste no line time with inactive channels. STDM requires each transmission to carry identification information (ie a channel identifier). To reduce the cost of this overhead, a number of characters for each channel are grouped together for transmission.

STDM is the core technology used in router-based networks, and is often used for managing data being transmitted via a local area network (LAN)<sup>22</sup> or a wide area network (WAN). In these situations, the data is often simultaneously transmitted from any number of input devices attached to the network, including computers, printers and fax machines.

In comparison to TDM, the STDM method analyses statistics related to the typical workload of each input device (printer, fax, computer) and determines on the fly how much time each device should be allocated for data transmission on the cable. Many believe the STDM method is a more efficient use of total bandwidth available than the TDM method.

### 6.1.3 Frequency division multiplexing

Frequency-division multiplexing (FDM)<sup>23</sup> is a scheme in which numerous signals are combined for transmission on a single shared medium (such as a wire, optic fibre, or light beam) line or channel. Each signal is assigned a different frequency (sub channel) within the main channel.

Sub channels can be joined to form groups, and groups may then be joined into larger groups.

While combined in this way all the signals may be amplified, conducted and translated into frequency and then routed towards a destination as a single signal, resulting in the economies that are the motivation for multiplexing. When FDM is used in a communications network, each input signal is sent and received at maximum speed at all times.

### 6.1.4 Wavelength division multiplexing

Optic fibre cables today form the backbone of all global telecommunications networks. All the undersea cable and the core national trunks between the major cities

<sup>20</sup> [www.searchtechtarget.techtarget.com/gateway/search/1,294070,sid38,00.html?ctype=ALL&start=0&num=10&within=text&query=multiplexing&sid=0](http://www.searchtechtarget.techtarget.com/gateway/search/1,294070,sid38,00.html?ctype=ALL&start=0&num=10&within=text&query=multiplexing&sid=0).

<sup>21</sup> [http://searchnetworking.techtarget.com/sDefinitions/0,,sid7\\_gci214620,00.html](http://searchnetworking.techtarget.com/sDefinitions/0,,sid7_gci214620,00.html).

<sup>22</sup> [http://webopedia.com/TERM/L/local\\_area\\_network\\_LAN.html](http://webopedia.com/TERM/L/local_area_network_LAN.html).

<sup>23</sup> <http://searchnetworking.techtarget.com/gateway/search/1,294070,sid38,00.html?ctype=ALL&start=0&num=10&within=text&query=Frequency-division+multiplexing+&sid=0>.

are optic fibre. These have replaced old copper systems, which were bulky, inefficient, expensive and required high maintenance and frequent filtering/amplification.

Dense wavelength division multiplexing (DWDM)<sup>24</sup> is a technology that puts data from different sources together on an optic fibre, with each signal carried at the same time on its own separate light wavelength. Using DWDM, up to 80 (and theoretically more) separate wavelengths or channels of data can be multiplexed into a light-stream transmitted on a single optic fibre. Each channel carries a time-division multiplexed signal. In a system in which each channel carries 2,5 Gbps, up to 200 billion bits can be delivered a second by the optic fibre.

The first WDM systems combined two signals and appeared around 1985. Modern systems can handle up to 128 signals and can expand a basic 9,6 Gbps fibre system to a capacity of more than 1 000 Gbps.

DWDM promises to solve the fibre exhaust problem and is expected to be the central technology in the all-optic networks of the future. WDM systems are popular with telecommunications companies because they allow them to expand the capacity of their fibre networks without digging up the road repeatedly. All they have to do is to upgrade the demultiplexers at each end.

The South Atlantic Telecommunications Cable number two known as the SAT2 cable and the South Atlantic Telecommunications Cable number three known as the SAT3/West African submarine cable (WASC)/South Atlantic Far East Cable (SAFE) that run between South Africa and Europe are optic fibre cables running DWDM technology.

## 6.2 Wireless Technologies

### 6.2.1 GSM<sup>25</sup> *cellular standard*

The world's first digital cellular standard was developed in Europe during the 1980s to replace their ageing analogue systems, the largest of which was Nordic Mobile Telephony system (NMT) and the US-developed system, Analogue Mobile Phone System (AMPS).

The initial system was developed in the 900 MHz band, but this has subsequently been expanded to the 1800 MHz band, and others more recently to the 450 MHz band (old NMT band) and the 1900 MHz band (to fit in with the US band plans).

The technology is designed to carry voice predominantly, and multiplexes eight speech channels on a single frequency to improve spectral efficiency. The backbone structure behind the transceiver stations (BTS base transceiver stations) is a legacy telecommunications backbone utilising TDM infrastructure. Data throughput rates on such a system are understandingly low at around 9,6 Kbps. Over the years, improvements have been made to the standard, resulting in the data throughput rate being increased to 14,4 Kbps as a standard.

Newer enhancements to the GSM cellular standard are aimed at gradually migrating the network from its second generation (2G) status in the beginning (1G was the original analogue mobile phone standard developed in the 1970s and utilised

<sup>24</sup> [www.searchnetworking.techtarget.com](http://www.searchnetworking.techtarget.com).

<sup>25</sup> <http://webopedia.com/TERM/c/cellular.html>.

until the end of the 1980s). The current migration objective is to move towards a 3G (third generation) mobile service which provides not only efficient voice communication but also reasonable data access speeds for use of internet access, e-mails and other data transfer as required by users. The stage currently reached in this migration is termed 2.5 G, and involves the rollout of GPRS across all GSM networks. This is an interim increase in data access rates and it relies on the introduction and use of packet switched backbones, and a packet switched air interface where earlier restrictions prevented higher data rates.

### **6.2.2 WiFi<sup>26</sup> or WLAN<sup>27</sup> or 802.11**

These are all different names for the same basic wireless technology. This is a medium-distance wireless technology that operates in the frequency range of 2,4 GHz. It is used for connecting devices like computers to a network, and is an alternative to fixed lines. It has the advantage of mobility as it does not require a physical cable connection to a network.

This technology can generally support a speed (bandwidth) of up to 10 Mbps. This bandwidth is shared between devices within the coverage area of each receiver/transmitter, and is also limited by distance. A full 10 Mbps can be obtained within 1 km of a transmitter, but as the distance increases the bandwidth decreases as the signal gets weaker.

This is an area of very rapid development, and the term 'WiFi' has taken on a more generic meaning, now covering all forms of wireless-based data communication, not just those limited to the 2,4 GHz band.

### **6.2.3 Bluetooth<sup>28</sup>**

This is a new wireless technology created for use with cellular networks. It is a short-range (10 m radius) technology also operating in the 2,4 GHz band, and is specifically for connecting headsets to cellular phones and printers or mice to PCs. This is very similar to WiFi and all the devices connected to the transmitter/receiver share the bandwidth of about 1 Mbps.<sup>29</sup>

### **6.2.4 Microwave**

The term 'microwave'<sup>30</sup> refers to electromagnetic energy having a frequency higher than 1 GHz (billions of cycles per second), corresponding to wavelengths shorter than 30 cm.

Microwave signals propagate in straight lines and the beams do not readily diffract around hills, mountains and large human-made structures. Some attenuation (loss of signal strength) occurs when microwave energy passes through trees and softer barriers. Radio-frequency (RF) energy at longer wavelengths is affected to a lesser degree by such obstacles.

<sup>26</sup> <http://webopedia.com/TERM/W/WiFi/html>.

<sup>27</sup> <http://webopedia.com/TERM/W/WLAN.html>.

<sup>28</sup> <http://bluetooth.com>.

<sup>29</sup> <http://searchnetworking.techtarget.com/gateway/search/1,294070,sid38,00.html?ctype=ALL&start=0&num=10&within=text&query=Microwave&sid=0>.

<sup>30</sup> [www.searchnetworking.techtarget.com](http://www.searchnetworking.techtarget.com).

The microwave band is well suited to wireless transmission of signals requiring large bandwidth. This portion of the RF electromagnetic radio spectrum encompasses many thousands of megahertz. In communications, a large allowable bandwidth translates into high data speed. The short wavelengths allow the use of dish antennae having manageable diameters. These antennae produce high power gain in transmitting applications, and have excellent sensitivity and directional characteristics for receiving of signals.

Microwave communication is a fixed wireless technology, the sending and receiving devices are fixed, and the antennae aligned. It is therefore very good for transmitting high-bandwidth communications across relatively long distances where there is a clear line of sight.

### **6.2.5 Free-space optics**

Free-space optics (FSO) is another fixed wireless technology. It refers to the transmission of modulated visible or infra-red (IR) beams through the atmosphere to obtain broadband communications. Laser beams are generally used, although other sources such as light-emitting diodes or IR-emitting diodes will serve the purpose.

The theory of FSO is essentially the same as that for fibre optic transmission. The difference is that the energy beam is collimated (a parallel light stream created with laser and optic lenses) and sent through the air from the source to the destination rather than guided through an optic fibre. This obviously limits the distance over which FSO can be used. At the source, the visible or IR energy is modulated with the data to be transmitted. At the destination, the beam is intercepted by a photo-detector, the data is extracted from the visible or IR beam (demodulated), and the resulting signal is amplified and sent to the hardware.

FSO systems can function over distances of several kilometres. As long as there is a clear line of sight between the source and the destination, communication is theoretically possible. Even if there is no direct line of sight, strategically positioned mirrors can be used to reflect the energy. The beams can pass through glass windows with little or no attenuation.

Although FSO systems can be a good solution for some broadband networking needs, there are limitations, the most significant being the fact that rain, dust, snow, fog or smog can block the transmission path and shut down the network.

### **6.2.6 Infra-red communication**

The Infra-red Data Association (IrDA) is an industry-sponsored organisation set up in 1993 to create international standards for the hardware and software used in infra-red communication links. In this special form of radio transmission, a focused ray of light in the infra-red frequency spectrum, measured in Terahertz, or trillions of hertz (cycles per second), is modulated with information and sent from a transmitter to a receiver over a relatively short distance. Infra-red radiation (IR) is the same technology as that used to control a television set with a remote control unit. The current maximum transmission rate is 4 Mbps.

Infra-red is still a developing technology and is being developed to handle a

maximum effective distance of about 1,5 km, while the maximum projected bandwidth is 16 Mbps. Since IR is line-of-sight light transmission, it is sensitive to fog and other atmospheric conditions.

## 6.3 Television and Satellite Technologies

### 6.3.1 Analogue television

Television has changed very little since it was first invented. The screen is today still made between 525 and 625 lines or 200 000 pixels (dots of colour) and the screen is 'repainted' or refreshed 25 times every second. Obviously a lot of signal is required, and that is why there are so few analogue terrestrial television stations, as each station has to use a lot of frequency band to deliver this huge amount of information. The spectrum bands are referred to as VHF (very high frequency) and UHF (ultra high frequency).

As already explained, any analogue signal can be expressed as digital, and television is also easily represented in zeros and ones. However, because the volume of data is huge it is necessary to compress the data stream in order to enable digital transmission of television.

### 6.3.2 Digital television compression<sup>31</sup>

Video on digital television is compressed using a standard called MPEG-2 (Moving Picture Experts Group). It takes advantage of how the eye perceives colour variations and motion. Inside each frame, an MPEG-2 encoder records just enough detail to make it look as if nothing is missing. The encoder also compares adjacent frames and records only the sections of the picture that have moved or changed. If only a small section of the picture changes, the MPEG-2 encoder changes only that area and leaves the rest of the picture unchanged. Using these compression schemes, MPEG-2 can reduce the number of bits by about 50 times.

To achieve this compression, digital television requires both an encoder (as the sending side) and a decoder (set top box) at the receiving side. The decoder decompresses the signal back to its full form and converts the signals back into analogue, which the television can translate into the pictures we see.

### 6.3.3 High-definition television (HDTV)

A new standard for high-definition television has been agreed by the US Federal Communications Commission (FCC) and the first test commercial broadcasts of HDTV have started. This standard increases the number of lines of television (or the number of pixels) to 675 X 600. This improves the picture quality substantially and allows the picture to be projected to a much greater size without losing definition (a severe limitation with current television). It is expected that over the next 10 years television will move onto a digital broadcast base and to HDTV.

<sup>31</sup> [www.pbs.org/search\\_results.html?q=Digital+TV+compression&btnG.x=14&btnG.y=11&neighborhood=none](http://www.pbs.org/search_results.html?q=Digital+TV+compression&btnG.x=14&btnG.y=11&neighborhood=none).

### 6.3.4 C-band and KU-band satellite

Digital satellite television in Africa is transmitted over both C-band and KU-band satellite technology. The C-band covers the frequency range between 3,6 and 4,2 GHz and the KU-band runs from 10,7 to 12,75 GHz.

KU-band is popular for home reception, as it can use a much smaller television dish, but is more affected by weather conditions. C-Band requires a much larger antenna and is more reliable in poor weather.

### 6.3.5 Cable television

Cable television is a communications system that distributes broadcast programs by means of radio frequency (RF) in a coaxial cable. This is very similar to wireless technology, only through a cable rather than through the air. Cable is more reliable and has better quality than WiFi as interferences and weather problems are reduced. The same coaxial cable is shared by many homes in a single community. Cable television can also be used to communicate data using cable modems and deploys a form of frequency multiplexing. These devices enable you to connect your PC to a local Cable television line and receive data at 27 Mbps on the download path to the subscriber with about 2,5 Mbps of bandwidth for interactive responses in the other direction. However, this technology, which is widely deployed in countries such as the United States and which is currently not available in South Africa, is generally provided as a commercial service limited to 1,5 Mbps.<sup>32</sup>

## 6.4 Legacy Wireline (Copper) Technologies

### 6.4.1 POTS<sup>33</sup>

As an abbreviation for ‘Plain Old Telephony System’, it gives an indication that POTS telecommunication network access lines are the same as they were when telephones were first installed in this country. This is basically correct, with the exception that the grade of copper and conductor insulation has been improved over time, and most of the poor grade lines have already been replaced. This is very important, as it is the newer broadband services which require higher grades of copper than those that were originally installed.

POTS lines supplied by Telkom are each an analogue twisted pair of conductors that forms by far the majority of all non-business lines in the country. In areas where runs are long, noise suppression devices are installed on poles, at intervals along the runs, to ensure that interference is kept to a minimum. For this reason, unless a user is located close to a Telkom switching centre (where there is no need for these noise suppression devices), these lines cannot be used for broadband access technologies such as ADSL.

<sup>32</sup> [http://whatis.techtarget.com/efinition/0,,sid9\\_gci211727,00.html](http://whatis.techtarget.com/efinition/0,,sid9_gci211727,00.html).

<sup>33</sup> <http://webopedia.com/TERM/P/POTS>.

### 6.4.2 ISDN

Telkom introduced Integrated Services Digital Networks (ISDN) in South Africa a little over a decade ago. The idea behind ISDN networks is to allow for the seamless integration of (digitised) voice and data over the same network. The design of the interfaces was no longer restricted by the requirements of voice traffic, but made to be more generic to facilitate data streams. In all ISDN solutions, we see that 64 Kbps channels (as required for an uncompressed and standard old technology voice CODer/DECoder (CODEC) are used throughout.

Two basic products are usually offered: a Basic Rate access ISDN (BRI) which offers two channels each at 64 Kbps plus some overhead for control; and a Primary Rate access ISDN (PRI) which offers 30 channels each at 64 Kbps plus overhead for control and framing. In South Africa, the Basic Rate ISDN products are known as ISDN2 and ISDN2a, the first giving two digital output channels and the second two analogue output channels. The South African Primary Rate access ISDN product is known as ISDN30.

Unfortunately, these products were introduced at inflated prices in this country, a problem that has restricted uptake and hindered the general economy. It is only recently that prices have been reduced to more acceptable levels, but it is too late, as users are very bandwidth hungry, and were it not for the high ADSL pricing, it is likely that ISDN would have been bypassed as a technology altogether in the country. With the introduction of some competition to Telkom, it is likely that broadband access prices will come down further, resulting in either Telkom being forced to reduce ISDN prices further or the technology failing due to too low uptakes.

## 7. THE INTERNET

The Internet<sup>34</sup> is a huge global network of networks. These networks are all joined together through the interconnection of Internet Service Providers. The Internet works because there is a standard set of networking languages (protocols) that enables the many diverse networks to 'talk' to each other. These protocols, which are generally referred to as IP (the Internet Protocol), make up a suite called TCP/IP.<sup>35</sup>

### 7.1 Internet Protocols (IP and TCP/IP)

Transmission Control Protocol/Internet Protocol (TCP/IP)<sup>36</sup> is the basic communication language or protocol of the Internet. It can also be used as a communications protocol in a private or any other network. When you are set up with direct access to the Internet, your computer is provided with a copy of the TCP/IP program just as every other computer that you may send messages to or get information from also has a copy.

TCP/IP is a two-layer program. The higher layer, TCP, manages the assembling of a

<sup>34</sup> <http://webopedia.com/TERM/I/Internet.html>.

<sup>35</sup> <http://cisco.com/cgi-bin/search/search.pl?searchPhrase=the+Internet+Protocol&cx=16&y=12nv=Search+All+cisco.com%23%23cisco.com&nv=Technical+Support+%26+documentation%23%23cisco.com%23TSD&language=en+country=US&accessLevel=Guest&siteToSearch=cisco.com>.

<sup>36</sup> [www.searchnetworking.techtarget.com](http://www.searchnetworking.techtarget.com), <http://yale.edu/pclit/COMM/CPIP>.

message or file into smaller packets that are transmitted over the Internet and received by a TCP layer that reassembles the packets into the original message. The lower layer, IP, handles the address part of each packet so that it gets to the right destination. Each gateway computer (or router) on the network checks this address to see where to forward the message. Even though some packets from the same message are routed differently from others, they will all be reassembled at the destination.

TCP/IP uses the client/server model of communications in which a computer user (a client) requests and is provided a service (such as sending a Web page) by another computer (a server) in the network. TCP/IP communication is primarily point-to-point, which means that each communication is from one point (or host computer) in the network to another point or host computer.<sup>37</sup> TCP/IP and the higher-level applications that use it are collectively said to be 'stateless' because each client request is considered a new request unrelated to any previous one (unlike ordinary telephone conversations that require a dedicated connection for the call duration). Being stateless frees network paths so that everyone can use them continuously. Note, however, that the TCP layer itself is not stateless as far as any one message is concerned. Its connection remains in place until all packets in a message have been received.

The most widely used version of IP today is Internet Protocol Version 4 (IP v4). However, IP Version 6 (IP v6) is also beginning to be supported. IP v6 provides for much longer addresses and therefore for the possibility of many more Internet users.

On the Internet there are a number of other protocols that are in common use. These include:

<b>HTTP</b>	<b>hypertext transfer protocol</b>
<b>FTP</b>	<b>file transfer protocol</b>
<b>Telnet</b>	<b>Terminal emulation software that allows a remote user to access files and resources on a network</b>
<b>SMTP</b>	<b>simple mail transfer protocol</b>
<b>SLIP</b>	<b>serial line Internet protocol</b>
<b>PPP</b>	<b>point to point protocol</b>

There are many other important networking protocols that are not part of the TCP/IP suite, and these include:

<b>UDP</b>	<b>user datagram protocol</b>
<b>SNMP</b>	<b>simple network management protocol</b>
<b>ICMP</b>	<b>Internet control message protocol</b>
<b>IGP</b>	<b>interior gateway protocol</b>
<b>EGP</b>	<b>exterior gateway protocol</b>
<b>BGP</b>	<b>border gateway protocol</b>

## 7.2 IP Addressing

At the heart of TCP/IP<sup>38</sup> lies the key element of IP addressing.<sup>39</sup> This is the data equivalent of telephone numbers. Just as with a telephone number, each IP address in

<sup>37</sup> <http://cisco.com/cgi-bin/search/search.pl>.

<sup>38</sup> <http://webopedia.com/TERM/T/TCP/html>.

<sup>39</sup> <http://cisco.com/cgi-bin/search/search.pl?searchPhrase=IP%20addressing&x=9&y=10&nv=Search+All+cisco.com%23%23cisco23cisco.com&nv=Technical+Support+%26+documentation%23%23cisco.com%23TSD&language=en+country=US&accessLevel=Guest&siteToSearch=cisco.com>.



the world has to be unique or else when calling we would get confused trying to find the correct phone. Telephone numbers are split into a few hierarchies:

- Country code (RSA 27 or UK 44 and so on)
- City code ([0]11 Johannesburg or [0]21 Cape Town)
- Then a three-digit exchange code and a four-digit unique code within the exchange.

IP works in a very similar way, and each IP address is made up of four number of classes (A, B, C and D). Each class is expressed as an eight-bit integer and has 256 ( $2^8$ ) values. So the smallest IP address is 000.000.000.000 and the largest is 256.256.256.256. This results in there being a large but limited number of IP addresses ( $2^{32} = 4,295$  million). This seems like a lot, but when we think about how many computers and other network devices there are, it is not enough. IP v6 will extend this and each class will be expressed as a 16-bit number, or  $2^{64} = 1,84 \times 10^{19}$  addresses.

Obviously there is a need to manage IP addresses on a global basis with a single authority responsible for issuing blocks or ranges of IP addresses. This body is ARIN in the USA. ARIN will, on request and against an adequate justification, issue a class A, B, or C address block to an Internet or network service provider. A single Class C address block will contain 256 unique public IP addresses, a Class B address block ( $256 \times 256 = 65,536$  addresses). A Class A address block will contain  $256 \times 256 \times 256$  addresses.

### 7.2.1 Domain names

As human beings are not very good at remembering numbers, especially complex ones that are not well structured, domain names<sup>40</sup> were introduced to provide text-based names that can be used to represent an IP address. Well-known examples of these are yahoo.com and google.com.

Domain names always have two or more parts separated by dots.<sup>41</sup> The part on the left is the more specific, and the part on the right is the more general. A given machine (server) may have more than one domain name but a given domain name points to only one machine (or IP address).

These names, although not limited in number, need to be globally unique. This is why there has been much conflict and litigation about the registering of domain names. In order to manage all these names and to protect global brands and intellectual property rights a number of domain name authorities have been set up. In the USA this authority is The Internet Corporation for Assigned Names and Numbers (ICANN) and in South Africa it is the Uniforum Association South Africa.<sup>42</sup>

Domain names are used in URLs to identify particular Web pages. For example, in the URL <http://www.yahoo.com/index.html>, the domain name is yahoo.com. [www.ananzi.co.za](http://www.ananzi.co.za), the domain name for the South African search engine, Ananzi, is

<sup>40</sup> <http://webopedia.com/TERM/d/domain.html>.

<sup>41</sup> [www.domain.com](http://www.domain.com).

<sup>42</sup> Chapter X of the Electronic Communications and Transactions Act, 25 of 2002 establishes a 'za' Domain Name Authority to assume responsibility for the .za name space. It is envisaged that the authority will administer or license others to administer the domain names and corresponding numbers for the South African country code, .za.

actually equivalent to the IP address 196.4.90.16

### 7.2.2 Domain name servers (DNS)

Domain name servers<sup>43</sup> are translation devices on the Internet that keep tables of domain names and their equivalent IP addresses. Every time you use a domain name, a DNS service must translate the name into the corresponding IP address. For example, the domain name example.com might translate to 198.105.232.4.

How this works is that, when you enter a domain name into your browser, this request is sent to your DNS for resolution. The DNS looks up the actual IP address for this server or device on the Internet and then the actual instruction to connect your PC to the server, wherever it is in the world, is passed to your Internet access router. This device does the sending of your request to the server that you want to access.

### 7.2.3 E-mail

E-mail is the fastest growing form of communications and has become an important part of business and even private life. Just as we used to say ‘give me a call’, today we say ‘send me an e-mail’ instead. It has been one of the driving forces in the growth of the Internet and in data networking. E-mail applications such as Microsoft Exchange and Outlook have simplified the user interface to e-mail, and the high-speed networks that make up the Internet ensure that e-mail reaches any destination on the globe within seconds. The ability to attach files to e-mails has also made the interchange of data across continents simple and quick. E-mail is transmitted using the SMTP protocol.

Unfortunately, with this ease of use, and with a very low cost of transmission, the Internet has become flooded with spam. This is a term used to describe unwanted or unsolicited e-mails, which are usually sent to users to try to sell products or services.

E-mail is unfortunately also used by some people to spread computer viruses. The virus is usually carried in an attachment, which when opened by an unsuspecting user either attacks the user’s PC or sends the same poisoned e-mail to everyone in the receiving user’s e-mail address book. This quickly multiplies into millions of infected e-mails and can have devastating effects on networks.

## 7.3 Broadband Technologies

This is a new expression in the telecommunications world. It does not refer to any one single technology but rather to a number of different technologies. The ‘Broadband’ refers to the fact the technology can carry a large volume of data at high speeds, generally more than 2 Mbps.<sup>44</sup> Examples of these technologies are:

- **Cable (or Cable Television):** This is a co-axial-based technology that runs a

<sup>43</sup> [http://webopedia.com/TERM/d/domain\\_name.html](http://webopedia.com/TERM/d/domain_name.html) and <http://www.dns.net>.

<sup>44</sup> <http://cisco.com/cgi-bin/search/search.pl?searchPhrase=Broadband+Technologies&xx=7&cy=6nv=Search+All+cisco.com%23%23cisco.com&nv=Technical+Support+%26+documentation%23%23cisco.com%23TSD&language=en+country=US&accessLevel=Guest&siteToSearch=cisco.co>

- radio frequency (RF) in a wire rather than in the air.
- **ADSL:** This is a technology that runs over traditional copper telephone lines and which uses multiple frequencies to transmit multiple digital communications at the same time over a single line thus enabling the user to talk on the telephone and be connected to the Internet at the same time.
  - **WiFi, Wireless LAN, Free Space Optics** and **Microwave** technologies, already discussed above, are broadband technologies that can transmit data at speeds greater than 2 Mbps.

## CONCLUSION

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When one looks at how rapidly technology has progressed, especially in the last 20 years, one can understand why legislation needs to be constantly revised and updated to keep abreast of the changes in the telecommunications environment. This makes for a very fast-moving and exciting industry but also necessitates effective regulation.

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## Glossary of Terms

### **ADSL (Asymmetrical Digital Subscriber Line)**

ADSL is a broadband technology that utilises copper telephone lines, but which is much faster than a regular telephone connection, and can carry data communications and voice communications simultaneously. This is achieved by dividing the total capacity of the line into multiple, independent bandwidth channels, where each channel operates only on a specific range of frequencies. ADSL is technically capable of up to 10 or 12 Mbps, but the service South African customers actually receive has currently been restricted by Telkom to 512 kbps for downloads and 256 kbps for uploads. It is this difference in upload and download speeds that makes it asymmetrical. Unfortunately ADSL is available only to subscribers who are located close to Telkom switching centres that are ADSL enabled, and where the existing lines are of a sufficiently high enough grade of Copper. The abovementioned bandwidths are not guaranteed, but provided only if there are no bottlenecks on the local or international links required, and the Copper Quality / distance criteria allow for high speed synchronisation.

### **Analogue**

An analogue signal is electrical and varies constantly in voltage, unlike a digital signal, which varies between two constant values, usually denoted as 0 and 1. The value of the analogue signal varies continuously during transmission, whereas a digital signal only ever changes between two set values without intermediate variations. Due to the presence of electrical noise on all links, it can be seen that a digital signal can be transmitted with significantly fewer errors or less distortion. This together with the capabilities of being able to perform functions on digital signals such as multiplexing, compressing and encryption, amongst others, results in the modern trend to move away from analogue systems towards digital ones.

### **Asynchronous**

A way of transmitting data where each information piece is sent separately. This means that each of those information pieces has to be labelled so that the recipient machine can recognise the character. This is achieved by adding other bits to the beginning and end of each information piece, known as the start and stop bits. Asynchronous transmission is the most rudimentary type of communication, as the originating and recipient machines do not have to be in step. It is generally regarded as a cheap, reliable method of communication, commonly used by PCs and minicomputers.

### **ATM (Asynchronous Transfer Mode)**

ATM is a high-speed switching technology that sends blocks of data (each block is called a cell) asynchronously. ATM uses 53-byte cells (5-byte header, 48-byte payload) to transmit different types of traffic simultaneously, including voice, video and data.

### **Backbone**

Generic term for LAN, WAN or generic telecommunications connectivity between

sub-networks. The sub-networks are connected to the backbone via bridges and/or routers, and the backbone acts as a communication highway for LAN-to-LAN traffic.

## **Bandwidth**

Bandwidth determines the rate at which data can be sent through a line — the greater the bandwidth, the more information can be sent in a given amount of time.

## **BGP (Border Gateway Protocol)**

BGP is an inter-autonomous system routing protocol. An autonomous system is a network or group of networks under a common administration and with common routing policies. BGP is used to exchange routing information for the Internet and is the protocol used between Internet service providers (ISPs).

## **Bits and bytes (per second)**

A bit is the smallest binary unit of memory space, i.e. a one or a zero. Eight bits make up one byte, which is the unit length required to make one character, such as a letter of the alphabet. A computer's memory is measured in kilobytes, where 1 kbyte (kilobyte) = 1,024 bytes and where 1 Mbyte (Megabyte) = 1024 kbytes.

## **Bluetooth**

A wireless technology enabling voice and data connections between a wide range of devices through short-range digital two-way radio. It is an open specification for short-range communications of data and voice between both mobile and stationary devices.

## **Broadband**

A transmission medium capable of supporting a wide range of frequencies, typically from audio up to video frequencies. It can carry multiple signals by dividing the total capacity of the medium into multiple, independent bandwidth channels, where each channel operates only on a specific range of frequencies. This term has, however, become a generic term for communication technologies that can carry data at high speeds. For example ADSL, WiFi (802.11), and Ethernet, which are all Broadband technologies.

## **Browser**

A computer program for viewing pages and navigating the World Wide Web. Examples include Netscape Navigator, Opera and Microsoft Internet Explorer.

## **Buffer**

A buffer is a software program, a storage facility or a device that functions to compensate for differing speeds of data transmission on a network. A buffer is a temporary storage facility (working on a first in first out principle), there to make sure that data always has somewhere to go, so that if traffic is congested the data can be held up for a while in the buffer until it can be transmitted to its intended destination.

**B2B (Business to Business)**

B2B — an e-commerce term used to describe the online business interaction between companies.

**B2C (Business to Consumer)**

B2C — an e-commerce term used to describe the online business interaction between a company and a consumer.

**Cache**

A memory storage facility used to hold frequently used data, or current information for fast retrieval, rather than having to retrieve the same data again from a disk drive or from the Internet.

**CDMA (Code Division Multiple Access)**

A cellular phone technology not currently used in SA that offers improved voice quality and increased data throughput rates due to the improvement in spectrum usage (efficiency) over the older GSM standard. CDMA use is growing quickly around the world, but is unlikely to ever catch up to GSM due to the cost of replacing infrastructure and handsets.

**Circuit switching**

Circuit switching is only maintained while the sender and recipient are communicating, as opposed to a dedicated circuit, which is held open regardless of whether data is being sent or not. This is the main technology used for legacy voice telephony and which is now gradually being replaced by more efficient packet switched technology.

**CODEC**

An abbreviation for CODer/DECoder, which is usually a processor based algorithm used to pack / unpack the most information from a sometimes varying input range into the smallest sized digital message. CODECs are traditionally used to convert analogue speech into a highly compressed digital format.

**Data compression**

A method to reduce the amount of data to be transmitted, by applying an algorithm to the data at the source that repacks the data more efficiently. A decompression algorithm expands the data back to its original state at the other end of the link.

**Deterministic**

A deterministic data transmission is one where the time for the data to reach its destination is known and is repeatable.

**Domain name**

The unique name that identifies an Internet site. Because domain names are alphabetic they are easier to remember than a number would be. Domain names always have two or more parts, separated by dots. The part on the left is the most

specific, and the part on the right is the most general. A given machine may have more than one domain name but a given domain name points to only one machine (or IP address). Domain names are used in URLs to identify particular Web pages. For example, in the URL `http://www.yahoo.com/index.html`, the domain name is `yahoo.com`.

### **DNS (Domain Name Service)**

An internet service that translates domain names (eg `yahoo.com`) into IP addresses. Every time you use a domain name, a DNS service must translate the name into the corresponding IP address. For example, the domain name `example.com` might translate to the IP address `198.105.232.4`.

### **Dial-up service**

The use of the legacy voice (POTS – Plain Old Telephony System) telephone system, used in conjunction with an analogue modem, to establish a communication link for network or Internet access.

### **DES (Data Encryption Standard)**

DES is a standard where data is encrypted in fixed size blocks and a key is used of varying length, depending on the sensitivity of the data. The original DES used 56-bit key; the newer Triple DES (3DES) uses three separate keys, but has the security of a 168-bit key.

### **DSL (Digital Subscriber Line)**

DSL is a technology used for moving data over regular copper phone lines. A DSL circuit is much faster than a regular phone connection, and can carry data communications and voice communications simultaneously. This is achieved by dividing the total capacity of the medium into multiple, independent bandwidth channels, where each channel operates only on a specific range of frequencies. There are many standard variations of DSL — ADSL, VDSL, and SDSL.

### **DSLAM (Digital Subscriber Line Access Multiplexer)**

A DSLAM is the terminating device for multiple DSL lines, and splits the data traffic into a data communication link and the voice circuits back into the switched voice network at the telecommunications exchange.

### **EDGE (Enhanced Data rates for GSM Evolution)**

EDGE is a radio technology for GSM networks which is packet switched, and which uses newer generation CODECs than the GSM standard, to allow more information to be sent over existing bandwidth. The name implies that EDGE is the natural migration from GPRS networks, and is the last step before a 3G (third generation) telecommunications network is rolled out.

### **E-mail**

This is one of the most common uses of the Internet and is the sending of messages with or without attached files between users and their e-mail servers.

## Encapsulation

This is a technique used to place information inside a coded packet for transmission over a medium not normally supported. An example could be the carrying of voice traffic over the Internet. The voice traffic, once digitised, is placed inside an IP packet so that it appears to forwarding equipment on the Internet to be normal data traffic.

## Encryption

This is the process of converting data or plain text into a form that cannot be understood without a matching decryption process. In communications, it makes it impossible to read these messages without the required key.

## Ethernet

Ethernet, one of the oldest and most successful LAN technologies. It was developed to run over co-axial cable, although it can now run over twisted pair. LAN-based Ethernet currently runs at speeds of up to 100 Mbit/sec, although other, mainly fibre-based, versions extend this to 10 Gbit/sec.

## Extranet

An electronic connection using Internet technology linking business partners to facilitate greater coordination of common activities. These often come about as an extension of a company's intranet.

## E1/E3

E1 – European standard for digital transmission service at 2 Mbps.

E3 – European standard for digital transmission service at 34 Mbps (or transports 16 E1 circuits).

## Firewall

Firewalls are electronic barriers to protect information resources, providing secure Internet entry points by monitoring incoming traffic against attack signatures, while checking outgoing traffic for approvals. Firewalls are used to protect an enterprise network against unauthorised access and malicious attacks.

## Frame Relay

Frame relay is a telecommunication service designed for cost-efficient data transmission for intermittent traffic between networks. Frame relay is based on the older X.25 packet-switching technology. Frame relay is a fast-packet technology, which means that the protocol does not attempt to correct errors. When an error is detected in a frame, it is simply 'dropped' (thrown away). The end points are responsible for detecting and re-transmitting dropped frames.

## FTP (File Transfer Protocol)

FTP is a general-purpose file transfer protocol for TCP/IP systems. It is typically used for sending large files between computers across the Internet.



### **Full-duplex**

This is the ability of a communications device to transmit and receive Information simultaneously.

### **Gigabits (per second) (Gbps)**

One thousand Mbit of data transmitted in a second, where 1 Gbit = 1,024 Mbits, or 230 bits.

### **GSM (Global System for Mobile communications)**

GSM is the standard and system originally developed and used for pan-European mobile digital cellular radio communication. GSM uses narrowband TDMA (in the 900 and 1800 MHz frequencies), which allows eight simultaneous calls on the same radio frequency. GSM has become the de facto standard in many countries of the world.

### **GPRS (General Packet Radio Service)**

GPRS is a radio technology for GSM networks that supports packet-switching protocols like IP across cellular networks. It is usually charged on volumes of data rather than on connected time. It is an always-on technology, as a user can remain connected for long periods without transmitting any data. This technology is often referred to as 2.5G, as it is emulating packet based data communications over cellular links, rather than a true 3G, which is a true packet based communication means.

### **Hosting**

The co-location of customer's computers at a commercial data centre. Can also be the storage of a number of Websites on a single computer, referred to as Web hosting or website hosting.

### **HTML (HyperText Markup Language)**

The English-like computer programming language used to express the source statements creating pages for the World Wide Web. HTML statements are then interpreted by a browser program to provide actual on-screen formatting and images.

### **HTTP (HyperText Transfer Protocol)**

The protocol used for requesting and supplying Web pages and other information. It precedes a standard Web address, as in 'http://', to indicate to a browser program that it should use this protocol when retrieving a Web page.

### **HSCSD (High Speed Circuit Switched Data)**

A dedicated circuit-switched data communications technology for GSM which enables data throughput up to 14.4 Kbps in a single channel, and by aggregating channels, up to 57.6 Kbps. An asymmetrical service can be offered where, for instance, one channel is allocated for the uplink and several are aggregated for the downlink.

### **Internet**

A communications network started by the United States Department of Defence in

1969 to enable remote computers to communicate with each other without having fixed connections. Originally known as ARPANet, it was opened up to the universities in 1970 and to the world in 1982, at which point it led the invention of TCP/IP and became known as the Internet.

## **Intranets**

Networks that use Internet technology, but are hosted by private servers not accessible by the public over the Internet. Companies use Intranets to facilitate their internal knowledge management, communication, collaboration on projects, HR functions, etc.

## **IP (Internet Protocol)**

A portion of the TCP/IP suite of protocols that specifies how information is addressed, sent and received between systems.

## **IP Address**

A unique 32-bit number assigned to each host computer on an IP network, such as the Internet. The addresses are structured to specify the class of network, network address and the sub-network that specifies a particular machine or group of machines. To make it easier to understand, IP addresses are written in 'dotted decimal notation', showing four decimal numbers between 0 and 255 separated by full stops, eg 196.4.123.201.

## **ISP (Internet Service Provider)**

Companies or organisations that specialise in linking companies or organisations and individuals to the Internet as well as providing other related services to them.

## **ISDN (Integrated Service Digital Network)**

ISDN is an international standard of the International Telegraph and Telephone Consultative Committee (CCIT) that covers a range of voice, data and image services. It provides end-to-end, simultaneous, digitised voice and data traffic on the same links via the same exchanges. Access channels include basic rate (BRI) ( $2 \times 64 \text{ kbps} + 16 \text{ kbps} = 144 \text{ kbps}$ ) and primary rate (PRI) ( $[30 + 1 + 1] \times 64 \text{ kbps} = 2048 \text{ kbps} = 2 \text{ Mbps}$ ).

## **IVR (Interactive Voice Response)**

IVR systems and services allow a telephone caller to 'interact' (communicate either via voice or telephone keypad) with a specialised computer system in response to pre-recorded prompts played by the system to the caller.

## **Java**

A platform independent programming language developed by Sun Microsystems to add dynamic features to World Wide Web pages. Web pages that include Java send the browser an applet (a small computer program) which then invokes a Java interpreter on the receiving PC. This enables the applet to be operating system independent.

**Kilobit (per second) (kbps)**

One thousand bits of data transmitted in a second, where 1 kbps = 1 024 bits per second (210 bits).

**Leased line**

A fixed TDM based circuit between two locations, which in SA is sometimes called a diginet link (a Telkom product name), and is available in a range of sizes from 2 400 bps in 64 kbps increments, and thereafter as channelised E1 links (2 Mbps). Larger leased lines are also provided as ATM, E1 or E3 circuits. The line consists of a permanent dedicated circuit between two points. The cost of the line is often based on the distance between locations.

**LAN (Local Area Network)**

A LAN describes a high-speed data communications network (usually Ethernet based) that covers a limited area. The machines linked by a LAN may all be in the same building or a group of buildings in relatively close proximity. It is user-owned and does not run over leased lines, although it might have gateways to the public switched network or to private networks.

**Latency**

This is the time taken to service a request or deliver a message. Different networking technologies introduce differing amounts of latency. The more devices (number of hops) in a given communications path, the greater the latency experienced by the traffic passing over that path. The greater the physical distance the greater the latency. In packet networks where packet sizes change and paths through the network change, latency can cause serious problems with time-sensitive traffic such as voice or video.

**MAN (Metropolitan area network)**

A MAN describes a network spanning a geographical area greater than a LAN but less than a WAN (wide area network). These are usually fibre rings running Ethernet, currently 100 Mbit or 1 Gbit.

**Megabits (per second) (Mbps)**

One thousand kilobits of data transmitted in a second, where 1 Mbit = 1 024 kilobits, or 1 048 576 bits (220 bits).

**Modem**

An abbreviation of MODulation/DEModulation, the modem converts digital computer signals into an analogue form for transmission over analogue telephone systems. Modems work in pairs, so at the other end of the link, the signal is returned to a digital form because traditional telephone networks are designed for the human voice, which is analogue, not for digital computers.

**MPLS (Multi-Protocol Label Switching)**

MPLS is a fast emerging new network standard for tagging packet flows with labels, with the aim of providing better bandwidth management and quality of service on IP

networks. The switched infrastructure reacts to the information contained in the label in the event of the need to reroute, which provides higher performance and lower-latency operation than devices that have to look up the full destination address field inside the packet header. MPLS is used extensively by service providers to run virtual private networks or for the transmission of time critical packets (eg voice or video) over an IP network.

### **MMS (Multimedia Messaging Service)**

Similar to SMS in concept, the newer MMS cellular service allows the transfer of text, audio (eg music) and graphics (digital images) to other cellular phones. The main difference from SMS is that SMS uses a signalling channel to send information, and MMS uses a data channel. This removes the restriction on the volume of data that can be sent over the medium. The only size limitations with MMS are due to handsets, the telecommunications bearer technology (such as GPRS), and any operator specific message size limits.

### **Multi-media**

An interactive combination of text, graphics, animation, images, audio and video displayed by and under the control of a PC.

### **NAT (Network Address Translation)**

NAT is used to convert the IP address of a device into a different address to be used on a secondary network. This is typically used to enable the use of conflicting IP addresses on internal company networks.

### **Name resolution**

Defines the process for translating an Internet address name from the symbolic form (domain name) used by people to the numeric IP address used by the machines. It is the function of the Domain Name Server (DNS).

### **Out-of-band signalling**

This describes a technique that uses a separate channel to the LAN to allow LAN management and control information to be sent. It allows network management devices to access LAN devices, even when the LAN itself is not functioning, thus providing an extra degree of resilience.

### **OC1 / OC3**

A USA designation generally recognised throughout the telecommunications community worldwide and used to measure Sonet implementations. The basic unit being an OC1 and then in multiples of that, for example:

Optical Carrier 1: an optical fibre line carrying 51.84 Mbps;

Optical Carrier 3: an optical fibre line carrying 155.52 Mbps. (also termed STM1 – see definition below)

### **Packet switching**

This is a method of switching data in a network where individual packets of a set size

and format are accepted by the network and delivered to specified network destinations. The sequence of the packets is maintained and the destination established by the exchange of control information (contained in the packet header). The packets can be sent in any order, as the control information sent at the beginning of the transmission ensures that they are interpreted in the correct order at the receiving end. Because each packet carries its own control instructions, it can use any route to reach its destination. The link only lasts as long as the transmission. This also enables many users to use the same network at one time.

### **PDA (Personal Digital Assistant)**

PDAs are mobile devices running applications of the type a Personal Assistant would do, such as a diary, meeting organiser, directory of contact telephone numbers, etc. The latest models are able to work with email and some even double as cell phones.

### **PDH (Plesiochronous Digital Hierarchy)**

This plesiochronous (means nearly synchronous) standard was developed to carry digitised voice over twisted pair cables more efficiently. It has evolved into some of the ANSI standards adopted by the USA, Canada and Japan, and has been used as the basis to develop the SDH standard for the rest of the world. It is founded on a basic data rate of 64 kbps per voice channel, and is combined as a multiples of 30 data channels (plus 1 framing channel and 1 control channel) to form E1 links (at data rates of 2 Mbps), and aggregated in multiples of 16 E1s plus overhead to form an E3 link (at data rates of 34 Mbps).

### **Peer-to-peer**

Describes communications between two devices on an equal footing, as opposed to host-terminal, client-server or master-slave. In peer-to-peer communications, both machines have to use processing power.

### **POP (Point of presence)**

POP refers to a physical location where an ISP has routing or switching equipment to which its clients can connect to gain connectivity to the Internet.

### **Protocol**

A set of rules governing the set-up and control of information flow within a communications infrastructure. Protocols control format, timing, error correction and running order. They are essential for a device to be able to interpret incoming information. Suites of protocols are often used in networks, with each protocol responsible for one part of a communication function. eg TCP/IP is the protocol used on the Internet.

### **Proxy server**

A server between a client application, such as a Web browser, and a real server. It intercepts all requests to the real server to see if it can fulfil the requests itself. If not, it forwards the request to the real server. Proxy servers have two main purposes: to improve performance and to filter requests.

## **QoS (Quality of Service)**

A common way to describe the performance of systems or networks using technologies that are able to prioritise data traffic. These technologies make it possible for time dependent communications like voice and video to be transmitted ahead of non-time dependent data like e-mail. This is very important with non-deterministic data protocols like IP.

## **Radius Server**

Remote Authentication Dial-In User Service (RADIUS) is a protocol and software that enables remote access servers to communicate with a central server to authenticate dial-in users and authorise their access to the requested system or service. It provides security, allowing a company to set up a policy that can be applied at a single administered network point.

## **Redundancy**

In data processing and data communications, it means providing a back-up, a secondary route or spares for the major components, so that should one of them fail, the system will continue to operate without interruption. It is also described as fault tolerance.

## **Router**

Routers are the network devices that, by analysing the packet header data, decide which route to forward an incoming packet to. Routers exchange information between them so that they know the conditions of the network, and hence learn about the route maps for the network to which they are attached.

## **Routing**

The process of delivering a message across a network or networks using the most appropriate path. While simple in principle, routing is a specialised, complex science, influenced by a plethora of factors. The more networks that are joined together, the more complex the routing becomes.

## **SDH (Synchronous Digital Hierarchy)**

The international standard for transmitting information over optical fibre specified by the International Telecommunications Union (ITU). SDH is built on blocks of 155.52 Mbps, while the American version called SONET is 51.84 Mbps. Both of these standards are specified for a fibre infrastructure and multiples of their basic building blocks are combined to achieve multi-gigabit speeds. SDH is designed to operate more efficiently with the PDH services (see the PDH definition above) used outside the USA, Canada and Japan. (Mapping an E3 at 34 Mbps into an OC1 channel at 51.84 Mbps can be seen to be very inefficient!)

## **SLA (Service Level Agreement)**

An SLA is an agreement setting out the minimum network performance guarantees. It can include latency, levels of dropped packets, round trip time and other guarantees.

**Simplex**

A communications channel capable of transmission or reception in one direction only.

**SMS (Short Message Service)**

This is a simple form of cellular e-mail, whereby users can send short messages of maximum 160 characters to other cellular phones. The messages are buffered by the network operator until the recipient's phone is switched on.

**SNMP (Simple Network Management Protocol)**

A standard protocol used to convey management and monitoring information to and from network devices such as hubs, switches and routers. This information can consist of status, configuration details and alerts.

**SMTP (Simple Mail Transfer Protocol)**

A protocol used for sending e-mail messages between servers. Most e-mail systems that send mail over the Internet use SMTP to send messages from one server to another.

**SNA (Systems Network Architecture)**

IBM's SNA is a layered communications protocol for sending data between IBM hardware and software.

**Spam**

This is a word used to describe unwanted or unsolicited e-mails, which are usually sent to users to try and sell products or services.

**Streaming**

Media files (either voice or video clips) are sensitive to delays in transmission. Streaming is a method whereby a media clip can be delivered over the Internet as a continuous flow of data, which is achieved by buffering a portion of the data before playing out the clip, to compensate for the varied or late arrival of some data.

**STM-1 /STM-4 /STM-16 (Synchronous Transport Module 1)**

STM-1 is an SDH standard building block for transmission of data at 155,52 Mbps. Multiples of this basic block comprise higher bit rate streams. Thus an STM-4 has 4 times the through-put of an STM-1, or 622.08 Mbps. Similarly, STM-16 has 16 times the through-put of an STM-1, or 2.488 Gbps.

**SONET (Synchronous Optical Network)**

SONET is an ANSI standard (a variation of the international SDH standard) for transmitting digital information over optical interfaces. The SONET standard established a digital hierarchical network with a consistent worldwide transport scheme. SONET carries voice (or circuit switched data) data in frames at speeds in multiples of 51.84 Megabits per second (Mbps) up to  $48 \times 51.84 \text{ Mbps} = 2.488 \text{ Gigabits per second (Gbps)}$ . SONET is the American standard accepted and adopted

by the USA, Canada and Japan, and is not used in South Africa, where PDH and SDH perform the same functions.

## **Synchronous Transmission**

Blocks of data transmitted are synchronised in terms of order and timing.

## **T1 / T3**

A T1 is a digital transmission service (or circuit) standard mostly employed within the USA with a basic data rate of 1 544 kbps. A T3 is equal to 28 T1 circuits with a basic data rate of 44.736 Mbps.

## **TCP/IP (Transmission Control Protocol/Internet Protocol)**

TCP/IP is a transport and internetworking protocol that is a de facto Internet networking standard. It was originally developed by the US Department of Defence and is able to operate in most environments. TCP/IP operates at Layers 3 and 4 of the Open Systems Interconnect (OSI) model (network and transport respectively), and in 1983 became the protocol for the Internet.

## **TDM (Time Division Multiplexing)**

TDM is a method of putting multiple data streams in a single signal by separating the signal into many segments, each having a very short duration. Each individual data stream is reassembled at the receiving end based on the timing.

## **Transmission media**

Any means of conveying a signal, such as wires and cables. It also includes less tangible media such as microwaves or radio waves.

## **Twisted pair**

Two insulated copper wires twisted together, with the twists varied in length to reduce potential signal interference between the pairs. Twisted pair is the most commonly used medium for connecting PCs and terminals to servers. It is the most commonly used cable system for Ethernet LANS, and was originally specified for 10 Mbit/sec (Category 3 cable specification in terms of international cabling standards). New data-grade unshielded twisted pair is specified for 100 Mbit/sec transmissions, and Category 5e cable can support Gigabit Ethernet (1 Gbit/sec).

## **URL (Uniform Resource Locator)**

The World Wide Web address of a site on the Internet. The URL for the Sunday Times web site, for example, is <http://www.sundaytimes.co.za>

## **UMTS (Universal Mobile Telephone Service)**

UMTS is a future mobile communications system that, among other features, can offer direct connection between terminals and satellites. UMTS is the accepted technology and world standard for 3rd generation (3G) mobile communications. This standard allows for the migration from GSM, CDMA and DAMPS cellular standards through its three modes of operation.



**VDSL (Very high data rate Digital Subscriber Line)**

VDSL is DSL technology with a modem for twisted pair access operating at data rates from 12.9 to 52.8 Mbps with corresponding maximum ranges from 4 500 feet to 1 000 feet

**VPN (Virtual Private Network)**

A VPN is a network that is a virtual part of a physical network, such as the Internet, but to which access is controlled by firewalls and secure tunnels to enable private and secure use by authorised users.

**WAP (Wireless Application Protocol)**

Wireless Application Protocol is best described as the equivalent of HTML for cellular phones, and is used for accessing the Internet from mobile phones. In effect, WAP strips out complex Internet site images to enable the display of text content on a small limited resolution mobile phone display. As can be seen, any site must be developed to be compatible with WAP, or the mobile user may not have access to the information required.

**WDM (Wavelength Division Multiplexing)**

This is a technique used to define technology that is capable of mixing multiple light sources at different wavelengths down a single fibre cable. There are different implementations, known as dense WDM – up to 100 optical channels supported down a single fibre – and wide WDM – four optical channels supported down a single fibre. This technique dramatically increases the bandwidth capability of the fibre. This is the basis of the metropolitan area networks built at 10 Gbps and higher.

**WAN (Wide area network)**

A network that covers a larger geographical area than a LAN.

**WiFi (Wireless Fidelity)**

WiFi is the popular term for a high-frequency wireless local area network. The WiFi technology is an alternative to a wired LAN that uses twisted pair cabling. The 802.11b (WiFi) technology operates in the 2.4 GHz range offering data speeds up to 11 Mbps per second over an Ethernet network. The term has taken on a wider generic meaning which has extended to all forms of wireless based data communication, regardless of distance, and standards (like 802.11) deployed. WiFi is considered to be a Broadband technology.

**WLAN (Wireless Local Area Network)**

WLAN is a LAN that communicates between computer devices with wireless signals in the air rather than with electrical signals in cables.

**WWW (World Wide Web)**

The World Wide Web is a subset of the Internet and consists of a huge collection of hyper-linked HTML and other documents. Much of this body has been given form and function by websites, search engines and various other applications.

**XML (Extensible Markup Language)**

XML is a computer language that structures and standardises data elements, allowing for the open and efficient transfer of business documents and data over the Internet. Underlying data can be interpreted more easily.

**X.25**

X.25 is a robust packet-based protocol designed to send packet data across old, unreliable telephony circuits. This was one of the first ITU standards for packet switched networking.

**3G (Third Generation)**

3G is an ITU specification for the third generation (analogue cellular was the first generation, digital PCS the second) of mobile communications technology. 3G promises increased bandwidth, up to 384 Kbps when a device is stationary or moving at pedestrian speed, 128 Kbps in a car, and 2 Mbps in fixed applications. 3G will work over wireless air interfaces such as GSM, TDMA and CDMA.

# **The Economics of Telecommunications and Its Regulation**

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James Hodge and Keith Weeks



Telecommunications is a network industry, which means that the market operates in a different manner from the conventional market for goods of various sorts. These economic features create the very real danger of market dominance by a single operator (with all the negative effects associated with it), thereby providing the rationale for price and other forms of regulation of the industry. Price regulation itself poses many challenges, because information asymmetries between the operator and the regulator prevent the setting of optimal prices. The tools used to regulate prices try to balance the incentives for the operator to reduce costs against concerns over the distribution of profits from cost-savings. This chapter provides a brief and non-technical overview of the established literature on the economics of telecommunications and its regulation.

## 1. The Defining Economic Features of Telecommunications

The defining economic features of network industries such as telecommunications are significant economies of scale in production, network externalities, the need for compatibility and standards, and complementarities in demand and switching costs for consumers.<sup>1</sup> These economic features have an impact on the nature of competition in the industry. In particular, they provide the means for a single firm to establish and maintain a dominant position in the market. This may be to the detriment of consumers if that dominant position is abused through above-cost pricing. The economic features of the sector and the incentives they provide for anti-competitive practice provide the basis for regulatory oversight. These features also have implications for the provision of affordable service to low-income consumers, providing the basis for universal service policy.

### 1.1 Significant Economies of Scale

The significant economies of scale in constructing telecommunications networks relative to the market demand in the sector was the original rationale for public monopolisation of the sector. It was argued that the economies of scale were such that costs were minimised when there was only one operator in the market (a so-called ‘natural monopoly’). Introducing more operators would increase the average costs for all the operators as their scale is reduced, resulting in increasing prices.<sup>2</sup> In order to ensure that the single operator did not abuse this monopoly position by charging excessive prices, the operator was owned by the State. However, these large economies of scale did not exist in every component of the service, and governments began introducing competition in those parts of the network where sharing the market amongst many operators would not result in higher average costs. These include the customer premises equipment (CPE), long-distance networks and value-added services provided to subscribers to the network. The only surviving natural monopoly component is seen as the fixed-line local loop, but this too is changing with the substantial growth in consumer demand and technological changes.<sup>3</sup>

<sup>1</sup> O Shy *The Economics of Network Industries* (2001) 1.

<sup>2</sup> W Viscusi, J Vernon and J Harrington *Economics of Regulation and Antitrust* (1998) 351.

<sup>3</sup> D Newberry *Privatization, Restructuring, and Regulation of Network Utilities* (1999) 331.

Whilst economies of scale relative to market demand have changed sufficiently to permit competition, they still have an impact on the nature of competition and regulation. In particular, it is still argued that a small number of competitors in network provision are essential in order for all operators to reach a sufficient economic scale that brings costs down to a minimum. However, regulating entry on this basis implicitly assumes that any potential entrant either may not be able to make this judgement for themselves, or that their entry may reduce the customer base of current operators, driving up their average costs and prices.<sup>4</sup> Even if entry is not restricted to a few operators, the scale economies are such that only a few large operators are likely to exist in network provision. In some cases a single firm may exist (for instance, in the local loop), which then acts as a bottleneck or essential facility for other operators downstream. Some of these firms will therefore have a large degree of market power, creating the opportunity for excessive price-cost mark-ups and abnormal profits. This is especially true of the former public monopoly that begins the liberalisation process with 100% of the market, which will only be eroded slowly. This potential to abuse their market power is the rationale for regulating the price of such dominant operators until their market power has been sufficiently eroded to enable competition between operators to discipline their pricing behaviour.

Large economies of scale also have implications for affordability and access. The economies of scale for the network component arise from having a high proportion of fixed costs and very low marginal or incremental costs in providing a service. For instance, it is often said that the cost of routing a call is almost nothing, but clearly, the cost of establishing a network to connect people is significant. This cost structure means that firms are unable to price calls at marginal cost — the economic measure or efficient pricing. Second best is to recover the fixed costs through a combination of an installation and a monthly subscription fee, and price calls closer to their marginal cost.<sup>5</sup> In the extreme, only a fixed monthly fee is charged with no charges for local calls (as is the case in the USA). However, high installation and monthly subscription fees pose a barrier to low-income consumers wanting to get onto the network. Even in cases where low-income consumers can afford the actual fees, their consumption may be so low that it is not worthwhile subscribing. The operators will be loath to reduce the installation and monthly subscription fees too much, even with increases in call prices to recover more of the fixed costs through profits on calls.<sup>6</sup> This is because if the consumer makes few calls anyway, the profit on the calls may not cover the reduction in installation and monthly fees, causing the operator to make a loss.<sup>7</sup> This problem is exacerbated when the fixed costs of providing access to the network differ geographically. In particular, the costs of connecting subscribers in rural areas tend to be higher because the population density is low. In these circumstances, the operator would want to charge higher installation and monthly fees for those subscribers that have higher fixed costs.

If it is politically desirable to extend coverage beyond those who are able to

<sup>4</sup> M Armstrong, S Cowan and J Vickers *Regulatory Reform: Economic Analysis and British Experience* (1999) 106–11.

<sup>5</sup> J Church and R Ware *Industrial Organisation. A Strategic Approach* (2000) 816.

<sup>6</sup> Church and Ware (note 5 above) 816.

<sup>7</sup> The cellular operators have managed to eliminate monthly fees on the prepaid option (but not installation fees) but have used the expiration of airtime vouchers as a means to ensure that subscribers spend a sufficient amount to recover their contribution to fixed costs. Cellular also has a lower proportion of fixed costs compared to fixed line, which also enables them to reduce monthly fees.

afford the fixed costs of connecting them to the network (ie universal service objectives), then these consumers need to be subsidised or provided with an alternative service (ie payphone access rather than a residential service). There are a number of ways to do this. Under a monopoly market structure, it is possible to cross-subsidise the low-income subscribers through above-cost pricing on calls for all subscribers. Typically, long-distance and international calls were targeted for these price increases because greater price increases on local calls would defeat the purpose. This is because low-income consumers make a majority of local calls, and higher prices on these calls would increase their costs anyway, making the package of subscription and calls unaffordable. For rural subscribers, the installation and monthly fees were reduced through cross-subsidies on long-distance and international calls, and price increases on urban installation and monthly fees.

However, as competition is introduced, such cross-subsidies become unsustainable. This is because an entrant can choose to service only the profitable subscribers, enabling them to undercut the prices of the incumbent by the extent of the cross-subsidy. As these profitable subscribers switch to the entrant for lower prices, the incumbent is left without the means to cross-subsidise the low-income and rural subscribers. This would result in the incumbent's either going bankrupt or being forced to raise prices to remain profitable — driving the previously subsidised subscribers out of the market. In order to continue to subsidise unprofitable consumers under competition, each operator needs to share the burden of the subsidy. This can be achieved in a number of ways. Each operator could contribute to a universal service fund (USF) that is then paid out to either the operators providing service to unprofitable subscribers or to the subscribers themselves. Alternatively, each operator could be tied to a licence obligation to provide service to a specific number of unprofitable subscribers, thereby forcing them to raise prices to profitable subscribers in order to cross-subsidise the unprofitable ones.

## 1.2 Network Externalities

Another distinct feature of telecommunications is the existence of network externalities for the consumer. This means that the value of joining a particular network depends on how many other people are also on the network. A phone is not very useful if there are only a handful of other people you can call. Network externalities have a significant impact on competition between telecommunication networks and are the basis for regulatory rules requiring the compulsory interconnection of public networks.<sup>8</sup>

If interconnection were not compulsory, then consumers would prefer to subscribe to the larger network rather than a smaller one — because it would offer more value in terms of the number of people they would be able to call. This results in a self-reinforcing process by which the larger network then gets even bigger and becomes even more attractive to future consumers relative to smaller networks.<sup>9</sup> The outcome is usually that one network will dominate the market (much like Microsoft's domination of office software, which has network

<sup>8</sup> Shy (note 1 above) 3.

<sup>9</sup> Economists refer to this as 'tippy' competition.

externality features too<sup>10</sup>). The dominant network is most likely to be the network that is first in the market (because it will initially be larger than any other network), making the entry of new competitors extremely difficult.<sup>11</sup> The domination of one network due to network externalities poses serious competition issues. It is able to maintain a higher price than its competitors without much threat of market share loss, precisely because consumers are willing to pay more for the extra value offered by the larger network (from being able to call more people). Compulsory interconnection ensures that a customer joining any network has access to the customers of all other networks, removing the role of network externalities in competition.

However, only ensuring the compulsory interconnection of networks does not guarantee fair competition. In a system of interconnected telecommunication networks, we would assume that the proportion of calls to subscribers of each network is in proportion to the market share of each network.<sup>12</sup> This means that if one network has 80% of subscribers in the market, then 80% of calls made from any other network will be to subscribers of that network. The fact that the majority of calls from small networks are to the dominant network enables the dominant network to influence the quality and price of calls of the smaller networks through its interconnection strategy.<sup>13</sup> The dominant network can raise the average price of calls from the smaller networks by charging them a high price for connecting calls to its customers. Alternatively, the dominant firm could achieve the same outcome by raising the cost of interconnection — for instance, by requiring the connecting firm to invest in costly equipment to ensure technical compatibility. Similarly, the dominant network can degrade the quality of interconnection, and therefore degrade the quality of most calls made from the smaller networks. Raising the call prices and lowering the call quality of rivals will then drive consumers to subscribe to the dominant network rather than the smaller rivals because of its lower prices, reinforcing its dominance. It is these strong incentives to discriminate against rivals that have resulted in regulation that tries to ensure non-discriminatory interconnection, and not just compulsory interconnection.

Even with non-discriminatory and compulsory interconnection, however, a dominant network will be able to make abnormal profits by raising the price of interconnection for itself and its rivals above the cost of interconnection. This has the effect of raising the call prices of all the networks, including the dominant network. Although this offers no competitive advantage for the dominant network in acquiring subscribers, it allows it to make abnormal profits in the interconnection 'wholesale market'.<sup>14</sup> It also ensures that it does not lose subscribers as a result of price increases, because the use of the interconnection charge ensures that rivals are forced to follow its price increases for subscribers. It is due to this strategic use of interconnection pricing that regulation also includes the price regulation of interconnection (or access) prices by dominant (or major) suppliers. Note that the price regulation of interconnection applies to dominant networks only. This is because a small network pursuing the same strategy would not be able

<sup>10</sup> These are slightly weaker than in the case of telecommunications and stem from the ease of sending and receiving documents in the same software package.

<sup>11</sup> Shy (note 1 above) 115.

<sup>12</sup> This is referred to as a 'balanced calling pattern'.

<sup>13</sup> J-J Laffont and J Tirole *Competition in Telecommunications* (2000) 201.

<sup>14</sup> Laffont and Tirole (note 14 above) 195.

to force similar price increases on its rivals as only a small proportion of their calls would be made to its network. Raising its interconnection cost to itself and others would then result in it offering higher subscriber prices than its rivals and losing market share.

However, differences will often exist between the cost of routing calls within the same network and that of routing calls through another network. This cost difference permits operators to charge a different retail price to subscribers for calls made to other subscribers on their network (on-net) and calls made to subscribers of other networks (off-net).<sup>15</sup> These call price differences can work in favour of the dominant operator in much the same way as discriminatory interconnection pricing.<sup>16</sup> If a new customer expects to have a balanced calling pattern, then he or she will favour the dominant provider because most of his or her calls will be to other subscribers of the dominant provider and these calls are discounted if the customer subscribes to the dominant provider too (the calls are then on-net).

The use of interconnection as a strategic competitive tool to create and maintain market power applies equally to competition amongst service providers, when one service provider is vertically integrated with a dominant network provider. The network provider has an incentive to raise the costs of rival service providers by raising the price or cost of interconnection relative to its own service provider.<sup>17</sup> This gives its own service provider a competitive edge, allowing it either to undercut the competitors to gain market share or to raise prices to earn greater profits.

Interconnection pricing also plays a crucial role in international telecommunications traffic. In the era of State monopolies, each national operator had a monopoly over international calls to its subscribers (as incoming calls had to be routed by the national operator to the end-subscriber). The operators in most developing countries imposed high interconnection charges for incoming calls from other countries, raising the price for the foreign consumer. As it did not affect the price for the domestic consumer and raised enormous foreign currency revenues from foreign consumers, this interconnection pricing strategy was actively encouraged. However, with all national operators pursuing the same strategy, the price of international calls universally increased well above cost. In the era of competition, different operators in a country will compete with each other to provide the routing and termination service for incoming international calls. This competition destroys the ability of one operator to charge excessive prices for termination calls, reducing call prices for foreign consumers.

### 1.3 Compatibility and Standards

A telecommunications service is unlike a product such as scissors that can be purchased and used by it. A telecommunications service is a system of interconnected parts that is useful to the consumer only when it is put together. In order for the system to operate, the various parts must be compatible.<sup>18</sup> This requires that the various components must operate on the same standard.

<sup>15</sup> For instance, the cellular operators have different call rates for on-net and off-net calls.

<sup>16</sup> Laffont and Tirole (note 14 above) 202.

<sup>17</sup> Armstrong (note 5 above) 120.

<sup>18</sup> Shy (note 1 above) 2.



Ensuring compatibility and setting standards requires coordination among the various firms that make products that are part of the system or interconnect to it. This coordination problem is more difficult the greater the number of firms involved in producing parts for the system or operating networks themselves. Failure to coordinate and set standards can result in networks not being able to interconnect (or to interconnect only at high cost) or items of customer equipment not working on a different network. For instance, if one cellular company used the GSM standard and the other CDMA, then consumers with phones that operated on a GSM network standard would not be able to use their phones on the other network, and vice versa. It would also impose costly interconnection solutions to overcome the compatibility problems. Aside from the coordination problem, there is also the concern that in the process of collaborating to determine a standard, firms may find themselves engaging in price-fixing too.

In fact, one of the primary rationales behind the International Telecommunications Union (ITU) was the coordination of telecommunications standards globally to ensure the interoperability of networks in different countries. Similarly, at a national level the regulator has to fulfil a technical coordination role to ensure that compatibility problems do not leave some consumers with unusable equipment or some networks unable to interconnect to others. Whilst many of the technical standards will be decided in international forums, the national regulator still has a role to play in enforcing the standards locally, and sometimes choosing amongst a variety of available standards for the country.<sup>19</sup>

## 1.4 Complementarities in Demand

In many instances, telecommunication services involve a collection of complementary components that are bundled together as part of an overall service. For example, fixed voice telephony includes component services such as access, call termination, local call origination, long-distance call origination, directory services, etc. Components such as access would not be consumed independently, whereas other components would display varying degrees of complementarities in demand. Where services are strong complements, there will be strong consumer demand for bundled service packages. As noted by Shy,<sup>20</sup> ‘complementarity means that consumers in these markets are shopping for systems ... rather than individual products’. Operators can use this complementarity strategically to leverage market power in one part of the system to sell other parts of the system.

## 1.5 Switching Costs

Switching costs are simply the costs that consumers incur in moving from one telecommunications provider to another.<sup>21</sup> The existence of switching costs locks in consumers to one provider, providing a captive market. The strength of the lock-in depends on the size of the switching costs relative to the potential savings for the consumer from switching providers. Switching costs provide the operator with a

<sup>19</sup> For instance, in cellular there is more than one technical standard and South Africa needed to decide between GSM and CDMA.

<sup>20</sup> Shy (note 1 above) 2.

<sup>21</sup> Alternatively, they provide a barrier to consumers moving from one tariff plan to another within the same provider. It is for this reason that cellular operators allow prepaid customers to keep their number when migrating from one tariff plan to another.

degree of market power over its existing customers, but not over potential new customers.<sup>22</sup> This has important implications for pricing by a dominant operator, ie the operator with a large number of subscribers relative to its competitors. Switching costs enable the dominant operator to sustain a price above that of its competitors without fear of subscribers moving to the competitors, precisely because the consumer has to weigh up the potential saving of lower prices against the costs of switching. The higher the switching costs, the higher the price difference that the dominant operator is able to maintain. Therefore, regulatory efforts to reduce the switching costs for consumers enable greater price competition in the market.

In telecommunications, the primary switching cost is the loss of a telephone number. This imposes costs on the consumer in the form of informing all family, friends and business associates of the change in number, and any costs of changing business stationery that includes the phone number on it (eg letterheads, business cards, advertising). A second switching cost is the administrative time required to cancel a subscription to one provider and initiate a subscription to another provider. A third switching cost arises when consumers want to switch providers only for certain calls, for instance, long-distance calls. In this case, they need to dial a carrier code before dialling the number in order for the call to be routed to their preferred operator. The additional effort of prefixing every call with a carrier code represents a small time cost to consumers that grows in significance with the number of calls made.<sup>23</sup>

The move from a public monopoly to a competitive market for telecommunications leaves the incumbent operator with 100% of the market initially, allowing it to benefit from switching costs to the detriment of new entrants. It is for this reason regulations that reduce the switching costs for consumers are seen as important in enabling competitive entry and price reductions by the incumbent. The standard solutions to the switching costs cited above are number portability and carrier pre-selection. Number portability between networks enables the consumers to retain their telephone number when switching providers, eliminating this source of switching costs. Carrier pre-selection enables consumers to choose their preferred operator as the default option for certain calls (long-distance or international), eliminating the need to dial the carrier code before dialling the number. If the consumer wishes to use another operator for a particular call, then he or she would need to dial that alternative operator's code. This eliminates the other source of switching costs for consumers.

## 2. The Economics of Telecommunication Regulation

The economic features of the telecommunications industry mean that operators with market power will exist. This market power can be abused in a number of ways. An abuse of market power may harm consumers directly, through high prices, or indirectly by preventing or substantially reducing competition. The purpose of regulation is to prevent dominant or monopoly firms from abusing

<sup>22</sup> Church and Ware (note 5 above) 547.

<sup>23</sup> Armstrong (note 4 above) 118.

their market power, in order to protect the well being of consumers and society at large. For example, retail prices may be regulated in order to prevent a monopoly from increasing its prices to levels that would be harmful to consumers. Regulations could also be introduced in respect of interconnection and the provision of facilities as the monopolist or dominant firm has an incentive to abuse its market power in order to restrict competition.

Price regulation in respect of retail tariffs and interconnection fees is preemptive in that the regulator enforces ex-ante a rule or set of rules designed to limit the pricing power of the monopoly firm, so as to bring about a socially optimal outcome. This form of ex-ante regulation is implemented on a sector-specific basis — ideally by an independent regulator.

A system of ex-ante regulation can be contrasted with ex-post, or after the fact, regulation. In the case of ex-post regulation the regulatory authority intervenes only after an abuse has occurred. Such intervention would normally take place based on a court order and only where there is sufficient evidence of an abuse. Which conduct constitutes an abuse and the standard of evidence required in order to prove that an abuse has occurred is set out in the applicable legislation.

Competition law and policy provides a good example of ex-post regulation. Competition law is often not sector specific but applies instead across a range of different industries. However, it is also possible to have sector-specific ex-post regulation in respect of competition in a particular sector. There is much debate as to the appropriateness of ex-post versus ex-ante regulation in the telecommunications sector, as well as debates over who should have jurisdiction over competition matters in the sector.<sup>24</sup> A discussion of these debates is beyond the scope of this chapter. Suffice it to say that the introduction of ex-post competition regulation depends to a large extent on a country's policy on liberalisation, as well as on the stage of liberalisation of the telecommunications sector in a particular country. The basic reasoning is that general ex-post competition regulation should be introduced in those areas where there is effective competition, and also where the potential exists for dominant firms to abuse their position so as to restrict the competitive process. Competition is effective where it acts as a constraint on the market power of dominant firms and brings about socially optimal outcomes, without the need for ex-ante regulation (such as price regulation). Sector-specific ex-ante regulation is necessary where natural monopoly components persist and where the liberalisation process has not sufficiently progressed to bring about effective competition.

It should be noted that, given the inherent network externalities in telecommunications, there will always be a need for some optimal mixture of ex-ante and ex-post regulation. For example, it is arguable that without certain ex-ante rules and regulations around interconnection (even in a fully liberalised market), effective competition may not be sustainable, due to the incentives of dominant networks to undermine the competitive process.

Determining the optimal mix of ex-ante and ex-post regulation is an important part of managing the liberalisation process. This process entails a significant change in the mind-set of policy-makers, the sector regulator, and incumbent

<sup>24</sup> See, for instance, the Competition Commission and Tribunal discussion paper on the issue (2000).

operators. Before the initiation of a liberalisation process, regulation would have been focused exclusively on controlling (yet sustaining) a monopoly structure, whereas regulation in the context of liberalisation increasingly tends towards promoting and sustaining effective competition in the context of an imperfectly competitive market structure. In this regard, the decisions of policy makers and regulators must have a sound basis in the economics underlying competition, or antitrust regulation.

## 2.1 Some Aspects of ex-ante Regulation

An abuse of market power through the overpricing of retail tariffs and interconnection fees is detrimental to consumers and competition. This is the rationale for regulation of both these prices. If the regulator had perfect information on the costs and demand faced by the operator, price regulation would enable them to ensure socially optimal pricing. However, the regulator is always constrained by having access to inferior information relative to the operator (an information asymmetry problem). The regulator's pricing decision is based on information fed to it by the operator, giving the operator the means and the incentive to provide incomplete information that gives it a more favourable price. The regulator is also restricted to a large extent from ignoring the operator's information and setting more stringent prices. This is because the regulator cannot risk driving the operator out of business due to the central importance of telecommunications to society. This provides the operator with bargaining power in the price regulation process.

### 2.1.1 Retail price regulation

There are a number of approaches to regulating retail prices. It is important to note that all of these approaches have pros and cons, and a country must select the approach that is expected to have the fewest drawbacks in their institutional and economic environment.

### 2.1.2 Rate-of-return regulation

Under rate-of-return regulation, prices are set such that all the operating costs are covered and a fair rate of return on capital is provided. The operator needs to provide the regulator with detailed cost and demand information under this exercise. Prices are determined after calculating the total revenue requirements of the operator, and the expected volumes of sales.

Rate-of-return regulation has been primarily criticised for not providing any incentives for operators to reduce costs.<sup>25</sup> Given that the operator will earn the same rate of return on their capital whether they reduce costs or not, there is little incentive for management to make the effort to reduce these costs. In fact, there is even an incentive for cost-padding (or 'gold-plating') by management for the same reason. This is especially the case when the operator also competes in unregulated sectors (such as value-added services). The operator has an incentive to allocate

<sup>25</sup> Church and Ware (note 5 above) 847.

costs (in an accounting sense) from the competitive service to the regulated service, because it enables the operator to lower prices in the competitive service to gain market share, while still ensuring a fair return on these costs in the regulated service.<sup>26</sup> The operator may also allocate its best human resources to the competitive service, because leaving less inefficient human resources in the regulated service will not impact its return for that service, whilst it will in the competitive service. The regulator can tackle these to some extent through requiring accounting separation of different operating units and not including costs that it feels are unwarranted, but the information asymmetry between the regulator and the operator means that these can never be entirely eliminated.

However, there are a number of advantages to rate-of-return regulation. The guarantee of a fair rate of return to the operator can be important in attracting capital investment in countries with high risk (demand, political or currency risk). It also prevents the operator making excessive profits as their rate of return is limited. For countries concerned about the distribution between firms and consumers, this may be an important consideration. The problem of incentives for cost reduction may also be reduced through lags in the review of prices. This allows the firm to engage in some cost-reduction that enables it to earn additional profit until the next rate review.<sup>27</sup>

### 2.1.3 Price cap (or incentive) regulation

Price cap (or incentive) regulation is the most common approach in telecommunications globally. Under a price cap, the average increase in prices each year is restricted to the rate of inflation less a productivity factor that is set by the regulator.<sup>28</sup> The higher the productivity factor set by the regulator, the lower the average increase in prices.

The major benefit of this approach is that it provides very strong incentives for operators to reduce their costs. This is because they need to reduce costs by at least the productivity factor to remain as profitable as before, and any additional cost reduction is additional profit for the operator. It also provides the operator with greater flexibility in deciding the price changes on individual services. Under rate-of-return regulation all prices increase by the same amount, but under a price cap the operator can put through different price increases for different services as long as the weighted average is in line with the cap. Finally, it is also considered less information-intensive than rate-of-return regulation.

Despite its popularity, price cap regulation is not without its problems. Probably the most serious problem is a distributional one. Without adequate information, the regulator is prone to setting a lenient price cap that enables the operator to make substantial profits. This is because they do not want to drive the operator out of business, which ensures that they err in favour of the operator. Even if a stringent cap does not completely drive the operator out of business, it may reduce their profitability to the point where they no longer have an incentive to invest, causing a long-run deterioration of the network.<sup>29</sup> A further problem is that the

<sup>26</sup> Laffont and Tirole (note 13 above) 145.

<sup>27</sup> Church and Ware (note 5 above) 849.

<sup>28</sup> The so-called 'CPI-X' rule, where X is the productivity factor.

<sup>29</sup> Armstrong (note 4 above) 85.

operator has strong incentives for reducing the quality of service, as this will enable it to reduce costs. This can be handled through stipulating quality standards but it requires monitoring by the regulator. Even under a price cap the incentive to reduce costs may be limited because low costs and high profits in one period will most likely cause the regulator to increase the productivity factor in the next period (this is known as the ‘ratchet effect’). The increasingly stringent price cap resulting from good performance will reduce the incentives for the operator to reduce costs. A price cap is generally considered a good approach when the regulator has no cost information (making rate-of-return regulation impossible), when the potential for cost reduction is large, or when distributional issues are not politically important.

#### ***2.1.4 Earnings sharing***

Earnings sharing falls between rate-of-return and price cap regulation. Under earnings sharing, a price cap is set but restricts the operator’s profits to between a lower and an upper threshold level. If the operator’s profits exceed a predetermined upper threshold level, then a share of any profits over and above the threshold level are ploughed back into additional price reductions in the next period. Similarly, if the firm makes profits below the lower threshold, then a share of any additional losses beyond the lower threshold are recouped through additional price increases in the next period. This way both the firm and consumers are protected from either unexpected changes in the market or the inadequate setting of the price cap by the regulator. As a combination of the other two regulatory approaches, earnings sharing offers the benefits and problems of both but to a far more limited extent.<sup>30</sup>

#### ***2.1.5 Interconnection (or access) price regulation***

As with retail price regulation, there are a number of approaches to regulating interconnection rates, each with their respective pros and cons.

- **Backward-looking cost-based pricing**

Backward-looking cost-based pricing is rate-of-return regulation of the wholesale market for interconnection. The price is set to cover both operating and fixed costs, with a fair rate of return provided. It has the same benefits (namely a risk-free investment environment and normal profits) and suffers from the same problems (namely, no incentives for cost reduction).

- **Long-run incremental cost (or forward-looking cost-based pricing)**

Long-run incremental cost (LRIC) pricing does not make use of actual operator costs in determining the price, but rather the costs of a hypothetical efficient operator using current technology brought at current prices. This approach has proved immensely popular in telecommunications because it overcomes the problem of incentives for cost reduction. By setting price based on an efficient benchmark, the operator has every incentive to reduce costs in order to prevent

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<sup>30</sup> Church and Ware (note 5 above) 856.

itself from making a loss on interconnection and losing market share to rival firms (that would get interconnection at a price below that available to the operator's own services).

However, the significant problem with LRIC for regulators with few resources and technical capacity is that it is information-intensive and technically demanding.<sup>31</sup> The regulator needs to design an optimal network based on the current subscriber base of the operator and price that network using the lowest equipment prices available in the market. If the regulator lacks technical expertise and information, it will be unable to provide a true efficient benchmark, permitting the operator to continue to profit from interconnection (or be inefficient). An equally serious problem with LRIC is that when it is done correctly, it prevents the operator from making profits on interconnection and provides it with a strong incentive to use interconnection as a tool to make profits in the downstream service provision by hindering rivals<sup>32</sup>. Whilst they may not be able to hurt rivals through higher prices, they can do so through other means (such as raising interconnection costs or degrading the quality of interconnection).

- **Efficient component pricing rule (ECPR)**

The ECPR bases the interconnection price on the profit foregone by the operator as a result of not providing the downstream service itself and allowing a rival to do so through interconnecting to its network. This access price can be calculated as the retail price of the downstream service by the operator less the costs associated with providing the service only (not the interconnection costs). Interconnection prices are therefore the actual cost of interconnection to the operator plus the profit margin on retail services. The advantage of this approach is that it provides no incentive for the operator to use interconnection as a means to hurt rivals in the downstream service market. The operator makes the same profit whether it provides the downstream service itself or the interconnection to allow another operator to provide it.

However, the ECPR also has numerous disadvantages. The operator has the incentive to raise retail prices to make additional profit unless these are adequately regulated themselves. In raising retail prices the operator raises the interconnection price (as it is based on the retail price), forcing rival downstream service providers to do the same. This ensures that raising price is profitable as the operator will not lose market share if downstream rivals follow its price change. Similarly, if there is no adequate regulation of retail prices, there is no incentive for the operator to reduce costs, as all cost increases can be passed on in the interconnection price. Even with adequate price regulation, ECPR provides greater incentives for the operator to reduce costs in the downstream service market and not in the basic network.

## **2.2 Some Aspects of ex-post Regulation**

In its Relevant Market Notice ("RMN") of 1997 the European Commission considered the definition of the relevant market as the foundation for the

<sup>31</sup> Laffont and Tirole (note 13 above) 148.

<sup>32</sup> Laffont and Tirole (note 13 above) 162.

application of competition law:

market definition is a tool to identify and define the boundaries of competition between firms. It allows the establishment of a framework within which competition policy is applied by the Commission.<sup>33</sup>

Therefore, in the application of ex-post regulation, market definition is a crucial first step in assessing whether firms are engaged in prohibited practices. The standard approach to market definition involves considering substitutability patterns by asking consumers whether they would switch from one product to another if the price of the first one were increased by 5% or 10% for a prolonged period. The group of substitutes for which customers would not switch if a hypothetical monopolist increased the price by 5% or 10% constitutes the relevant market.

This approach is generally applicable to market definition in the telecommunications sector. However, certain characteristics of telecommunication products and services may complicate attempts to define the market in this manner. For example, the existence of a wide range of differentiated telecommunication products and services makes it difficult to identify substitutability patterns. The main reason for this is that customer preferences vary considerably and telecommunication service providers have to be flexible in order to be able to provide services to different customers. Defining markets solely based on demand-side substitutability patterns could result in many narrow markets being defined according to the many different customer preferences. However, it is possible to aggregate narrow markets into broader more workable markets by considering supply-side substitution.

The discussion below takes a brief look at some aspects of the economics underlying prohibited practices as they appear in the Competition Act, with reference to issues arising in the telecommunications sector.

### **2.2.1 Restrictive Horizontal Practices**

In liberalised markets a firm's profitability is often dependent on the conduct of its competitors. Where two firms are competitors they produce substitute goods and are said to be in a horizontal relationship. Each firm in a horizontal relationship would like to see the other firm increase the price of its product so that it can enjoy the higher profits arising from softer price competition.<sup>34</sup> There is in fact a strong incentive for firms producing substitute products to agree to fix the price of their product rather than compete. When two or more firms agree to fix a common price for their substitute products, these firms are said to be colluding and are members of a cartel. Cartel members enjoy higher profits because they do not compete as vigorously as they would have in the absence of an agreement. However, a cartel resembles a monopoly and, much like a monopoly, it is able to charge high prices and restrict output to the detriment of consumers.

<sup>33</sup> European Commission *Commission Notice on the definition of the relevant market for the purpose of Community competition policy* (1997).

<sup>34</sup> S Bishop and M Walker *The Economics of EC Competition Law* (1999) 88.



Arrangements involving direct or indirect agreement among competitors for purposes of restricting competition are generally known as *restrictive horizontal practices*. Many countries have laws that prohibit cartels and other types of restrictive horizontal practices. These laws are enforced ex-post by competition regulators, who impose some form of penalty on the members of the cartel. An example of a penalty would be a hefty fine and an order to disband the cartel.

The effectiveness of a cartel depends on the presence of a number of market conditions. Cartels are more likely where there is only a small number of firms in the relevant market, where products are fairly homogeneous, and where there is a mechanism for coordination (such as a trade association). Collusion is facilitated where there is a small number of firms producing similar products, as it is much easier to share information and coordinate behaviour than in a situation where there are many firms producing highly differentiated products.

In the sphere of telecommunications, mobile telephony is a good example of a market where conditions allegedly facilitate collusion among mobile operators. In most countries only a limited number of firms are licensed to provide mobile telephony. In such circumstances collusion is often tacit, with the dominant firm acting as the price leader and the smaller firms following. Some competition can be introduced in the short run when the government (or the regulator) provides a licence to a new operator. The new entrant will compete on price in order to gain market share. However, once it has achieved critical mass, there is a strong incentive for the new operator to become a price follower.

It should be noted that the ex-post regulation in respect of restrictive horizontal practices, discussed here, must be distinguished from merger regulation. Merger regulation involves structural remedies aimed at preventing the development of the kind of highly concentrated market structure that would facilitate tacit collusion. For example, a horizontal merger that reduces the number of competitors in the relevant market from four to three could be prohibited.

## 2.2.2 Restrictive vertical practices

A firm's profitability also depends on the conduct of other firms positioned elsewhere in the production or supply chain. For example, a firm's relationship with its input supplier will impact on its profitability, through the price paid for the input. Firms at different levels of the supply chain are said to be in a vertical relationship and produce complementary products. Unlike in horizontal relationships, each firm in a vertical relationship would like to see the other firm reduce its price.<sup>35</sup> This is because with complementary products the demand for the product increases as the price of the complementary product falls. Therefore, vertically related firms have an incentive to see prices reduced, thus lowering prices to consumers and raising their overall welfare.

Consequently, agreements and restrictions between firms in a vertical relationship would generally be considered to be pro-competitive. However, there are circumstances where vertical practices are anti-competitive because they restrict competition at the horizontal level. Such practices are known as restrictive

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<sup>35</sup> Bishop and Walker (note 34 above) 88.

vertical practices.

Restrictive vertical practices take many forms but generally involve some form of vertical restraint. A vertical restraint may involve a loyalty discount where a discount is awarded in exchange for purchasing a minimum amount of output or it may be based on a pure exclusivity contract. One anti-competitive reason for using vertical restraints is to foreclose markets. For example, the incumbent fixed-line operator could enter into long-term contracts with large businesses for the provision of data services, thus (depending on the terms and conditions) foreclosing existing and potential entrants from this part of the market.

### 2.2.3 Abuse of dominance

A foreclosure strategy often involves a dominant firm leveraging its position in the upstream input market so as to restrict competition in the downstream output market. This ‘leveraging’ possibility is particularly relevant in the case of telecommunications, where incumbent operators are often the sole providers of network facilities to downstream service providers with whom they also compete. Examples of where a leveraging strategy can be employed include bottlenecks such as local access and mobile termination (where the calling party pays).<sup>36</sup> In such cases the bottleneck is offered as one of a bundle of services in competition with other service providers who offer similar service bundles but who do not have free access to the bottleneck. The incumbent operator would be abusing its dominant position by denying access to the bottleneck or providing access on discriminatory terms so as to restrict competition in the downstream services market.

In many cases ex-ante regulations are applied in respect of pricing and access to bottlenecks. However, even where there is ex-ante price regulation, there are still alternatives for incumbent providers to abuse their position. Examples of strategies employed by dominant operators to exclude rivals in competitive downstream markets include implementing a vertical price squeeze and predatory pricing. A vertical price squeeze refers to an exclusionary act employed by a vertically integrated firm ‘to leverage its market power in the upstream market to squeeze the margins of its downstream competitors’.<sup>37</sup> A vertical price squeeze may occur where the incumbent operator is vertically integrated into a downstream services market that has been opened to competition. Crocioni and Veljanovski have identified three main types of price squeeze:

- *A discriminatory price squeeze.* The vertically integrated firm provides the upstream input to its downstream division at a much lower price than the price it charges its downstream competitors, thus raising the costs of its downstream competitors relative to its own costs.
- *A non-discriminatory price squeeze.* The vertically integrated firm increases the price of the upstream input equally in respect of all downstream purchasers of the input, including its own downstream division.
- *A predatory price squeeze.* The vertically integrated firm lowers its downstream

<sup>36</sup> The concept of the essential facility is closely related to that of the bottleneck, where the bottleneck is an essential facility required by a competitor. A firm abuses its dominant position by denying another firm access to an essential facility.

<sup>37</sup> P Crocioni and C Veljanovski *Vertical Markets, Foreclosure, and Price Squeezes: Principles and Guidelines* (2002) 28.

price to below the cost (or the ‘wholesale’ price) of the upstream input, or sufficiently low so as to prevent the downstream rivals from obtaining an adequate margin.<sup>38</sup>

Crocioni and Veljanovski emphasise that in order to find that a price squeeze has indeed occurred, it must be shown that the firm implementing the price squeeze:

- Is dominant in the upstream market, with a market share of 80% or more;
- Is vertically integrated and is active in both the upstream and the downstream market; and
- Has control over the upstream input.

It must be further shown that:

- The upstream input is an essential facility required by downstream competitors and/or is essential to downstream competition;
- The alleged price squeeze must have the effect of substantially preventing or reducing competition in the downstream market by making it unprofitable for rivals to compete in the downstream market; and
- The duration of the price squeeze must be long enough that it has an exclusionary effect.<sup>39</sup>

There are also other means, such as tying, by which monopoly firms engage in exclusionary tactics. Tying also involves leveraging in that a firm with a monopoly in one market may attempt to ‘leverage’ this monopoly into a second market, thus attempting to gain market power in the second market. The firm does this by somehow ‘tying’ consumption of the product from the second market to that of the monopoly good. It should be noted that tying is not necessarily anti-competitive and often involves efficiencies; however, there are circumstances where tying could constitute an abuse.<sup>40</sup>

Where such abuses occur, ex-post regulation may involve the imposition of fines but also structural remedies such as vertical separation and divestiture. A classic example of vertical separation is the break-up of AT&T in the 1980s into the Regional Bell Operating Companies following a lengthy anti-trust dispute. However, despite the possibility of ex-post competition-law intervention, the fact remains that many potential competition problems can be prevented by the effective implementation of appropriate ex-ante regulations.

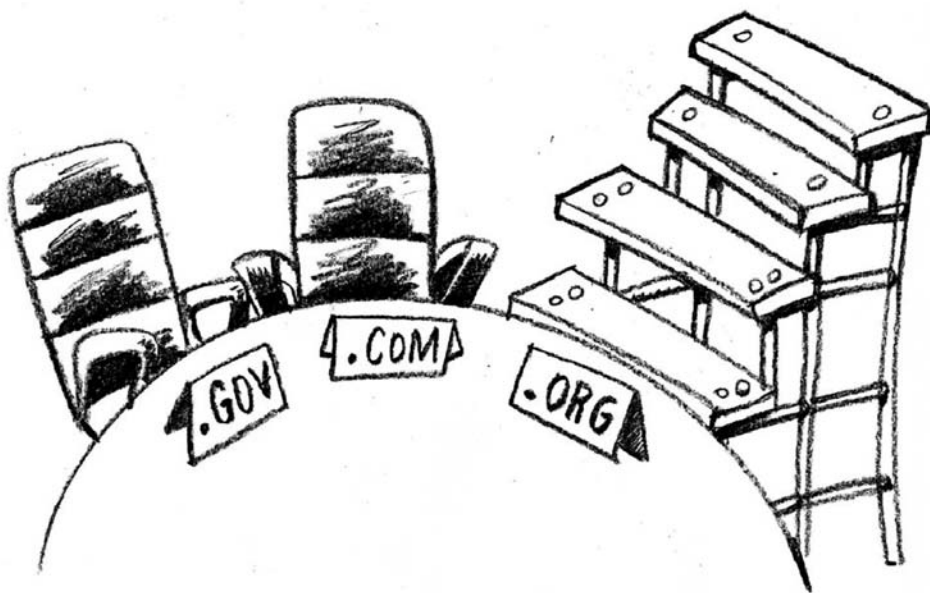
<sup>38</sup> Crocioni and Veljanovski (note 36 above) 32-3.

<sup>39</sup> Crocioni and Veljanovski (note 36 above) 38-41.

<sup>40</sup> P Rey, P Seabright and J Tirole *The Activities of a Monopoly firm in Adjacent Competitive Markets: Economic Consequences and Implications for Competition Policy* (2001) 21-2.

# The Telecommunications Regulators

Lerato Mokgosi<sup>1</sup>



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# Introduction

The telecommunications industry in South Africa is regulated by the Minister of Communications (the Minister), the Department of Communications (DoC) and the Independent Communications Authority of South Africa (Icasa). In addition to these three officials and institutions, the Competition Commission plays a role in the regulatory process with regard to competition and related issues. The telecommunications sector regulators are discussed in this chapter, which is divided into the following five topics:

- (1) the use of comparative materials as a tool for analysing telecommunications regulation in South Africa;
- (2) the regulatory framework within which telecommunications regulators operate;
- (3) international instruments and organisations that have a bearing on telecommunications regulation;
- (4) Icasa, including a discussion of the challenges faced by Icasa as a merged regulator, the independence of Icasa and the relationship between the Minister and Icasa; and
- (5) the regulation of competition in telecommunications.

## 1. COMPARATIVE ANALYSIS

In this chapter a comparative analysis will be made with certain other countries, where appropriate, to illustrate how South Africa is measuring up to international standards with regard to regulation of telecommunications. The Federal Communications Commission (FCC), the United States of America's telecommunications regulator, is one of the oldest and most established regulators.<sup>2</sup> The FCC has been chosen as a comparator to illustrate that although the Independent Communications Authority of South Africa Act, 13 of 2000 (Icasa Act) has similar provisions to the US Communications Act, the political and constitutional environments within which these two regulators operate are different, and as a result they do not achieve the same level of independence. Malaysia is a developing country similar to South Africa. Malaysia has enacted one piece of legislation to regulate both telecommunications and broadcasting. This is in recognition of convergence.<sup>3</sup> Although South Africa acknowledges that convergence is a reality in the industry,<sup>4</sup> it still has different legislation for each of telecommunications and broadcasting.<sup>5</sup> Malaysia also faces issues relating to the independence of its regulator, which provides useful comparative research material for South Africa.

Botswana has set a good example in the southern African region with regard to

<sup>2</sup> The FCC was established in terms of s 4 of the United States Communications Act of 1934 (US Communications Act).

<sup>3</sup> For a detailed discussion on convergence, see chapter 9.

<sup>4</sup> Address by the Minister of Communications, Dr Ivy Matsepe-Casaburi, at the National Colloquium on Convergence Policy, 15 July 2003; available at <http://docweb.pwv.gov.za/convergence/speech.html>.

<sup>5</sup> Telecommunications is regulated by the Telecommunications Act, 103 of 1996 and broadcasting is regulated by the Broadcasting Act, 4 of 1999 and the Independent Broadcasting Authority Act, 153 of 1993.

the financial independence of its telecommunications regulator.<sup>6</sup> The Botswana Telecommunications Authority (BTA) is considered to have almost complete financial independence.<sup>7</sup> This is one of the areas of telecommunication regulation that South Africa needs to improve on. Later in this chapter, the financial independence of Icasa is discussed in detail; that discussion will show that South Africa could learn from Botswana in this regard.

The Office for Telecommunications (OfTel), which is the United Kingdom's telecommunications regulator, has been very open and consultative in its approach to competition. OfTel has published discussion papers regarding issues such as its approach to competition and various critical competition-related definitions such as market dominance.<sup>8</sup>

New Zealand rejected sector-specific regulation in the telecommunications industry.<sup>9</sup> That country is said to have been the first country to liberalise its telecommunications market fully, under the policy of 'light-handed' regulation.<sup>10</sup> The 'light-handed' method of regulation rejects sector-specific regulation and relies principally on general competition law to regulate market conduct and foster the development of competition. This approach has, according to certain commentators, failed in New Zealand.<sup>11</sup> The failure of New Zealand's approach is an illustration that sector-specific regulation may be a necessary starting point, at least for developing countries. Despite the trend introduced by New Zealand and followed by Australia, the opposite trend is on the rise among developing countries. That is, there is a growing belief that telecommunications markets require a strong, independent, well-staffed and adequately funded industry-specific telecommunications regulator.<sup>12</sup> South Africa can learn a lesson from New Zealand, as it is in the early stages of liberalisation.

## 2. LEGISLATIVE FRAMEWORK OF THE REGULATORS

### 2.1 Constitution of the Republic of South Africa

Section 192 of the Constitution provides that national legislation must establish an independent authority to regulate broadcasting in the public interest, and to ensure fairness and a diversity of views broadly representing South African society. This section is a constitutional mandate to establish a broadcasting regulator, which was set up as the Independent Broadcasting Authority (IBA) in 1993 in terms of the Independent Broadcasting Authority Act.<sup>13</sup> The IBA is the predecessor in title of Icasa.<sup>14</sup> Section 192 relates only to broadcasting and does not include telecommunications. The implications of section 192 as regards the independence of Icasa as a merged regulator are discussed in section 4.4 below.

<sup>6</sup> Botswana Telecommunications Act, 15 of 1996. See s 10.

<sup>7</sup> International Telecommunications Union Report 'Effective Regulation Case Study: Botswana' (2001) 13.

<sup>8</sup> See, for example, *OfTel's Effective Competition Review* (February 1998) and *OfTel's Competition Act Strategy* (1 July 2002); available at [http://www.oftel.gov.uk/publications/about\\_oftel/2002/cact0602.htm](http://www.oftel.gov.uk/publications/about_oftel/2002/cact0602.htm).

<sup>9</sup> T Gilbertson 'Beginning of the End of "Light-Handed" Telecommunications Regulation in New Zealand' (13 November 2001) 1; available at <http://www.gtlaw.com.au/t/publications/default.jsp?pubid=296>.

<sup>10</sup> Gilbertson (note 8 above) 1.

<sup>11</sup> Gilbertson (note 8 above) 1.

<sup>12</sup> BA Petrazzini 'Regulating Communication Services in Developing Countries' in H Melody (ed) *Principles, Policies and Regulatory Practice: Telecom Reform* (2000) 350; available at [www.lirne.net/resources/tr/index.htm](http://www.lirne.net/resources/tr/index.htm).

<sup>13</sup> Independent Broadcasting Authority Act.

<sup>14</sup> s 18 of the Icasa Act, 13 of 2000.

Section 181 of the Constitution sets out the requirements for independence of the various institutions supporting democracy.<sup>15</sup> Although the IBA is not specifically included in the list of the institutions referred to in section 181, it is arguable that the principles set out in section 181 are applicable to the IBA.<sup>16</sup> The requirements for independence, as listed in section 181, are as follows: (a) the institutions are subject only to the Constitution and the law; (b) they must be impartial and must exercise their powers and perform their functions without fear, favour or prejudice; (c) other organs of state, through legislative and other measures must assist and protect these institutions to ensure their independence, impartiality, dignity and effectiveness; (d) no person or organ of state may interfere with the functioning of these institutions; and (e) the institutions are accountable to the National Assembly and must report on the performance of their functions to the National Assembly at least once a year. Section 4.5 of this chapter will include a discussion on the extent to which Icasa does comply with the provisions of section 181.

Finally, section 195 of the Constitution provides that public administration must be governed by the democratic values and principles enshrined in the Constitution. These principles include the following: (a) promotion and maintenance of a high standard of professional ethics; (b) promotion of efficient, economic and effective use of resources; (c) public administration must be development-oriented; (d) services must be provided impartially, fairly, equitably and without bias; (e) people's needs must be responded to, and the public must be encouraged to participate in policy-making; (f) accountability; (g) transparency must be fostered by providing the public with timely, accessible and accurate information; (h) cultivation of good human-resource management and career-development practices, to maximise human potential; and (i) public administration must be broadly representative of the South African people, with employment and personnel management practices based on ability, objectivity, fairness, and the need to redress the imbalances of the past to achieve broad representation. Section 195(2)(a) goes on to provide that the principles listed in section 195(1) apply to administration in every sphere of government, organs of state and public enterprises. Icasa, as an organ of state,<sup>17</sup> is bound by the principles set out in section 195.

## 2.2 Regulatory bodies established in terms of the Telecommunications Act

Prior to its amendment in 2001, section 5 of the Telecommunications Act made provision for the establishment of the South African Telecommunications Regulatory Authority (Satra).<sup>18</sup> Satra was South Africa's first telecommunications regulator. With effect from 1 July 2000, Satra was dissolved and replaced by Icasa in

<sup>15</sup> The institutions listed in s 181 of the final Constitution are as follows: (a) the Public Protector, (b) the South African Human Rights Commission, (c) the Commission for the Promotion and Protection of the Rights of Cultural, Religious and Linguistic Communities, (d) the Commission for Gender Equality, (e) the Auditor-General, and (f) the Electoral Commission.

<sup>16</sup> s 192 of the final Constitution, which mandated the establishment of the IBA, forms a part of chapter 9 of the Constitution, entitled 'State institutions supporting democracy'. The establishment of the institutions listed in s 181 is mandated by provisions forming part of the same chapter.

<sup>17</sup> The term 'organ of state' is defined in s 239 of the final Constitution. Icasa falls squarely within the constitutional definition.

<sup>18</sup> s 5(2)(a) of the Telecommunications Act, prior to its repeal by the Telecommunications Amendment Act, 65 of 2001, provided that, 'There is hereby established a juristic person to be known as the South African Telecommunications Regulatory Authority'.

terms of the Icasa Act.<sup>19</sup> In July 1997, the Cabinet had approved a decision to merge the IBA and Satra; Icasa is the result of this merger. The Telecommunications Act also created the USA,<sup>20</sup> the main function of which is to promote the goal of universal service. A detailed discussion of the USA is to be found in chapter 8.

## 2.3 Powers of the Minister in terms of the Telecommunications Act

The powers of the Minister as regards telecommunications regulation include, inter alia, the power to issue policy directions to Icasa, to initiate and participate in certain licensing processes, and to approve radio regulations and other regulations made by Icasa in terms of section 95 and 96 of the Telecommunications Act. Policy directions issued by the Minister in terms of the Telecommunications Act must be consistent with the objects of the Telecommunications Act as set out in section 2.<sup>21</sup> With regard to the initiation of a licensing process for possible additional public switched telecommunication licences, the Telecommunications Act provides that the Minister shall, by 31 December 2003, determine by way of a market study the feasibility of granting one or more public switched telecommunications (PSTS) licences<sup>22</sup> and another mobile cellular telecommunication licence.<sup>23</sup> The public switched telecommunications licence is in addition to Telkom's licence and the proposed Second National Operator's (SNO) licence.<sup>24</sup> The mobile cellular telecommunications licence is in addition to the three existing mobile cellular licences.<sup>25</sup> As at June 2004, the Minister has not commissioned any such feasibility studies. In terms of section 34(2)(a) of the Telecommunications Act no application shall be lodged or entertained in respect of a licence to provide public switched telecommunications services,<sup>26</sup> mobile cellular telecommunication services,<sup>27</sup> national long-distance telecommunications services,<sup>28</sup> international telecommunications services,<sup>29</sup> multimedia services<sup>30</sup> or any other telecommunications service prescribed for the purposes of section 34(2) of the Telecommunications Act,<sup>31</sup> unless such application is lodged pursuant to and in accordance with an invitation issued by the Minister by notice in the Government Gazette. The Minister's powers with regard to licensing also include the power to: (a) accept recommendations made by Icasa<sup>32</sup>; (b) request further information from Icasa<sup>33</sup>; (c) reject the recommendations of Icasa;<sup>34</sup> and (d) refer the matter back to Icasa.<sup>35</sup>

<sup>19</sup> s 18 of the Icasa Act read with GN 2446, GG 21343 dated 30 June 2000.

<sup>20</sup> ss 58–64 of the Telecommunications Act.

<sup>21</sup> s 5(4)(a) of the Telecommunications Act.

<sup>22</sup> s 32A(5)(a) of the Telecommunications Act.

<sup>23</sup> s 37(4)(a) of the Telecommunications Act.

<sup>24</sup> s 32A of the Telecommunications Act provides that Telkom and the SNO are the holders of public switched telecommunications (PSTS) licences as of 7 May 2002.

<sup>25</sup> s 37(1)(a) of the Telecommunications Act provides that Vodacom (Pty) Ltd and Mobile Telephone Networks (Pty) Ltd shall be deemed to be the holders of licences in terms of the Telecommunications Act to provide mobile cellular telecommunications. s 37(1)(b) of the Telecommunications Act provides that Cell C (Pty) Ltd is the holder of a further mobile cellular telecommunications licence.

<sup>26</sup> s 34(2)(a)(i) of the Telecommunications Act.

<sup>27</sup> s 34(2)(a)(ii) of the Telecommunications Act.

<sup>28</sup> s 34(2)(a)(iii) of the Telecommunications Act.

<sup>29</sup> s 34(2)(a)(iii) of the Telecommunications Act.

<sup>30</sup> s 34(2)(a)(v) of the Telecommunications Act.

<sup>31</sup> s 34(2)(a)(vi) of the Telecommunications Act.

<sup>32</sup> s 35(2)(a) of the Telecommunications Act.

<sup>33</sup> s 35(2)(b) of the Telecommunications Act.

<sup>34</sup> s 35(2)(d) of the Telecommunications Act.

<sup>35</sup> s 35(2)(c) of the Telecommunications Act.



In terms of section 35A of the Telecommunications Act the Minister may, notwithstanding the provisions of section 34 and 35 of the Telecommunications Act, with regard to licences referred to in section 34(2) thereof, in specific instances determine the manner in which applications may be made. The determination may include auctions or tenders as a licensing method. The Minister may also prescribe the licensing process and the licensing conditions that will apply. Section 32B(2) empowers the Minister in concurrence with the Minister of Public Enterprises to set aside a percentage of the equity interest in the SNO for Eskom and Transnet. A detailed discussion of telecommunications licensing processes, including the respective roles of the Minister, Icasa and the DoC in such licensing processes, may be found in chapter 5. With regard to the radio frequency spectrum access to the 1800 MHz frequency band, the Minister determines the fees payable in respect thereof and the period of payment of such fees by the mobile cellular operators, Telkom and the SNO.<sup>36</sup>

In terms of sections 95(3) and 96(6) of the Telecommunications Act, the Minister has the power to approve all radio regulations and all other regulations made by Icasa in terms of sections 96(6)(a), (b) and (c).<sup>37</sup> No such regulation or any amendment or withdrawal thereof is valid until it has been approved and published in the Government Gazette by the Minister.

## 2.4 Powers of the DoC in terms of the Telecommunications Act

Prior to the amendment of the Telecommunications Act during 2001, chapter X of the Telecommunications Act made provision for certain functions to be performed by the DoC with regard to the Human Resources Fund (the Fund).<sup>38</sup> These functions were to keep account of the annual contributions to the Fund and of any money accruing to the Fund from any other source. The Fund was to be administered by the Director-General of the DoC in consultation with Icasa.<sup>39</sup> Section 80(2) of the Telecommunications Act provided that, in administering the Fund, the Director-General: (a) shall monitor and keep abreast of the human resource needs of the telecommunications industry; (b) shall evaluate the effectiveness of education, research and training in the Republic in meeting those needs; (c) shall identify courses, programmes and schemes which will serve those needs; (d) may entertain applications for grants and subsidies from educational institutions, employers, voluntary associations and community development organisations in the field of education, research and training; and (e) shall monitor and control the use of such grants and subsidies by recipients and beneficiaries thereof.

Section 37 of the Broadcasting Act makes provision for the establishment of the Frequency Spectrum Directorate within the DoC.<sup>40</sup> The functions of the

<sup>36</sup> s 30B(2)(c) of the Telecommunications Act.

<sup>37</sup> Telecommunications Act, s 96(1) provides that the Authority (Icasa) may make regulations in relation to: (a) any matter which in terms of the Telecommunications Act shall or may be prescribed by regulation; (b) any technical matter necessary or expedient for the regulation of telecommunication activities; and (c) any matter of procedure or form which may be necessary or expedient to prescribe for the purpose of the Telecommunications Act.

<sup>38</sup> Section 15 of Schedule 2 to the Skills Development Act, 97 of 1998 provides that, subject to sub-item (2) thereof, the Human Resources Fund referred to in s 78(1) of the Telecommunications Act continues to exist as if ss 78–87 of that Act had not been repealed. The consequence of this is that the DoC continues to have the powers and functions set out in ss 78–87 of the Telecommunications Act, prior to their amendment by the Telecommunications Amendment Act, 64 of 2001.

<sup>39</sup> s 78(4) of the Telecommunications Act, prior to amendment by Act 65 of 2001.

<sup>40</sup> s 37(1) of the Broadcasting Act.

directorates are to develop policy with regard to the radio frequency spectrum and to undertake technological and economic research of the radio frequency spectrum to ensure the efficient use of the spectrum.<sup>41</sup>

## 2.5 Competition Act, 89 of 1998

The Competition Act, which regulates competition generally in South Africa, creates three institutions for the regulation of competition. These are: the Competition Commission, the Competition Tribunal and the Competition Appeal Court. The Competition Commission is headed by the Competition Commissioner, who is appointed by the Minister of Trade and Industry for a period of five years.<sup>42</sup> The Competition Commission has six divisions arranged according to its core functions. These divisions are: enforcement and exemptions, mergers and acquisitions, compliance, legal services, policy research and corporate services.<sup>43</sup> The objective of the Competition Commission is to investigate, control and evaluate restrictive practices, abuse of dominant positions and mergers.

The telecommunications industry, like many other sectors, is subject to the Competition Act. The Competition Commission has concurrent jurisdiction with other sectoral regulatory bodies, in terms of section 82 of the Competition Act. Section 82 requires the Competition Commission to enter into a Memorandum of Agreement with sector regulators.<sup>44</sup> Pursuant to section 82, Icasa and the Competition Commission have entered into a Memorandum of Agreement. A detailed discussion of this agreement can be found in section 5.2 of this chapter.

The second institution created by the Competition Act is the Competition Tribunal, which is headed by a Chairperson appointed by the President for a period of five years.<sup>45</sup> The President must also, on the recommendation of the Minister of Trade and Industry, appoint three to ten people to serve on the Tribunal for a period of five years, either on a full-time or part-time basis.<sup>46</sup> The functions of the Tribunal include to adjudicate on alleged prohibited practices, to impose in respect thereof any remedy provided for by the Competition Act, to adjudicate on any matter that may in terms of the Competition Act be considered by it, and make any order provided for in the Competition Act, to hear appeals from or review any decision of the Competition Commission that may in terms of the Competition Act be referred to it and to make any ruling or order necessary or incidental to the performance of its functions in terms of the Competition Act.<sup>47</sup>

The third relevant institution is the Competition Appeal Court, which has the status of a High Court.<sup>48</sup> The members of the Competition Appeal Court are appointed by the President on the advice of the Judicial Services Commission.<sup>49</sup> This Court has jurisdiction throughout the Republic and is a court of record.<sup>50</sup> It

<sup>41</sup> s 37(4) of the Broadcasting Act.

<sup>42</sup> s 22(1) of the Competition Act, 89 of 1998.

<sup>43</sup> For more information on the Competition Commission, see <http://www.compcom.co.za>.

<sup>44</sup> s 82 of the Competition Act deals with relationships with other agencies; s 82(1) provides that 'a regulatory agency which, in terms of any regulation has jurisdiction in respect of conduct regulated in terms of Chapter 2 or 3 within a particular sector (a) must negotiate agreements with the Competition Commission, as anticipated in section 21(1)(h); and (b) in respect of a particular matter within its jurisdiction, may exercise its jurisdiction by way of such an agreement'.

<sup>45</sup> C ss 26(3) and 29(1) of the Competition Act.

<sup>46</sup> s 26(2) of the Competition Act.

<sup>47</sup> s 27(1) of the Competition Act.

<sup>48</sup> s 36(1)(a) of the Competition Act.

<sup>49</sup> s 36(2) of the Competition Act.

<sup>50</sup> s 36(1)(b) and (c) of the Competition Act.

may consider any appeal from or review of the Competition Tribunal, and amend or set aside a decision or an order that is the subject of appeal or review from the Competition Tribunal.<sup>51</sup> The Competition Appeal Court may also give any judgement or make any order as the circumstances may require.

## **2.6 Independent Communications Authority of South Africa Act, 13 of 2000 (Icasa Act)**

The Icasa Act provides for the establishment of Icasa<sup>52</sup>, the dissolution of Satra and the IBA<sup>53</sup> and the transfer of the functions of Satra and the IBA to Icasa.<sup>54</sup> The Icasa Act is divided into five chapters. Chapter 1 deals with introductory remarks, definitions and the objects of the Act. The objects of the Act are to establish an independent authority which is intended, firstly, to regulate broadcasting in the public interest and to ensure fairness and a diversity of views broadly representing South African society as required by section 192 of the final Constitution; and, secondly, to regulate telecommunications in the public interest and achieve the objects contemplated by the underlying statutes. The underlying statutes include the IBA Act, the Broadcasting Act and the Telecommunications Act.

Chapter 2 of the Icasa Act provides for the establishment of Icasa, its functions, constitution, appointment of councillors, disqualification from being councillors, term of office, removal from office, filing of vacancies in the council, remuneration, meetings of the council, conflicts of interest, validity of the proceedings of council, staff, financing, and reporting. Chapter 3 of the Icasa Act deals with standing and special committees. These committees are established to assist Icasa in the effective exercise and the performance of its powers and duties.<sup>55</sup> Chapter 4 comprises the transitional provisions, which regulate the dissolution of the IBA and Satra, the transfer of staff, transfer of assets and liabilities and the Authority's pending matters. Chapter 5 deals with general provisions.

## **3. INTERNATIONAL INSTRUMENTS AND ORGANISATIONS**

### **3.1 International Telecommunications Union (ITU) and the African Green Paper**

The African Green Paper was developed by the ITU as a guide to African countries in the regulation of their telecommunications sectors.<sup>56</sup> It is designed to be a thought-provoking reference document suggesting an appropriate approach and offering a number of potential options for defining and bringing about, as harmoniously as possible, restructuring and accelerated development of the telecommunications sector in Africa.<sup>57</sup> The African Green Paper was developed by the African Information and Telecommunications Policy Study Group (AITPSG),

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<sup>51</sup> s 37(1) of the Competition Act.

<sup>52</sup> s 3(1) of the Icasa Act.

<sup>53</sup> s 18 of the Icasa Act.

<sup>54</sup> s 4(1)(a) and (b) of the Icasa Act.

<sup>55</sup> s 17 of the Icasa Act.

<sup>56</sup> ITU African Green Paper (1995). For more information on the ITU, see <http://www.itu.org>.

<sup>57</sup> African Green Paper (note 62 above) 5.

which was created at the African Telecommunications Development Conference hosted by the ITU in Harare in 1990.<sup>58</sup>

The recommendations of the African Green Paper that are relevant to this chapter, are those relating to the regulation of competition in the telecommunications industry and to the independence of the regulator. In order to ensure the autonomy and the independence of a regulatory authority, the African Green Paper recommends that such regulatory authority must be created by legislation, which provides, inter alia, for a mechanism for the appointment of its chairman and members.<sup>59</sup> As regards competition, the African Green Paper recommends that conditions amenable to fair competition should be created, in order to ensure that customers derive all the expected benefits. The African Green Paper recommends, further, that the opening up of telecommunications services to competition must be accompanied by the establishment of rules ensuring equitable access to network infrastructure.<sup>60</sup>

### 3.2 World Trade Organisation (WTO)

The WTO is the international body responsible for the administration of the General Agreement on Trade in Services (Gats), which includes an Annex on Telecommunications and a Protocol regarding basic telecommunications services. This Protocol is known as the Fourth Protocol to the Gats. The WTO provides a global forum for trade negotiations and dispute resolution. The WTO also monitors national trade policies and provides technical assistance and training for developing countries concerning the implementation of their WTO commitments, including required regulatory reforms.<sup>61</sup> South Africa is a member of the WTO and is a party to the Gats. WTO members are required to establish independent regulators, which will be separate from and not accountable to any supplier of basic telecommunications services. The decisions and the market procedures used by the regulators are required to be impartial with respect to all market participants.<sup>62</sup> The WTO also requires its members to prevent anti-competitive practices in telecommunications. The Gats provides that appropriate measures shall be maintained for the purpose of preventing suppliers who, alone or together, are major suppliers, from engaging in or continuing anti-competitive practices.<sup>63</sup> The anti-competitive practices referred to include anti-competitive cross-subsidisation, anti-competitive use of information obtained from competitors with anti-competitive results, and not making available other services to suppliers on a timely basis, such as technical information about essential facilities and commercially relevant information, which are necessary for them to provide services.<sup>64</sup>

<sup>58</sup> African Green Paper (note 62 above) 7.

<sup>59</sup> African Green Paper (note 62 above) 42.

<sup>60</sup> African Green Paper (note 62 above) 51.

<sup>61</sup> H Intven and M Tetrault 'Overview of telecommunications regulation' in *Telecommunications Regulation Handbook* (2000) Module 1 1-17.

<sup>62</sup> WTO Reference Paper 'Annex to the fourth Protocol to the Gats Agreement on Basic Telecommunications' (January 1998) section 5.

<sup>63</sup> WTO Reference Paper (note 68 above) section 1.1.

<sup>64</sup> WTO Reference Paper (note 68 above) section 1.2.

### 3.3 Telecommunications Regulators' Association of Southern Africa (Trasa)

Trasa was formed by the members of the Southern African Development Community (SADC) and came into being on 15 September 1997.<sup>65</sup> Trasa was established out of two articles in the SADC Protocol on Transport, Communications & Meteorology, namely 10.7 and 13.13.<sup>66</sup> The main aim of Trasa is to increase communication and co-ordination between regulatory authorities in the SADC region. Trasa seeks to encourage investment in the telecommunications sector by supporting the creation of a common enabling environment. Trasa is an organisation of telecommunications regulators.<sup>67</sup> The members of Trasa are Botswana, Mozambique, Namibia, South Africa, Tanzania, Zambia, Angola, the Democratic Republic of Congo, Lesotho, Malawi, Mauritius, Seychelles, Swaziland and Zimbabwe. In terms of the constitution of Trasa, any state that has more than one regulator shall be entitled to single membership and a single vote.<sup>68</sup>

Trasa has as its objectives the co-ordination of regulatory matters and the exchange of ideas, views and experiences on all aspects of regulation of the telecommunications sector throughout the SADC region. Trasa also aims to promote the establishment and operation of efficient, adequate and cost-effective telecommunications networks and services in the SADC region, which meet the diverse needs of customers while being economically sustainable. Trasa further aims to facilitate a uniform level of understanding of regulatory matters and to maximise the utilisation of scarce resources in specialist areas of telecommunications.

The Southern African Transport and Communications Commission (SATCC) acted as the secretariat of Trasa, up to October 1999. The SATCC was responsible for the drafting of the Model Regulatory Framework for Telecommunications. This model was designed to create uniformity of telecommunication regulation among the members of SADC and to harmonise legislation to allow operators on the continent to move freely between countries.

In addition to developing the Model Regulatory Framework, the SATCC has also developed guidelines to help member states in the promulgation of national policies, legal frameworks and regulatory regimes. Examples of the guidelines published by the SATCC are the following:

- interconnection model regulations adopted in Blantyre November 2002 and published by Trasa on 7 May 2003;
- telecommunications tariffs policy and the model Bill adopted in Blantyre November 2002 and published by Trasa on 7 May 2003; and
- policy on ICT priority and the frequency radio spectrum plan for 20 MHz-3100 MHz.

<sup>65</sup> For more information on Trasa, see <http://www.trasa.org.bw>.

<sup>66</sup> Article 10.7 of the Protocol provides for the separation between regulation and operation of telecommunication services. Article 13.13 encourages the creation of regional bodies such as Trasa, to provide a framework for collaboration among members in the same group.

<sup>67</sup> Intven and Tetrault (note 67 above) 1-17.

<sup>68</sup> Constitution of Trasa, article 4.1.

The above-mentioned guidelines have been finalised and have been endorsed by all member states. The following guidelines are awaiting approval by member states:

- guidelines on universal access and universal service;
- licensing policy guidelines;
- fair competition guidelines;
- wholesale pricing guidelines; and
- regional frequency spectrum plan (3.1-100 GHz).<sup>69</sup>

## 4. ICASA<sup>70</sup>

### 4.1. Formulation and Objects

Prior to the formation of Icasa, the telecommunications industry was regulated by Satra. The White Paper on Telecommunications Policy sets out the objectives of Satra.<sup>71</sup> These objectives were encapsulated in section 2 of the Telecommunications Act, as objectives of the Act. The main object is the regulation of the telecommunications industry in the public interest. Subsidiary objects include ensuring the provision of a wide range of telecommunication services, stimulating and supporting economic growth, stimulating investment in the public telecommunications network, ensuring a level playing field where competitive entry is permitted, and protecting the interests of telecommunications users and consumers.

Icasa operates within the framework of various legislation in addition to the Icasa Act. The legislation includes the final Constitution, the IBA Act, the Broadcasting Act and the Telecommunications Act. All these pieces of legislation influence the functioning of Icasa with regard to some of the issues discussed in this chapter – such as its independence, its relationship with the government and its powers with regard to the regulation of telecommunications and broadcasting. Section 2 of the Icasa Act states that Icasa must also regulate telecommunications in the public interest and achieve the objects contemplated in the underlying statutes, namely the above-mentioned legislation.

Satra and the IBA were both dissolved and replaced by Icasa.<sup>72</sup> This was an acknowledgement of the realities of convergence between broadcasting and telecommunications and the need for coherent regulation.<sup>73</sup> It was also perceived as an attempt by the government to reduce its regulatory budget by avoiding duplication of effort and consolidating the limited skills available.<sup>74</sup>

In Malaysia, broadcasting and telecommunications were brought under the same legislation and the same regulator in 1998, in terms of the Communications and Multimedia Act, 588 of 1998 and the Communications and Multimedia Commission Act, 589 of 1998 respectively. These changes to the regulatory

<sup>69</sup> Southern Africa Transport and Communications Commission Annual Report 2001–2002 para 13.

<sup>70</sup> In this chapter, Icasa is referred to interchangeably as the 'Authority', the term used in the Telecommunications Act.

<sup>71</sup> The White Paper on Telecommunications 1996, section 5.8.

<sup>72</sup> s 18 of the Icasa Act 18.

<sup>73</sup> T James (ed) 'An overview of Information Policy Initiatives in Southern Africa, problems and issues emerging from the South African experience – what lessons can we learn?' in *Information Policy Handbook* (2001) chapter 3, paragraph 2.6; available at <http://www.apc.org/book/ictpls/ch3/ch3-5.htm>.

<sup>74</sup> James (note 81 above) chapter 3, para 3.6.

framework were made in recognition of convergence and the need to have similar regulation for both these sectors.<sup>75</sup> During the process of amendment of the South African Broadcasting Act in 2002, the Minister expressed a view that despite suggestions that one statute be enacted to regulate both broadcasting and telecommunications, reconciling the Telecommunications Act and the Broadcasting Act would be achieved by first amending the Broadcasting Act.<sup>76</sup> Notwithstanding that statement, a process is currently underway to develop convergence legislation, which is intended to address the information, communications and technologies (ICT) sector as a whole. This includes media, broadcasting, telecommunications and IT.<sup>77</sup>

In the performance of its functions, Icasa is also bound by the Promotion of Administrative Justice Act<sup>78</sup> (PAJA), which regulates the requirements of procedurally fair administrative action, and identifies the possible grounds of review of administrative decisions. Icasa should ensure that its actions are lawful, reasonable and procedurally fair as required by PAJA.

## 4.2 Powers and duties of Icasa

Icasa deals with the day-to-day regulation of the telecommunications industry. Its functions are not so much at the policy-making level but at the operational level, where policy is implemented. In order to ensure effective implementation of government policy, Icasa has been given the power to make regulations.<sup>79</sup> Icasa is also a licensing authority, in that it participates actively in the licensing process and in issuing of licences.

In telecommunications, there are two types of licence. The first type is smaller, more competitive licences, such as value added network service (Vans) and private telecommunications network (PTN) licences, which are issued and granted by Icasa. The second type is licences issued in terms of section 34(2) of the Telecommunications Act, which are subject to an invitation to apply issued by the Minister. Icasa assists the Minister in developing the criteria to be used in evaluation of applications for the second type of licence.<sup>80</sup> In such circumstances, Icasa evaluates all applications for licences and makes recommendations to the Minister as to who should be awarded the licence and also proposes the conditions of the licence.<sup>81</sup> If the Minister approves the recommendation of Icasa, Icasa then issues the licence.<sup>82</sup>

Icasa also has the power to adjudicate disputes arising in the telecommunications industry. In the event that there is a dispute between service providers, or between service providers and consumers, this dispute must be submitted to Icasa for determination.<sup>83</sup> It is for this reason that Icasa must be

<sup>75</sup> World Markets Research Centre, Telecoms Country Report: Malaysia 19 May 2003.

<sup>76</sup> Address by the Minister of Communications, Dr Ivy Matsepe-Casaburi, Tabling of Broadcasting Amendment Bill, NCOP, 7 November 2002.

<sup>77</sup> For information on the policy developments see <http://www.docweb.gov.za>.

<sup>78</sup> Promotion of Administrative Justice Act, 3 of 2000.

<sup>79</sup> ss 95 and 96 of the Telecommunications Act grant Icasa powers to make radio regulations and any other regulation that the Act permits.

<sup>80</sup> s 34(2)(c) of the Telecommunications Act.

<sup>81</sup> s 35(1)(a) and (b) of the Telecommunications Act.

<sup>82</sup> s 35(6) of the Telecommunications Act.

<sup>83</sup> s 100 of the Telecommunications Act.

independent from all industry participants and from the government. Icasa owes its primary obligation to consumers, to protect them from unfair business practices, poor quality service, and harmful or inferior products.<sup>84</sup> With regard to the radio frequency spectrum, Icasa has the duty to plan, control and manage it.<sup>85</sup>

### 4.3 Structure

Apart from its council, Icasa has the following organisational components: (a) Chief Financial Officer;<sup>86</sup> (b) Broadcasting Service;<sup>87</sup> (c) Engineering Service;<sup>88</sup> (d) Telecommunications Service and Legal;<sup>89</sup> and (e) Legal, Consumer Protection and Secretariat.<sup>90</sup>

### 4.4 Challenges facing Icasa as a merged regulator

Unlike the broadcasting regulator, which is provided for in section 192 of the final Constitution, the telecommunications regulator is not provided for specifically in the Constitution. Some authors feel that this is because the broadcasting regulator regulates areas of political priority such as freedom of expression, and that it was for this reason that the office was provided for in the Constitution.<sup>91</sup>

Below are a few examples of statutory provisions that illustrate the extent of the government's involvement in telecommunications as opposed to broadcasting.

The Minister, in terms of the Telecommunications Act, has to issue an invitation to the public to apply for the licences provided for in section 34(2).<sup>92</sup> In terms of section 41(1) of the IBA Act, on the other hand, the IBA (now Icasa) has the power to invite applications for broadcasting licences. Members of the public can also, of their own accord, apply to Icasa for a broadcasting licence.<sup>93</sup>

The Minister, in terms of section 35A of the Telecommunications Act, can determine new licensing procedures and dispense with the provisions of sections 34 and 35 of the Telecommunications Act.<sup>94</sup> There is no equivalent provision in either the IBA Act or the Broadcasting Act. As a result, the Minister has more powers to intervene in the licensing process in telecommunications than in broadcasting.

The decision whether or not to grant a licence in terms of the IBA Act falls within the powers of the Authority, whereas in terms of section 35(1)(a) of the Telecommunications Act, the Authority must make recommendations to the Minister with regard to all the licences listed in section 34(2).<sup>95</sup> The Minister has

<sup>84</sup> See <http://www.icasa.org.za/default.aspx?page=1009>.

<sup>85</sup> s 28(1) of the Telecommunications Act.

<sup>86</sup> Reporting to the Chief Financial Officer are the financial manager and the senior managers for procurement, library services and management and development.

<sup>87</sup> Reporting to the General Manager for this division are the senior managers for policy development and for licensing and monitoring.

<sup>88</sup> Reporting to the General Manager of this division are the senior managers for frequency spectrum and monitoring and regions.

<sup>89</sup> Reporting to the General Manager of this division are senior managers for telecom policy analysis and development, for licensing, enforcement and numbering administration.

<sup>90</sup> Reporting to the General manager of this division are the senior managers for legal, consumer protection and council support, and for secretariat and international relations.

<sup>91</sup> For this reason the IBA is said to have enjoyed more independence than Satra. Also see J White 'An introduction to telecommunications liberalisation and regulation in South Africa' (unpublished paper) 9–11.

<sup>92</sup> s 34(2) of the Telecommunications Act provides for the following licences: a public switched telecommunications service (PSTS), mobile cellular telecommunications service (MCTS), natural long-distance telecommunication service, an international telecommunication service; a multimedia service or any other telecommunication service prescribed for the purpose of the subsection.

<sup>93</sup> s 41(4) of the IBA Act.

<sup>94</sup> s 34 of the Telecommunications Act deals with the applications for telecommunications licences and s 35 deals with the decisions and applications.

<sup>95</sup> s 5(1)(a) of the Telecommunication Act provides that, after Icasa has considered the applications, it must make recommendations to the Minister and propose licence conditions.



the power to either accept or reject the recommendation of Icasa.<sup>96</sup>

Section 5(4)(a) of the Telecommunications Act provides that the Minister may, from time to time by notice in the Government Gazette, issue to the authority policy directions consistent with the objects set out in section 2 of the Telecommunications Act. Section 5(4)(d) of the Telecommunications Act provides that the Authority shall perform its functions in terms of the Act in accordance with the policy directions issued under section 5(4)(a). This section gives the Minister the power effectively to supplement telecommunications legislation. The equivalent provisions in the broadcasting legislation protect Icasa's independence.

The Minister has to approve all the regulations made by Icasa pursuant to the Telecommunications Act.<sup>97</sup> The Minister, on behalf of the government, has financial and ownership interest in both Telkom and the SABC, which are both subject to regulation by Icasa. Therefore, it is possible that the Minister will not approve regulations that would negatively affect either of these two entities. The unilateral withdrawal by the Minister of the interconnection guidelines, discussed in 4.5.1 'The relationship between the Minister and Icasa' below, is an example of this phenomenon.

## 4.5 Independence of the Regulator

The term 'independence', as used in the context of telecommunications regulation, does not imply independence from government policy or the power to make policy, but rather independence to implement such policy without undue influence from politicians or industry lobbyists.<sup>98</sup>

Where there is one operator that enjoys a protected monopoly, there is generally no need to have a separate regulator. The government and the main operator share the regulatory responsibilities. In these instances, the operator can even make decisions, which, in a fully regulated environment, would be made by the regulator. However, where there is more than one operator, and in particular where a particular operator is not wholly owned by the government, the need for a regulator is clear. The African Green Paper, in its recommendation regarding the need for the national regulatory authority (NRA), states that there is a need for the NRA because it is inconceivable in a liberalised competitive market that the public telecommunications operator (PTO)<sup>99</sup> could at the same time be the ultimate regulator. If this were the case, the requisite of impartiality with respect to the competitors of the PTO would be undermined.<sup>100</sup> In the matter between Telkom and AT&T,<sup>101</sup> Telkom decided to withhold services from AT&T because it was of the view that the services were being used for illegal purposes. Telkom, as an operator, cannot on its own decide whether to grant the services or not. It is the duty of the regulator, in this instance Icasa (or Satra, as it was at the time), to determine whether or not a licensee is in breach of its licensing conditions. This view was

<sup>96</sup> s 35(2) of the Telecommunications Act.

<sup>97</sup> In terms of s 95 of the Telecommunications Act Icasa may make radio regulations; s 96 provides that Icasa may make regulations in relation to any other matter in terms of the Telecommunications Act, any technical matter necessary or expedient for the regulation of telecommunication activities and any matter of procedure or form which may be necessary or expedient to prescribe for the purpose of the Act. s 96(6) states that s 95(3) shall apply to the provisions of s 96 with the necessary changes.

<sup>98</sup> Melody (note 9 above) 19.

<sup>99</sup> The PTO is a facilities-based operator such as a telephone company that provides telecommunications services to the public for compensation.

<sup>100</sup> African Green Paper (note 62 above) 35.

<sup>101</sup> *AT&T Global Network Services SA Pty (Ltd) and Others v Telkom SA Limited and Others* (TPD, case no 27624/99, 16 November 1999, unreported) as discussed by M Zlotnick 'South Africa Telecommunications regulation: a review and prospects for the next five years' (2000) 3; available <http://link.wits.ac.za/training/tel1.html>.

supported by the decision in this case, which was that the regulator should decide whether or not AT&T should be given the services it required and it is that it is not for Telkom to decide. The Courts have, however held that Telkom may disconnect or refuse to provide services if it is of the opinion that a licensee is violating the conditions of the licence or that the services would be used for an illegal purpose.<sup>102</sup> It is important for the major operator to submit to the jurisdiction of the regulator and for the regulator to function independently of such operator. Telkom should therefore submit to the jurisdiction of Icasa, despite its ownership by and accountability to the government.

The independence of the regulator is essential in relation to issues such as the credibility of the regulator, the enforceability of its decisions and investor confidence in the regulatory system.

Consistently with the requirements of independence as set out in section 181 of the final Constitution, the Icasa Act provides that Icasa must be independent and subject only to the Constitution and the law. The law in this context includes, inter alia, the Icasa Act, the Telecommunications Act, the Broadcasting Act and the IBA Act.<sup>103</sup> Icasa must also be impartial and must perform its functions without fear, favour or prejudice and must function without any political or commercial interference.<sup>104</sup>

#### ***4.5.1 The relationship between the Minister and Icasa***

The Telecommunications Act also regulates the relationship between the Minister and Icasa. The Minister has powers, in terms of that Act, to make policy directions consistent with the objects of the Act as set out in section 2.<sup>105</sup> Icasa exercises its powers and performs its functions in terms of both the enabling legislation and the policy directions made by the Minister.<sup>106</sup> The Minister does not decide for or impose upon Icasa how its powers should be exercised.

The independence of the regulator ensures that the regulator will make independent decisions that do not unduly favour one participant over another. For example, the regulator must not be seen to be granting licences to certain applicants because of their affiliation with or close ties to the ruling party. In Malaysia, there is a perception that licence awards have favoured bidders of Malay origin with close links to the ruling UMNO party. Tajuddin Ramli of the TRI, which owns Celcom, is one such example.<sup>107</sup>

In South Africa, there has been a certain amount of conflict between the Minister and Icasa regarding the exercise of the Minister's powers in terms of the Telecommunications Act and whether that exercise of powers interfered with the independence of Icasa. Examples of these instances of conflict, or where such conflict may arise, are set out below.

The Minister holds the majority shareholding in Telkom. The Minister thus has an interest in its success. Icasa, on the other hand, is expected to regulate through legislation and regulations, supplemented by the policy directives of the Minister.

<sup>102</sup> *Digital Express Network (Pty) Ltd. v Telkom SA Limited* (TPD, case no 26876/99, 4 October 1999, unreported).

<sup>103</sup> s 3(3) of the Icasa Act.

<sup>104</sup> s 3(4) of the Icasa Act.

<sup>105</sup> s 5(4)(a) of the Telecommunications Act.

<sup>106</sup> s 5(4)(d) of the Telecommunications Act.

<sup>107</sup> World Markets Research Centre Report (note 81 above) 14.

This begs the question whether the Minister can be neutral in matters affecting Telkom.

Icasa receives its funding from the government.<sup>108</sup> The Ministry has to allocate funding to Icasas from its own budget. This compromises the independence of Icasas, in that should Icasas rule against Telkom, it would have indirectly ruled against the government and thereby against the ‘hand that feeds it’. Any decision that adversely affects Telkom indirectly affects the Minister and may therefore affect Icasas’s funding.

In terms of section 43(3) of the Telecommunications Act, Icasas shall prescribe guidelines relating to the form and content of interconnection agreements to be concluded amongst telecommunications service operators. These guidelines are of great interest to Telkom as the holder of the public switched telecommunications licence,<sup>109</sup> as competitors will have to interconnect to its infrastructure. The final guidelines were published on 15 March 2000.<sup>110</sup> On 14 April 2000, the Minister withdrew these guidelines without consulting Icasas.<sup>111</sup> Icasas continued to treat the guidelines as valid, whilst Telkom was of the view that it was not bound by the guidelines due to the Minister having withdrawn them. As a result, Icasas approached the High Court for a ruling on the validity of the guidelines. The court held that the functions of the Minister as provided for in the Telecommunications Act, with regard to the amendment or withdrawal of guidelines, were limited to approval of the guidelines or approval of the withdrawal thereof. The Minister could therefore not on her own initiative withdraw or amend the guidelines. The Court held that the interconnection guidelines were valid and remained enforceable.<sup>112</sup>

The controversies surrounding the licensing of the 51 percent stake in the second national operator (SNO) and of the third mobile operator (Cell C), also raise concerns about the independence of Icasas. The controversy with regard to the licensing of the 51 percent stake in the SNO relates to the provisions of section 35A of the Telecommunications Act. Prior to the amendment of the Telecommunications Act in 2001,<sup>113</sup> only sections 34 and 35 made provision for licensing processes and methods. In terms of these two sections, the Minister issues an invitation to apply for any of the licences listed in section 34(2)(a).<sup>114</sup> Thereafter, the Minister discusses with Icasas the evaluation criteria in respect of the applications. Icasas conducts the evaluation and does all that is necessary to ensure that the best applicant is recommended to the Minister, including requesting further information from the bidders. After following the process as set out in section 34(3), Icasas makes recommendations to the Minister regarding the best applicant(s).

One of the amendments to the Telecommunications Act was the insertion of section 35A, which grants the Minister the powers to prescribe the manner in which applications can be made, notwithstanding sections 34 and 35 of the Act.

<sup>108</sup> s 15(1) of the Icasas Act.

<sup>109</sup> s 43(1)(a) of the Telecommunications Act provides that any public switched telecommunications service licensee shall, when requested by any other person providing telecommunication services, interconnect its telecommunication systems to the telecommunication system of the other person, in accordance with the terms and conditions of an interconnection agreement entered into between the parties.

<sup>110</sup> Interconnection guidelines issued by the Authority in terms of s 43 of the Telecommunications Act, 1996 GN 1265/2000 GG 20993 of 2000.

<sup>111</sup> Notice of withdrawal. GN 1680/2000 GG 21108 dated 14 April 2000.

<sup>112</sup> See Chapter 6 herein.

<sup>113</sup> s 10 of the Telecommunications Amendment Act, 65 of 2001.

<sup>114</sup> See the discussion in paragraph 2.2 above.

The licensing process is therefore currently regulated by sections 34, 35 and 35A. Section 35A provides that, 'notwithstanding sections 34 and 35: (a) in the case of a licence referred to in section 34(2), the Minister may in specific instances determine the manner in which applications may be made, such as by way of auction or tender or both and the licensing process and the licensing conditions that will apply; and (b) for all other licences the Authority may in specific instances prescribe the licensing conditions that will apply.'

The initial process for the invitation of interested parties to bid for a 19 percent stake and also for a 51 percent stake in the SNO, through a notice of invitation published in the Government Gazette,<sup>115</sup> After receiving the 19 percent bids, Icasa evaluated and recommended a preferred applicant to the Minister, who accepted such recommendation. After receipt and evaluation of the 51 percent bids, Icasa made recommendations to the Minister for the rejection of the two preferred applicants on the grounds that their applications did not fulfil the requirements of the invitation.<sup>116</sup> The Minister, in terms of the Telecommunications Act, has the power to either accept the recommendations, or to request further information or to refer the matter back to Icasa.<sup>117</sup> On 31 January 2003, the Minister announced that she agreed with the decision of Icasa that the two applicants should not be awarded the 51 percent stake in the SNO. The Minister also stated that she was going to exercise her powers in terms of section 35A and prescribe the process to be followed in the next invitation to applicants for the 51 percent.<sup>118</sup> The process to be followed was subsequently announced. The process would be divided into four phases, the first phase being the submission of expressions of interest to pre-qualify. The second phase would be one-on-one negotiations between the pre-qualified bidders and the SNO working committee. The third phase would be the evaluation of applications and the making of recommendations by Icasa, and the fourth phase would be the integration, awarding and issuing of the licence. The SNO working committee would be appointed by the Minister and headed by the Deputy Director-General of Communications. All negotiations would be confidential and without prejudice.<sup>119</sup>

There are two issues of concern about this approach. First, the SNO working committee seems to have replaced Icasa in this instance, in that the evaluation of applications for licences, including the request for further information, is usually done by Icasa but in this case would be done by the SNO working committee.<sup>120</sup> Icasa threatened to institute legal action requesting the court to make a ruling as to whether section 35A was lawful.<sup>121</sup> The Minister then suggested that a joint committee be formed which was to be made up of members from both Icasa and the DoC. The joint committee was, however, not formed. The DoC did the pre-qualification of applicants based on one-on-one negotiations, after which Icasa processed the best and final offer. This is not satisfactory, because it creates the 'sharing' of powers, with regard to the evaluation of applications for licences, between the Minister and Icasa. This 'sharing' of powers compromises the independence of Icasa in that the decision is made jointly with the Minister while

<sup>115</sup> Notice of Invitation. GN 755 amended by GN 786/2002 GG 23460 dated 24 May 2002.

<sup>116</sup> Media release 'Icasa's recommendations to the Minister on the 51% equity interest in the SNO' 31 January 2003.

<sup>117</sup> s 35(2) of the Telecommunications Act.

<sup>118</sup> Minister of Communications Matsipe-Casaburi outlines the process to award the 51% in the Second National Operator 4 February 2003.

<sup>119</sup> The invitation to apply was published on 31 March 2003: GN 965/2003 GG 24682 31 March 2003.

<sup>120</sup> s 34A of the Telecommunications Act.

<sup>121</sup> 'Minister, Icasa put heads together over second licence' *Business Day* 13 March 2003.

under normal circumstances Icasa would have done the screening of the applicants, and then have submitted a shortlist of the preferred applicants to the Minister. Subsequent to this process, Icasa made the recommendation that the preferred applicants not be awarded the 51 percent stake in the SNO.<sup>122</sup>

The second concern about the process actually followed is that there was a great deal of secrecy surrounding the process of negotiations: they were confidential and without prejudice. Thus, the process was not transparent. The effect of a process that is not transparent is that it may affect investor confidence in the regulatory regime. Icasa was also concerned about the secrecy surrounding the bidding process as prescribed by the Minister.<sup>123</sup> Although there was an outcry in the industry about the decision of the Minister and the effect this would have on the independence of Icasa, it is likely that the decision of the Minister could not be shown to be unlawful in that it lay within the powers granted to her in terms of section 35A. This section allows the Minister in specific circumstances (which are not described anywhere in the Act or in the policy directions) to determine the manner in which applications may be made. There is no basis for suggesting that the search for a holder of a 51 percent stake in the SNO is not the specific circumstance envisaged by this section. The section further allows the Minister to determine the licensing process and the licensing conditions that will apply in those undefined specific circumstances. This section is silent about the role of Icasa, should the Minister decide to exercise these wide and undefined powers.

When the insertion of section 35A was originally discussed, Icasa was opposed to it for various reasons.<sup>124</sup> First, because the categories of licence referred to in section 34(2) of the Telecommunications Act are not an exhaustive group, and thus the proposed amendment permitted the Minister to potentially prescribe the licensing conditions for all licences, including the licences that are not listed in section 34(2).<sup>125</sup> Secondly, the government did not clearly explain the reasons for the insertion of section 35A. It was clear that section 35A gives the Minister powers that are fairly wide and that detract from Icasa's licensing powers, but the new section also compromises the independence of Icasa in that it permits the Minister to be represented at the evaluation stage of the licensing process. As a result, the Minister may know who the preferred applicants are before recommendations are made by Icasa. Despite recommendations by Icasa regarding the amendment or the possible deletion of section 35A from the proposed amendments to the Telecommunications Act, the legislature did not amend or delete the proposed amendment.

Seen in this light, it appears that the government wishes to retain some powers with regard to the licensing process, despite the effect of this power, namely to encroach on the independence of Icasa. One cannot help but conclude that Parliament intended to retain for the Minister more than mere policy-making powers, including the power to prescribe to Icasa on issues generally within its jurisdiction, such as the evaluation of applications for licences.

The process of licensing Cell C was also surrounded by allegations that the

<sup>122</sup> On 29 August 2003 Icasa made recommendations to the Minister to reject the two preferred applications that had been recommended by the SNO Committee.

<sup>123</sup> Statement by Mandla Langa, the Chairperson of ICASA, on 7 February 2003.

<sup>124</sup> Icasa submissions to Parliament regarding the Telecommunications Amendment Bill, September 2001 14–15.

<sup>125</sup> s 34(2) of the Telecommunications Act.

executive interfered with the licensing process. Nextcom (Pty) Ltd (Nextcom), which was one of the applicants for the third cellular licence, brought legal action against Icasa, the Minister and Cell C among others, for the review and the setting aside of the recommendation that Icasa made to the Minister regarding the third cellular licence.<sup>126</sup> Nextcom alleged that the licensing process was beset with irregularities including non-disclosure of interest in the process by the councillors, as well as political interference by the Minister in Satra's deliberations.<sup>127</sup> Nextcom alleged further that Mr Maepa, who was the Chairman of Satra at the time, was pressured by the Minister and the President's office (through the President's office) to withdraw from the licensing deliberations. Mr. Maepa alleged in his affidavit that he was pressured to recuse himself from the deliberations because he could not be relied upon to support a recommendation that Cell C be awarded the licence.<sup>128</sup>

#### ***4.5.2 Councillors' obligations to ensure independence of the Regulator***

The councillors appointed to Icasa must be independent from the industry, and must avoid conflicts of interest in the performance of their duties. Section 12 of the Icasa Act prohibits the participation of a councillor in any matter where he or she has either a direct or indirect interest in the outcome of it. In relation to the granting of a licence, a councillor may not vote, attend or in any other manner participate in any meeting or hearing of the council, nor be present at the place where the meeting is held, if he or she or his or her family member is a director, member or business partner or associate of, or has an interest in the business of, the applicant or of any person who made representations in relation to the application. A family member is defined in the Icasa Act as a parent, child or spouse, including a person living with that person as if they were married to each other. With regard to any other matter, a councillor may not vote, attend or in any other manner participate in a meeting or hearing nor be present at a place where the meeting is held, if he or she has any interest which may preclude him or her from performing his or her functions as a councillor in a fair, unbiased and proper manner.<sup>129</sup>

Section 12 of the Icasa Act further provides that if, during the course of any proceedings before the council, there is reason to believe that a councillor has any interest as described above, such councillor must fully disclose the nature of his or her interest, and the meeting will decide in his or her absence if he or she can continue to participate in that particular discussion. Should the councillor be found guilty of contravening section 12, he or she is liable for a fine not exceeding R250 000 or for imprisonment for a period not exceeding five years, or both.<sup>130</sup>

<sup>126</sup> *Nextcom (Pty) Ltd. v Funde* 2000 (4) SA 491 (T), discussed by M Zlotnick 'South Africa Regulation: A new review and prospects for the next five years' (note 109 above) 14–15.

<sup>127</sup> *Nextcom v Funde* in Zlotnik (note 109 above).

<sup>128</sup> *Nextcom v Funde* in Zlotnik (note 109 above).

<sup>129</sup> s 12(1)(b) of the Icasa Act.

<sup>130</sup> s 12(4) of the Icasa Act.

### 4.5.3 Elements of the independence of the regulator

#### 4.5.3.1 Administrative independence

The notion of administrative independence of a constitutional institution was interpreted in the case of the Independent Electoral Commission (IEC) v Langeberg Municipality<sup>131</sup> to mean that there must be no control over those matters directly connected with the functions that the particular institution, in that case the IEC, has to perform under the Constitution and the applicable legislation.<sup>132</sup> Although this case does not deal with Icasa, it is relevant to a discussion on administrative independence in that one of the issues addressed in it, namely the independence of the IEC, is pertinent to Icasa. The court considered the question of whether the IEC was an organ of state, and whether the IEC can be independent of the national government and still be part of the state. The court held that the IEC is described in the Constitution as an institution supporting democracy and is therefore an organ of state, but it is not subject to the control of the national executive and is therefore not an organ of state in a sphere of government. The independence of the IEC is entrenched in the Constitution in terms of section 181, read with section 190. The independence of Icasa is also entrenched in the Constitution.<sup>133</sup> Administrative independence would include matters such as the appointment of councillors, their tenure of office and their removal from office. The extent to which the State has a say in these issues, in addition to the provisions of the Icasa Act, determines the extent of the administrative independence of Icasa.

#### • Appointment of councillors

Icasa is constituted by a council consisting of seven councillors. The councillors are appointed by the President on the recommendation of the National Assembly.<sup>134</sup> The National Assembly, prior to making its recommendations to the President, must ensure that the public participates in the nomination process to ensure transparency and openness.<sup>135</sup> The nominated candidates must then be short-listed in an open and transparent manner. The names of the short-listed candidates are then submitted to the President for approval.<sup>136</sup>

The level of independence of the regulator from political parties varies from one country to another. The extent thereof depends on the political and constitutional structure of the particular country. In South Africa, a person cannot be considered for a position as a councillor if he or she is an office bearer or employee of any

<sup>131</sup> *Independent Electoral Commission v Langeberg Municipality* 2001 (3) SA 225 (CC) para 29.

<sup>132</sup> Paragraph 29 of the IEC case says "The second factor, "administrative independence" implies that there will be no control over those matters directly connected with the functions which the Commission has to perform under the Constitution and the Act. The Executive must provide the assistance that the Commission requires to ensure its independence, impartiality, dignity and effectiveness. The Department cannot tell the Commission how to conduct the registration, whom to employ, and so on; but if the Commission asks the government for assistance to provide personnel to take part in the registration process, government must provide such assistance if it is able to do so. If not the Commission must be put in funds to enable it to do what is necessary."

<sup>133</sup> Constitution of the Republic of South Africa, Act 108 of 1996. s 192 provides constitutional protection for the IBA.

<sup>134</sup> s 5(1) of the Icasa Act.

<sup>135</sup> s 5(1) of the Icasa Act. See also 'Nominations for appointment as a councillor of the South African Telecommunications Regulatory Authority (Authority) in terms of the Telecommunications Act', GN 1608/1996.

<sup>136</sup> s 5(1)(c) of the Icasa Act. The commissioners who constitute the FCC are also appointed by the President with the advice and consent of the Senate. In this regard see s 4(5) of the US Communications Act (note 1 above).

political movement or organisation of a political nature.<sup>137</sup> Contrast this with the position in the United States, where three out of five FCC Commissioners can be from the same political party.<sup>138</sup>

#### • Tenure of office of councillors

To ensure continuous independence of Icasa, the councillors are not appointed for a lifetime. On the contrary, their contracts are for a specified period. In terms of section 7(1) of the Icasa Act, the chairperson holds office for a period of five years from the date of his or her appointment. With the exception of three councillors who were appointed to the first council after the Icasa Act came into operation, (whose identity was to be determined in accordance with schedule 2 of the Icasa Act), the councillors shall be in office for a period of four years.<sup>139</sup> The councillors are employed for a fixed period in order to ensure the development of institutional memory and some continuity in the functioning of Icasa. The purpose of the rotation is to ensure that the independence of the councillors is not compromised either by developing relationships with industry players or in any other way.

During their term of office, councillors are not allowed to hold any other remunerative employment, occupation or office which is likely to interfere with the exercise of their functions in terms of the Icasa Act or the underlying statutes, or which can create a conflict of interest between such employment, occupation or office and his or her office as a councillor.<sup>140</sup> A councillor, at the end of his or her term of office, can be reappointed for an additional term.<sup>141</sup>

#### • Removal from office

Section 8 of the Icasa Act sets out the grounds on which a councillor may be removed from office. These grounds include (a) misconduct; (b) inability to perform the duties efficiently; (c) absence from three consecutive meetings of the council without the permission of the council; (d) contravention of section 7(6) which prohibits the councillor from having any other remunerative employment or occupation which is likely to interfere with the exercise by any such councillor of his or her functions in terms of the Act or the underlying statutes, and (e) his or her becoming disqualified as contemplated in section 6(1).<sup>142</sup> A councillor can be

<sup>137</sup> s 6(e) of the Icasa Act.

<sup>138</sup> s 4(5) of the US Communications Act.

<sup>139</sup> Icasa Act. Schedule 2 of the Icasa Act provides for the procedure for the determination of the names of the councillors who must vacate their offices two years after appointment.

<sup>140</sup> s 7(6) of the Icasa Act.

<sup>141</sup> s 7(5) of the Icasa Act. The commissioners of the FCC are also appointed for a period of five years in terms of s 4 of the US Communications Act of 1934. However, in Malaysia the members of the Communications and Multimedia Commission are appointed for a term of not less than two (2) years but not more than five (5) years in terms of s 10 of the Malaysian Communications and Multimedia Commission Act, 589 of 1998.

<sup>142</sup> s 6(1) of the Icasa Act deals with various grounds of disqualification. These include if a person (a) is not a citizen of the Republic; (b) is not permanently resident in the Republic; (c) is a public servant or the holder of any other remunerated position under the State; (d) is a member of Parliament, any provincial legislature or any municipal council; (e) is an officer or employee of any political party, movement or organisation of a party-political nature; (f) his or her family member has a direct or indirect financial interest in the telecommunications or broadcasting industry; (g) his or her business partner or associate holds an office in or with or is employed by any person or body, whether corporate or unincorporated which has an interest contemplated in paragraph (f); (h) is an unrehabilitated insolvent, has been declared by a court to be mentally ill or disordered; (i) has at any time been convicted of the crimes listed in paragraph (j)(i) and (ii); (j) has been sentenced after the commencement of the Constitution Act of 1993 to a period of imprisonment of not less than one year without the option of a fine; and (k) has at any time been removed from an office of trust on account of misconduct.



removed from office on a finding by the National Assembly and the adoption of a resolution by the National Assembly calling for that councillor's removal from office.<sup>143</sup> The President has powers, in terms of section 8(3) of the Icasa Act, to suspend a councillor from office at any time after the start of the proceedings of the National Assembly for the removal of the councillor. Once the National Assembly adopts the resolution calling for the councillor's removal from office, the President must remove him. The African Green Paper recommends that in order to ensure the independence of the regulator, the chairman and the members should only be removed on special and stipulated grounds or by Parliament.<sup>144</sup> This may, however, not be a guarantee of independence if the state has an interest in the PTO, because the State may prefer councillors whom it knows will give favourable decisions.

#### 4.5.3.2 Financial independence

'Financial independence' was interpreted in the Langeberg decision to mean the ability to have access to funds reasonably required to enable the IEC to discharge the functions it is obliged to perform under the Constitution and relevant legislation.<sup>145</sup> Financial independence is important in that, if the regulator is properly funded, it will be able to perform its functions properly and to attract qualified people to implement its regulatory objectives. A regulator that is not properly funded can affect the industry negatively, in that it will not be able to carry out its functions effectively and efficiently. For example, if a regulator is unable to settle industry disputes timeously, this may adversely affect the stability and competitiveness of the market.

##### • Funding of Icasa

Section 15 of the Icasa Act provides that the Authority is financed from money appropriated by Parliament. Section 15(3) provides that all revenue received by the Authority other than by appropriation by Parliament must be paid into the National Revenue Fund within 30 days after receipt of such revenue. Icasa must account to the government for its use of the funds. Section 16(b) provides that Icasa must, within three months after the end of each financial year, supply the Minister with a copy of the annual report, the financial statements of Icasa and the Auditor-General's report on those financial statements. In addition to the provisions of the Icasa Act, Icasa is bound by the Public Finance Management Act (PFMA).<sup>146</sup> The object of the PFMA is to secure transparency, accountability and sound management of the revenue, expenditure, assets and liabilities of the institutions to which it applies. Chapter 5 of the PFMA applies to departments and constitutional institutions. Icasa is listed as one of the constitutional institutions.<sup>147</sup> The PFMA sets out the duties of the officials within a department or constitutional institution, as well as the reporting responsibilities and sanctions for non-

<sup>143</sup> s 8(2) of the Icasa Act. In Malaysia only the Chairman is required to obtain permission from the Minister to hold any remunerative post. It appears that the other members of the commission can have other remunerative posts while serving in the commission.

<sup>144</sup> African Green Paper (note 62 above) 36.

<sup>145</sup> *IEC v Langeberg Municipality* (note 142 above) para 29.

<sup>146</sup> Public Finance Management Act, 1 of 1999 (PFMA).

<sup>147</sup> When the PFMA came into effect on 1 April 2000, the IBA was listed as a constitutional institution in Schedule 1, and Satra was listed as a public entity in Schedule 3. These schedules have been amended since then, to reflect Icasa's status as a constitutional institution.

compliance.

Like Icasa, the FCC receives its funding, in the United States, from the government. Like Icasa, the FCC is required to deposit any revenue it receives, such as moneys received from licence application fees, in the general fund of the Treasury, to reimburse the government for amounts appropriated for use by the FCC in the carrying on of its functions in terms of the Communications Act.<sup>148</sup>

Unlike Icasa and the FCC, the Botswana Telecommunications Authority (BTA) is generally considered more financially independent because, with the exception of non-regulatory activities, neither the Minister of Works, Transport and Communications nor the Minister of Finance has any involvement in its budget. The BTA has, ever since its first year of operation, financed its budget exclusively through regulatory fees and investment income.<sup>149</sup> Ninety percent of the BTA's budget is financed by regulatory fees.<sup>150</sup> To ensure financial accountability, an independent audit firm is appointed annually to audit the books of the BTA. In addition, the financial reports are submitted to the Auditor General for a further audit. The African Green Paper recommends that in order for a regulator to be truly independent, it should preferably be self-financing and have its own budget.<sup>151</sup> The following are suggested sources for revenue: (a) fees for granting of licences for installation and operation of telecommunication services; (b) fees for carrying out type approval of subscriber terminal equipment; (c) levy charges/fees for all users of the spectrum management; (d) inspection fees payable by suppliers of equipment; (e) possibly a fixed fee (charged annually or as appropriate) payable by all users of the national network; and (f) fees chargeable on opinions given on agreements between various players in the market including the PTO.<sup>152</sup>

#### • Remuneration of councillors

In terms of section 10 of the Icasa Act, the remuneration of the chairperson and other councillors is to be determined by the Minister with the concurrence of the Minister of Finance, subject to any applicable national legislation envisaged by section 219(5) of the Constitution.<sup>153</sup> It is important that the councillors be adequately compensated in order to ensure that Icasa is able to attract the best qualified people in the industry and to minimise the risk of councillors being susceptible to corruption.

## 4.6 Staffing of the Regulator

There is an important link between the staffing of the regulator and issues such as the funding of the regulator, the substantive credibility of the regulatory decisions and the independence of the regulator. If the regulator is well funded it will be able to attract highly qualified human resources. Icasa, like other regulators, requires a

<sup>148</sup> s 8(2)(e) of the US Communications Act.

<sup>149</sup> ITU Report: Effective Regulation Case Study: Botswana (note 6 above) 13.

<sup>150</sup> ITU Report: Effective Regulation Case Study: Botswana (note 6 above) 13.

<sup>151</sup> African Green Paper (note 62 above) 36.

<sup>152</sup> African Green Paper (note 62 above) 36.

<sup>153</sup> s 219 deals with the remuneration of people holding public office. s 219(5) provides that national legislation must establish a framework for determining the salaries, allowances and benefits of judges, public prosecutors, the Auditor-General and members of any commission provided for in the Constitution, including the broadcasting authority referred in s 192.

range of professionals such as economists, lawyers, financial analysts, accountants and engineers. South Africa, like all developing countries, has a shortage of these skills. In this regard, Icasa has to compete with the state and industry players to attract the skilled people. Staff salaries generally constitute ninety percent of a regulatory agency's expenditure.<sup>154</sup> The proper funding of a regulator is therefore a determinant of the regulator's ability to attract the best skills in the industry. If the people employed by the regulator are sufficiently qualified, the public and industry participants will have confidence in the substance of its decisions.

Apart from the council, which is appointed by the President, Icasa has the authority to appoint its own staff.<sup>155</sup> This includes the Chief Executive Officer and such other staff as Icasa may deem necessary to assist it in the performance of its functions. When Icasa was formed, all the employees of both Satra and the IBA were transferred to it.<sup>156</sup>

Linked to the independence of the regulator and the staffing of the regulator is the problem of a shortage of skills and the movement of the few skilled people from one industry player to another, and from Icasa to industry. Because of the shortage of skills in the telecommunications industry, competition exists between the operators, the government and the regulator to attract the best qualified people. This creates mobility on the part of skilled people within the industry. Icasa may be affected in its ability to attract skills by insufficient funding. In addition, the phenomenon of a small pool of highly skilled people may have an effect on the independence of Icasa. For example, if a person who was previously employed by Icasa moves to any operator, they bring with them knowledge about Icasa and its operations. This may compromise the independence of Icasa, either through the information that these people have or through their relationships with their previous employers and co-workers.

## 5. COMPETITION REGULATION

### 5.1 Telecommunications regulation and competition

As in the case of basic services such as water and electricity, governments generally play an active role in the provision of telecommunications services in the early stages of development of the sector. It is for this reason that the state is the only shareholder in the first PTO in most countries. South Africa is no exception. Prior to 1997, the South African government was the only shareholder in Telkom.<sup>157</sup> The telecommunications industry requires continuous injection of capital to keep up with developments in technology.<sup>158</sup> Governments in general on their own cannot provide the required capital, hence the need to privatise the PTO or part thereof and thereby attract private sector capital. Privatising the PTO or part thereof and the introduction of other service providers to the industry, such as the SNO in South Africa, introduces competition, as private companies have to try to compete to provide the best service at a reasonable price to the consumers. The

<sup>154</sup> Melody (note 9 above) 358.

<sup>155</sup> s 14 of the Icasa Act.

<sup>156</sup> s 19 of the Icasa Act.

<sup>157</sup> In 1997 the Government sold a 30 percent interest in Telkom to Thintana Communications, a consortium made up of SBC International Inc, a US Corporation, and Telkom Malaysia.

<sup>158</sup> Intven and Tetrault (note 67 above) Module 1 1-1.

competition between the various operators has to be regulated to ensure a level playing field for all the parties.

Competition, generally, is regulated by the Competition Commission in terms of the Competition Act.

Chapters 2 and 3 of the Competition Act deal with prohibited practices and merger control. Prohibited practices include restrictive horizontal practices,<sup>159</sup> restrictive vertical practices,<sup>160</sup> abuse of dominance<sup>161</sup> and price discrimination by a dominant firm.<sup>162</sup>

Similarly, section 53 of the Telecommunications Act empowers Icasa to issue a written notice to a licensee who is taking or intends to take any action which can cause undue discrimination against any person or category of persons.<sup>163</sup> The purpose of the notice is to instruct the licensee to cease or refrain from taking such action. Section 53(2)(a) of the Icasa Act authorises Icasa to make regulations to ensure efficient and effective monitoring and investigation of uncompetitive actions.<sup>164</sup> Icasa must also report to the Minister on the overall status and efficiency of these regulations.<sup>165</sup>

Chapter 3 of the Competition Act empowers the competition authorities to consider all acquisitions of control by one entity over another (mergers) where certain financial thresholds are met. Section 52 of the Telecommunications Act allows Icasa to pass regulations restricting or prohibiting the ownership or control or the holding of any financial or voting interest in a telecommunications service of any category or kind, to two or more telecommunications services of the same category.<sup>166</sup> This section allows Icasa to consider transfers and mergers of various services provided, thereby ensuring fair competition.

## 5.2 The relationship between the Competition Commission and Icasa

Icasa and the Competition Commission entered into a Memorandum of Agreement ('the Agreement') effective from 16 September 2002. The Agreement was entered into pursuant to the provisions of section 82 of the Competition Act.<sup>167</sup> The purpose of the Agreement is to establish the manner in which the parties, that is Icasa and the Competition Commission, will interact with each other in respect of the investigation, evaluation and analysis of mergers and acquisition transactions and complaints involving telecommunications and broadcasting matters.<sup>168</sup> The Agreement sets out the procedures to be adopted by both regulators in investigating matters falling within the ambit of the Agreement. The Agreement

<sup>159</sup> s 4 of the Competition Act.

<sup>160</sup> s 5 of the Competition Act.

<sup>161</sup> s 8 of the Competition Act.

<sup>162</sup> s 9 of the Competition Act.

<sup>163</sup> s 53(1) of the Telecommunications Act: 'If it appears to the Authority that the holder of a telecommunications licence is taking or intends taking any action which has or is likely to have the effect of giving an undue preference to or causing undue discrimination against any person or category of persons, the Authority may, after giving the licensee concerned an opportunity to be heard, direct the licensee by written notice to cease or refrain from taking such action, as the case may be.'

<sup>164</sup> s 53(2)(a) of the Telecommunications Act states: 'The Authority may, with regard to the matters referred to in subsection (1), make regulations to ensure efficient and effective monitoring and investigation of Uncompetitive actions, ensuring protection of consumer interest and for the speedy resolutions of complaints in regard thereto.'

<sup>165</sup> s 53(2)(b) of the Telecommunications Act.

<sup>166</sup> s 52(b) of the Icasa Act.

<sup>167</sup> Memorandum of Agreement entered into in between the Competition Commission of South Africa and the Independent Communications Authority of South Africa (GN 1147/2002 GG 23857 dated 20 September 2002 para 1.1.

<sup>168</sup> Memorandum of Agreement (note 180 above) para 4, 4.2.1–4.2.3.

also sets out the procedures to be followed by applicants whose transactions require the approval of both the Competition Commission and Icasa.<sup>169</sup>

A joint working committee constituted by representatives of both Icasa and the Competition Commission has been created. The three main functions of the committee are to manage and facilitate co-operation and consultation in respect of matters dealt with by both parties in terms of the agreement, to propose, when necessary, any amendment of or supplementation to the agreement and to advise management of both parties on issues affecting competition in the telecommunications and broadcasting sectors.<sup>170</sup> The agreement also provides for the sharing of such information as may be necessary to give effect to the agreement.

There are currently no matters that have been finalised by Icasa and the Competition Commission pursuant to the Memorandum of Agreement.<sup>171</sup>

In the United Kingdom, Ofel has issued guidelines regarding telecommunications disputes that also fall within the scope of the United Kingdom Competition Act.<sup>172</sup> In terms of those guidelines, the Director General, who is the head of Ofel, has powers to apply the Competition Act. Ofel has concurrent jurisdiction with the Fair Trading Commission, which is the United Kingdom's competition regulator. The guidelines set out inter alia instances where the Competition Act will be applied and not the Telecommunications Act. Such instances have been determined by taking cognisance of the fact that under the United Kingdom's Competition Act, Ofel has more powers than it does under the Telecommunications Act, in particular with regard to the kind of information that can be requested from a party to a dispute and with regard to searches and seizures.

Interconnection disputes are excluded from the application of the United Kingdom's Competition Act. The rationale behind the exclusion is that interconnection disputes are industry-specific rather than based on general competition law, and the regulator is required in terms of the Telecommunications Act to investigate and to make determinations on them. Disputes about anti-competitive behaviour such as predatory pricing, price squeezing, price discrimination, excessive pricing, refusal to supply services (but excluding interconnection disputes and bundling) are dealt with in terms of competition law.<sup>173</sup> In South Africa the procedure to deal with disputes in respect of which both the competition regulator and the telecommunications regulator have jurisdiction, is set out in paragraph 3.3 of the Memorandum of Agreement. In terms of this procedure, the complainant only lodges the complaint with one regulator. The regulator with whom the complaint has been lodged will then notify the other regulator if it is of the view that both regulators have jurisdiction over the matter. Both regulators will then consult with each other and evaluate the complaint in order to establish how the matter should be managed in terms of the agreement.

### 5.3 Objectives of regulation of competition in telecommunications

There are various issues peculiar to competition in telecommunications, which

<sup>169</sup> Memorandum of Agreement (note 180 above) para 3.3.

<sup>170</sup> Memorandum of Agreement (note 184 above) paragraph 4.2.

<sup>171</sup> The following matters are currently pending: SAVA/Telkom regarding a dispute about discriminatory pricing, ICSPASA/Telkom regarding the cell server and the least route calling device, Brian Byrne/Telkom and OmniLink/Telkom. As of 4 February 2004 these matters had not been finalised.

<sup>172</sup> *Ofel's Competition Act Strategy* (note 7 above).

<sup>173</sup> *Ofel's Competition Act Strategy* (note 7 above).

require regulation, for example interconnection and universal service. These issues exist alongside general competition issues, such as abuse of dominance in the market, excessive pricing, cross-subsidisation of competitive markets, and universal service. The competition regulator, together with the telecommunications regulator, has to regulate both the general competition issues and the issues peculiar to telecommunications. The ability to regulate these issues efficiently determines whether competition will succeed or not.

The general trend in telecommunications markets is that the dominant operator will do all that is possible to resist competition and to maintain and entrench its monopoly for as long as it can. The bulk of the disputes between the dominant operator, new competitors and the regulator will in most circumstances have to do with these issues. It is therefore important that there should be clear policies on how the regulator must deal with these issues. The laws applicable and the definitions of concepts should be clear to all parties concerned. It is for this reason that it is preferable for regulators to consult with industry participants and the public in general, with the aim of clarifying and defining concepts. The regulator should also issue guidelines, regulations or communication statements describing the procedures and the definitions applicable to telecommunications.<sup>174</sup>

The discussion below focuses on only two of the objectives of competition regulation, namely the prevention of abuse of a dominant position, and overpricing associated with cross-subsidisation.

The regulation of competition in telecommunications must prevent the dominant operator from abusing its dominant position to drive new competitors out of the market or render them uncompetitive.

Although the concept of market power is an economic and competition concept, for the purposes of the telecommunication industry this concept must be adapted to the industry. The following are examples of behaviour which is generally viewed as symptomatic of abuse of dominance: (a) refusal or delay of the provision of facilities; (b) the provision of facilities at excessive prices or on discriminatory terms; (c) predatory pricing and cross-subsidisation of competitive services; and (d) bundling of services, designed to provide the dominant firm with exclusive advantages in subscriber markets or requiring a competitor to obtain services or facilities which it does not truly need.<sup>175</sup>

Competition regulation must also prevent the dominant operator from charging excessive prices and using excessive revenue generated to cross-subsidise services in the competitive markets. Cross-subsidisation becomes an issue of concern during the transition from monopoly to open market competition. During the monopoly, the government generally promotes cross-subsidisation. For instance, long distance and international calling often cross-subsidises local calling. This is generally seen as an advantage to consumers, in that more local calls are made than long distance or international calls.

Cross-subsidisation offers an unfair advantage to the dominant operator. The regulators try to prevent the dominant operator (either as a condition in its licence or through other forms of regulation) from implementing cross-subsidisation,

<sup>174</sup> *Ofel's Effective Competition Review* (note 7 above). See also Malaysian Communication and Multimedia Commission: Guidelines on dominant position in a communications market RG/DP/1/00; available at <http://www.mcmc.gov.my/guidelines/dp/gdp/asp>.

<sup>175</sup> Intven and Tetrault (note 67 above) 5-16.

which will adversely affect the ability of the competitor from participating fairly in the market.

## 5.4 Sector-specific regulation versus general competition regulation

New Zealand has moved from state monopoly to a fully liberalised telecommunications market. When competition was first introduced in New Zealand in 1987, the regulation of competition in the telecommunications industry was left to the Commerce Commission ('CC'), which is the general competition regulator. This was done in terms of the 'light-handed' approach that rejects sector-specific regulation and relies on general competition law. After more than ten years since the introduction of competition in New Zealand, an enquiry was conducted as to reasons why competition was not developing at the expected rate. The enquiry revealed, *inter alia*, that there was a need for sector-specific regulation.<sup>176</sup> Subsequent to the findings of the enquiry, the Telecommunications Act of 2001 was enacted. This Act introduced the office of the Telecommunications Commissioner, who acts as a regulator of telecommunications within the CC.<sup>177</sup>

There are unique features of the telecommunications industry, which distinguish it from other markets. These features cannot be effectively regulated solely by general competition laws. It has been said that New Zealand's 'light-handed' approach failed for the following reasons:<sup>178</sup>

- An undertaking was given by Telecon, the dominant fixed line operator at the time, to the government, upon privatisation, to separate its businesses (thereby separating local, long distance, mobile and value-added operations from one another). Telecon did not comply with this undertaking but instead it merged its businesses. The reason for merging Telecon's businesses was to avoid monitoring and reporting its business activities separately.<sup>179</sup>
- The Commerce Act<sup>180</sup> provided in section 36 that a competitor alleging that the dominant operator is acting in an uncompetitive manner, must prove that an incumbent is dominant in the market, that the incumbent has used its dominant position and has therefore acted in an anti-competitive manner. It has been submitted that it is difficult to prove abuse of dominance in developing countries, as certain conduct, when undertaken by a dominant incumbent in a developed country, would have different effects on competition than those which would result from the same conduct in a developing country. So, what would not affect competition in a developed country may well have an adverse effect on competition in developing countries, hence the need for sector-specific regulation at the early stages of competition in developing countries telecommunications industries.

Gilbertson states that, 'Even if "dominance" and "purpose" can be shown, demonstrating "use" will always be a problem in developing industries. The incumbent will only be deemed to "use" its dominance if it does something, which

<sup>176</sup> Gilbertson (note 8 above).

<sup>177</sup> s 9 of the New Zealand Telecommunications Act of 2001.

<sup>178</sup> Gilbertson (note 8 above) 1.

<sup>179</sup> Gilbertson (note 8 above) 3.

<sup>180</sup> Commerce Act of 1986 (New Zealand).

it would not do, or could not do, in a competitive market.’ This enables incumbents to engage in a wide range of conduct that would be permissible in a competitive market but which has an anti-competitive effect in a developing market. Examples of conduct that passes the ‘use’ test, but which is prohibited by foreign regulators because of its anti-competitive effect in developing telecommunications markets, include highly targeted price discounting, use of the Baumol-Willig Rule in interconnection pricing, refusal to provide local call resale, and refusal to allow rebilling. For these reasons, section 36 of New Zealand’s Commerce Act can be a useful constraint (particularly on retail behaviour) once the market has become competitive, but cannot be relied upon to ensure the market becomes competitive. The use of competitive benchmarks in an uncompetitive industry prevents the emergence of effective competition’;

- In terms of the Commerce Act, all participants in the telecommunications markets were forced to resort to litigation to enforce behavioural protections.<sup>182</sup> This always has a negative effect on competition because the nature of the telecommunications industry is such that timing of events has a major impact.<sup>183</sup> It has been said that litigation is slow and costly and open to substantial manipulation and delay by the incumbent. As such, litigation often fails to produce definite outcomes and only results in remedies after the conclusion of the proceedings. By this time it may well be too late to prevent substantial harm to the development of competition.<sup>184</sup>
- The New Zealand Government invested a lot of political capital in the ‘light-handed’ approach. As a result, it was difficult for them to accept that the light-handed approach was not working and that there was a need for sector-specific regulation.<sup>185</sup>

The competition regulator might not, in every jurisdiction, have the necessary expertise to understand the complex disputes that arise in the telecommunications sector, hence the need for sector-specific regulation.

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<sup>182</sup> Gilbertson (note 8 above) 3.

<sup>183</sup> Gilbertson (note 8 above) 3.

<sup>184</sup> Gilbertson (note 8 above) 3.

<sup>185</sup> Gilbertson (note 8 above) 3-4.



## Conclusion

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The environment within which a particular sector operates is important for its development. The telecommunications industry requires capital on a continuous basis, in order to be sustainable and to expand in accordance with government policy and public expectations. Governments are not able to provide the required capital, hence the need for local and foreign investment.

A stable legal environment is essential to foreign investment. In telecommunications, in addition, an independent regulator is an important requirement for a stable legal environment. Market confidence in the impartiality of regulatory decisions generally increases with the degree of independence of the regulator from both operators and the government.<sup>186</sup> Initiatives should be taken by both Icasa and the government to ensure that the independence of Icasa is not compromised under any circumstances.

Another advantage of foreign investments is that in addition to providing capital, privately owned operators can make rational economic decisions about the supply of telecommunications services, without the influence of potentially conflicting imperatives that may arise from government ownership.<sup>187</sup>

The funding of the regulator is essential to its ability to meet its mandate. Steps should be taken to ensure that Icasa is well funded. This could include the South African government following the funding model used in Botswana.<sup>188</sup>

To ensure the independence of Icasa, there should be a clear distinction between the powers of the Minister and those of Icasa. The Minister should not have unlimited powers in a licensing context, such as those conferred by section 35A of the Telecommunications Act. This blurs the distinction between the functions of the Minister and those of Icasa.

In the event that there is uncertainty with regard to the relative powers of the Minister and Icasa, courts should be approached to make a ruling. The decision in the *Telkom SA Limited v Icasa* case<sup>189</sup> is important in creating a stable legal environment, in that it separates the powers of the Minister and those of Icasa with regard to the withdrawal of regulations made pursuant to sections 95 and 96 of the Telecommunications Act.<sup>190</sup>

Also important to a stable environment is the legal framework within which the industry operates. Broadcasting and telecommunications are still governed by separate legislation. Telecommunications and broadcasting legislation should be reconciled to ensure that there are no discrepancies in their provisions. As the convergence era unfolds, legislation should reflect the changes in the industry. South Africa may even consider the example set by Malaysia by having one statute for both telecommunications and broadcasting.

The fact that the government is a major shareholder in Telkom raises concerns with regard to its ability to establish and maintain a regulatory framework that will

<sup>186</sup> Intven and Tetrault (note 67 above) 1-5.

<sup>187</sup> Intven and Tetrault (note 67 above) 1-5.

<sup>188</sup> See para 4.5.3.2 above, in which the funding of Icasa is discussed.

<sup>189</sup> Note 122 above.

<sup>190</sup> See the discussion in para 4.4.

be fair to other industry participants. The ideal situation, as set out in the African Green Paper, is ‘to shift government responsibility away from the ownership and management of public companies towards the establishment of a policy and regulatory framework’.<sup>191</sup>

Icasa should take steps to ensure that the general public is aware of its existence and role. Icasa should also ensure that decisions are reached timeously and efficiently. This also applies to decisions made by the Competition Commission.

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<sup>191</sup> African Green Paper (note 62 above) 8.



## Licensing

Seena Yacoob and Kameshni Pillay<sup>1</sup>



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# Introduction

With the advent of a new political dispensation in 1994, South Africa has steadily embarked on a process of liberalising its telecommunications industry. This process has been based on the government's policy of managed liberalisation, which consists of the gradual privatisation of segments of the telecommunications market and the opening up of the telecommunications market to competition.<sup>2</sup> The process has been a phased one initiated and overseen by the Ministry of Communications, the Department of Communications, Parliament, the Independent Communications Authority of South Africa (Icasa) and, in a primarily advisory role, the Universal Service Agency (USA).

The concept of managed liberalisation is underpinned by a policy objective of creating a new market structure that will 'orientate the sector towards accelerated development and universal service as well as take into account technological and international trends'.<sup>3</sup> The primary aim is affordable and accessible universal service, which is intended to enhance social and economic activities in historically disadvantaged communities and to generate employment in the telecommunications sector itself.<sup>4</sup>

The policy of managed liberalisation provides a background for the legislative framework for telecommunications licensing and the processes followed by the Minister of Communications (the Minister) and Icasa in the award of licences for the various types of telecommunication services.

This chapter will examine the concept of licensing and the specific objectives behind the licensing. This chapter will go on to examine the provisions of the Telecommunications Act, 103 of 1996 in relation to licensing; the specific types of licences provided for in the Telecommunications Act and, in particular, the processes followed by Icasa and the Minister in awarding the licences specified in the Telecommunications Act. All information contained in this chapter is correct as at July 2004.

## 1. LICENSING

### 1.1 What is a licence?

A licence is a document that permits or authorises an act for which a licence is required, such as driving a motor vehicle, owning a gun, developing a natural resource or selling intoxicants.<sup>5</sup> The legal requirement of a licence necessarily limits the occurrence of the licensed act, since the act can only be performed with a licence, which may have conditions attached to it.

In the context of the regulation of the telecommunications industry, a 'licence' granted by the relevant authority defines the rights and duties of a particular telecommunications service provider, radio frequency user, or equipment supplier.<sup>6</sup>

<sup>2</sup> 'White Paper on Telecommunications Policy' GN 291/1996 GG 16995 dated 13 March 1996 (White Paper on Telecommunications), chapter 2.

<sup>3</sup> White Paper on Telecommunications (note 2 above) Executive Summary, para 2.

<sup>4</sup> White Paper on Telecommunications (note 2 above) Executive Summary, para 2.

<sup>5</sup> R Allen and C Schwartz (eds) *The Chambers Dictionary* (1998) 927.

<sup>6</sup> H Intven, J Oliver and Sepúlveda *Telecommunications Regulation Handbook* (2000) Module 2 para 2.1.1.

A telecommunication service licence serves primarily two purposes: it authorises a telecommunications service provider to provide a specified service or operate telecommunication facilities, and it defines the scope and ambit of that authority.<sup>7</sup> In South Africa, a licence issued under the Telecommunications Act serves to confer privileges and impose obligations on a licence-holder, which are contained in the Act and in the licence.<sup>8</sup>

For example, section 32 of the Telecommunications Act prohibits the provision of telecommunication services unless it is in accordance with a licence issued under the Act. The telecommunication service licence is therefore not just an authority to provide a service, but a regulatory tool that is used by the relevant authorities to control the nature of and manner in which telecommunication services are provided.

Similarly, section 30 of the Telecommunications Act prohibits the transmission or receipt of signal by radio except under a licence, certificate or authority in terms of section 30. Section 54 of the Telecommunications Act also prohibits the use, supply, sale or offer for sale, lease or hire of any telecommunication equipment or facility unless it has been approved by Icasa or prescribed as equipment that does not require approval.

## 1.2 What are the objectives of licensing?

Licensing is a fundamental tool of regulation in the telecommunications regulatory framework that exists in South Africa. The main objective of licensing in South Africa must therefore be regulation in terms of the Telecommunication Act with a view to facilitating the achievement of the objects of that Act. The primary object of the Telecommunications Act, as stated in section 2 of the Act, is to regulate telecommunications in the public interest. Section 2 goes on to identify 19 component factors of this primary object, which inform the content of the public interest, which in turn informs the regulation of telecommunications in South Africa.

The component objects listed in the Telecommunications Act are to:

- (a) promote the universal and affordable provision of telecommunication services;
- (b) promote the provision of a wide range of telecommunication services in the interest of the economic growth and development of the Republic;
- (c) make progress towards the universal provision of telecommunication services;
- (d) encourage investment and innovation in the telecommunications industry;
- (e) encourage the development of a competitive and effective telecommunications manufacturing and supply sector;
- (f) promote the development of telecommunication services which are responsive to the needs of users and consumers;
- (g) ensure that, in relation to the provision of telecommunication services, the

<sup>7</sup> H Intven, J Oliver and Sepúlveda (note 6 above) para 2-1.

<sup>8</sup> s 32(2) of the Telecommunications Act, 103 of 1996.

- needs of the local communities and areas are duly taken into account;
- (h) ensure that the needs of disabled persons are taken into account in the provision of telecommunication services;
- (i) ensure compliance with accepted technical standards in the provision and development of telecommunication services;
- (j) ensure fair competition within the telecommunications industry;
- (k) promote the stability of the telecommunications industry;
- (l) encourage ownership and control of telecommunication services by persons from historically disadvantaged groups;
- (m) protect the interests of telecommunications users and consumers;
- (n) encourage the development of human resources in the telecommunications industry;
- (o) promote small, medium and micro-enterprises within the telecommunications industry;
- (p) ensure efficient use of the radio frequency spectrum;
- (q) promote the empowerment and advancement of women in the telecommunications industry;
- (r) promote and facilitate convergence of telecommunication, broadcasting and information technology; and
- (s) develop the Information, Communication and Technology (ICT) strategy for the Republic, in order to bridge the digital divide.

It is clear from the above that telecommunication services in South Africa are considered by the legislature to be services that are essential to the public and must be provided in a manner that is in the public interest. It is also clear that a competitive and stable telecommunication industry is desirable. In addition, there is an implicit acknowledgement that the radio frequency spectrum is a valuable and finite resource that must be used efficiently. Development of the industry is also clearly considered to be important.

Since licensing is a primary tool of regulation of telecommunication services in South Africa, it is also clear that the objectives of licensing include the achievement of the objects listed above. This attempt is made both by means of licence conditions and the manner in which licences are issued.

## **2. TELECOMMUNICATION LICENSING IN SOUTH AFRICA**

### **2.1 International obligations**

One of the important components of the licensing framework in South Africa is the country's international obligations. These obligations not only impact on the formulation of policy on telecommunications, but also provide a benchmark against which to measure licensing processes determined by Icasa and the Minister in terms of the Telecommunications Act.

As a member of the World Trade Organisation (WTO), South Africa is bound by the obligations contained in the General Agreement on Trade in Services (Gats).<sup>9</sup> Gats is an annex to the Agreement Establishing the WTO.<sup>10</sup> Gats itself contains annexes dealing with specific sectors, one of which is the

Telecommunications Annex.<sup>11</sup> In addition to the annexes, Gats also contains schedules of individual countries' specific commitments to provide access to their markets.<sup>12</sup> South Africa has submitted a schedule of commitments dealing with telecommunications, which deals with value-added services and regulatory principles,<sup>13</sup> as well as a schedule of commitments to the Fourth Protocol on Basic Telecommunications dealing with market access to basic telecommunications.<sup>14</sup> South Africa submitted to a supplement to the schedule of commitments, which sets out further regulatory principles, in April 1997.<sup>15</sup> Gats, together with the Telecommunications Annex, the Fourth Protocol on Basic Telecommunications and the Schedules of Commitments made by South Africa, contain trade rules relating to telecommunications licensing.<sup>16</sup> South Africa is obliged to ensure that its regulatory policies, laws and practices comply with these WTO rules and its own commitments. One of the key commitments in South Africa's supplement is that Telkom's monopoly was to have ended on 31 December 2003.<sup>17</sup>

The three principles of Gats itself that relate directly to licensing:<sup>18</sup>

- Most Favoured Nation Treatment<sup>19</sup> (MFN)
- Transparency<sup>20</sup>
- Barriers to trade<sup>21</sup>

In the context of telecommunications, this principle requires that access to telecommunication services be granted to operators from WTO member states on terms 'no less favourable' to those granted to service providers from South Africa or other states, unless there are exemptions in a particular country's schedule of commitments.<sup>22</sup>

Article III of Gats requires all laws and rules affecting trade in services to be published. Article 4 of the Telecommunications Annex specifically requires that information be published on:

- tariffs and other terms and conditions of service;
- specifications of technical interfaces with networks and services;
- information on bodies responsible for the preparation and adoption of standards affecting access and use; and
- conditions applying to attachment of terminal or other equipment; and notifications, registration or licensing requirements, if any.<sup>23</sup>

<sup>9</sup> WTO 'Understanding the WTO – Overview: a navigational guide'; available at [http://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/agrm1\\_e.htm](http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm1_e.htm).

<sup>10</sup> WTO 'Understanding the WTO – Overview' (note 9 above).

<sup>11</sup> WTO 'Understanding the WTO – Overview' (note 9 above); General Agreement on Trade in Services (Gats), 1995, WTO.

<sup>12</sup> WTO 'Understanding the WTO – Overview' (note 9 above).

<sup>13</sup> WTO 'South Africa – schedule of specific commitments', 1994, GATS/SC/78.

<sup>14</sup> General Agreement on Trade in Services Fourth Protocol on Basic Telecommunications, 1996, S/L/20, WTO.

<sup>15</sup> WTO 'South Africa – schedule of specific commitments – supplement 2', 1997, GATS/SC/78/Suppl2.

<sup>16</sup> Intven, Oliver & Sepúlveda (note 6 above) para 2.1.4; WTO 'Understanding the WTO – Services: rules for growth and investment'; available at [http://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/agrm6\\_e.htm](http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm6_e.htm).

<sup>17</sup> 'South Africa – schedule of specific commitments – supplement 2' (note 15 above).

<sup>18</sup> Intven, Oliver & Sepúlveda (note 6 above) para 2.1.4.

<sup>19</sup> Gats (note 11 above) article II.

<sup>20</sup> Gats (note 11 above) article III.

<sup>21</sup> Gats (note 11 above) article VI.

<sup>22</sup> WTO (note 16 above) 'Understanding the WTO – Services: rules for growth and investment.'



This means that all information that a potential service provider would require must be readily available to that potential service provider. For example, there must be ready access to information regarding what regulations have been made under the Act. The requirement in the Telecommunications Act that regulations must be published in the Government Gazette means that they are available to the public and therefore to a potential service provider.<sup>24</sup>

Licensing conditions may not operate as unnecessary barriers to trade.<sup>25</sup> This means that a licence may only restrict trade in telecommunication services where there are valid and justifiable reasons for doing so.

## 2.2 The Legislative Framework in South Africa – an Introduction

In relation to the licensing of telecommunication services, the Telecommunications Act makes provision for the licensing of frequency use, telecommunication service providers and the licensing or approval of equipment, in Chapters IV, V and VI respectively.

## 3. TELECOMMUNICATION SERVICE LICENCES: CHAPTER V OF THE TELECOMMUNICATIONS ACT

### 3.1 The Legislative Requirement

Section 32 of the Telecommunications Act is couched in prohibitive terms and states that:

- (1) Subject to the provisions of this Act, no person shall provide a telecommunication service except under and in accordance with a telecommunication service licence issued to that person in terms of this Chapter.
- (2) A licence shall confer on the holder the privileges and subject him or her to the obligations provided in this Act or specified in the licence.

A ‘telecommunication service’ is defined in the Act as ‘any service provided by means of a telecommunication system’.<sup>26</sup>

A ‘telecommunication system’ is defined as

any system or series of telecommunication facilities or radio, optical or other electromagnetic apparatus or any similar technical system used for the purpose of telecommunication, whether or not such telecommunication is subject to rearrangement, composition or other processes by any means in the course of their transmission or emission or reception.<sup>27</sup>

<sup>24</sup> Gats (note 11 above) Telecommunications Annex.

<sup>25</sup> s 96 of the Telecommunications Act.

<sup>26</sup> Gats (note 11 above) article VI para 4.

<sup>27</sup> s 1 of the Telecommunications Act.

<sup>28</sup> s 1 of the Telecommunications Act.

A 'telecommunication facility' is defined as including 'any wire, cable, antenna, mast or other thing which is or may be used for or in connection with telecommunication'.<sup>28</sup>

'Telecommunication' is defined as

the emission, transmission or reception of a signal from one point to another by means of electricity, magnetism, radio or other electromagnetic waves, or any agency of a like nature, whether with or without the aid of tangible conductors.<sup>29</sup>

A telecommunication service is therefore a service involving the emission, transmission or reception of a signal from one point to another.

### 3.1.1 Call-back operations

Satra, then the telecommunications regulator (now Icasa) made a ruling on 12 August 1997 that international callback operations are a contravention of section 32(1).<sup>30</sup> In a call-back operation, a subscriber within South Africa makes a call which is not answered. Instead, the call is returned by a telecommunication service provider outside South Africa. The call back thus originates outside South Africa, which enables charges for international calls initiated by a South African subscriber to be allocated mainly to a service provider outside South Africa, resulting in access to international call rates not otherwise available in South Africa. The South African Call-Back Association (Sacba) instituted review proceedings in the High Court in response to this ruling.<sup>31</sup> These proceedings were postponed indefinitely by agreement, in terms of which Satra undertook not to prosecute providers of callback operations.<sup>32</sup>

In October 2003, Icasa issued a statement, in response to reports that it had granted a licence to provide callback services, that Satra's ruling is still valid.<sup>33</sup>

### 3.1.2 Wireless Local Area Networks

A wireless local area network (WLAN) uses technology and equipment to create a local area network (LAN) without physical lines. It uses radio waves rather than fixed lines to transmit signals. This enables the easy and speedy creation of or access to ad hoc networks which can be used at events (like conferences) where copper wire infrastructure is not available. The WLAN is sometimes itself connected to another wired network to provide connection to a network, such as the Internet or a PTN, outside the WLAN itself.

In March 2003, Icasa indicated that it was investigating how WLANs fitted into the regulatory framework.<sup>34</sup> One of the main concerns expressed by Icasa was that these services often operate in the industrial, scientific and medical (ISM) radio

<sup>28</sup> s 1 of the Telecommunications Act.

<sup>29</sup> s 1 of the Telecommunications Act.

<sup>30</sup> 'Prohibition of call-back operations in South Africa' GN 1200/1997 GG 18214 dated 15 August 1997.

<sup>31</sup> *South African Callback Association and Others v South African Telecommunications Regulatory Authority* (WLD, case no 23975/1997).

<sup>32</sup> For more information, see the Sacba website: <http://www.sacba.org.za>.

<sup>33</sup> Icasa 'Incorrect News Reports about ICASA Issuing a Call-Back Service Licence' press release 30 October 2000.

<sup>34</sup> A written version the announcement, made in a speech to stakeholders, is available at <http://www.icasa.org.za/Repository/resources/Events&percent20Publications/Speeches/Stakeholder percent20Speech percent20180303 percent20final.pdf>.

band. For this reason it is vital that, if allowed, WLANs should not cause interference to other users of frequency.

Icasa held an enquiry under section 27 of the Telecommunications Act with regard to the provision of wireless Internet access using ISM frequencies.<sup>35</sup> One of the issues the enquiry looked at was whether or not to prescribe a service category for the provision of WLANs in terms of section 33(1)(b) of the Telecommunications Act.<sup>36</sup> According to Icasa, this entailed addressing two questions:

Is a WLAN a 'telecommunications service' for the purpose of the Telecommunications Act? If so, should the service be licensed?

In the notice announcing the enquiry, Icasa expressed its initial view that a person providing a public WLAN was providing a telecommunications service to third parties. This was largely due to the conveyance of signals to third parties by WLAN operators. However Icasa also pointed out that, as it is used on customer premises, the WLAN had the same characteristics as a wired Internet café.<sup>37</sup>

In its published findings, Icasa stated that it would view a WLAN as a LAN provided through a different medium, rather than a different telecommunications service altogether.<sup>38</sup> It also found that, as long as the WLAN equipment was situated on the premises owned or occupied by the owner of the WLAN, and the WLAN did not extend beyond these premises, WLANs were CPE, were not part of the PSTN and therefore not part of the local access telecommunications service. The existing provision in a declaration made by Icasa under the Radio Act, that LANs may only be provided between an owner's computer systems, would have to be amended because it was too restrictive.<sup>39</sup> Icasa also stated that it would exempt all commercial services provided on customer premises, such as wireless hot spots, from the requirement of a telecommunication service licence, in terms of section 33(2) of the Telecommunications Act, although this is still outstanding.

### 3.1.3 *Least Cost Routers*

The meaning to be ascribed to section 32 formed a subject of debate in the matter of Telkom SA Ltd v Nedtel Cellular (Pty) Ltd and 11 Others<sup>40</sup> (Nedtel case). In this matter, Telkom approached the High Court for an interdict restraining Mobile Cellular Telecommunications Service (MCTS) licensees Mobile Telephone Networks (Pty) Ltd (MTN), Vodacom Group (Pty) Ltd (Vodacom) and their contracted service providers from providing a service to the public which made use of a device connected to a PABX which enabled the user of a PABX to connect or link directly with the telecommunication networks of MTN or Vodacom, without first connecting with Telkom's PSTN (a least cost routing device). Telkom alleged that

<sup>35</sup> 'Notice in terms of s 27' GN 1757/2003 GG 25120 dated 19 June 2003.

<sup>36</sup> 'Notice in terms of s 27' (note 35 above) clause 5.

<sup>37</sup> 'Notice in terms of s 27' (note 35 above).

<sup>38</sup> 'Findings and conclusions in terms of s 27(8)(a) on the s 27 enquiry on the provisioning of wireless internet access using ISM frequencies' GN 2610/2003 GG 25594 dated 16 October 2003.

<sup>39</sup> 'Declaration of certain apparatus to be and not to be radio apparatus for the purposes of Act no 3 of 1952', GN 1790/1995 GG 16820 dated 17 November 1995, para 2(d).

<sup>40</sup> *Telkom SA Ltd v Nedtel Cellular (Pty) Ltd and 11 Others* (TPD, case no 20836/2000, 22 October 2003, unreported).

the licences of Vodacom and MTN did not allow for the device to be connected directly to their networks unless the device constituted ‘terminal equipment’ as defined in their licences, and argued that the device did not constitute ‘terminal equipment’, but rather ‘customer premises equipment’ which only Telkom’s licence allowed it to connect directly.

The Court found that Telkom’s entitlement to connect customer premises equipment does not prohibit MCTS licensees and their service providers from connecting customer premises equipment to their own networks. Such a prohibition would have to be found in the Telecommunications Act itself, and Telkom’s licence could not be used to interpret the statute in that way.<sup>41</sup>

One of the primary issues facing the Court was whether on a correct interpretation of section 32(1), the terms of licences were restrictive or permissive. Telkom argued that, on a proper construction of section 32(1), the licences issued under the Telecommunications Act were permissive, and allowed licensees only to do things expressly or by necessary implication authorized by their licences.<sup>42</sup>

The Court found that the provisions of section 37(3) of the Telecommunications Act, which provides that MCTS licensees would not require licences in terms of sections 34(2)(a)(i),<sup>43</sup> 39<sup>44</sup> or 40<sup>45</sup> to provide their services, clearly envisage MCTS licensees doing things which would otherwise have required such licences. The Court therefore found that section 32 does not limit MCTS licensees to only those actions expressly or by necessary implication authorised by their licences.<sup>46</sup>

The Court also found that the device was not being ‘used’ by the MCTS licensees, but by their customers.<sup>47</sup> All that the MCTS licensees were doing was providing a service within the scope of their licences read with the Telecommunications Act. The means used by the customer to access this service is not governed by section 32, nor is there any provision which requires an MCTS licensee to prevent installation of customer premises equipment by its service provider or a customer.<sup>48</sup>

The Court found that the use of the devices by the customers of MCTS licensees did not violate the terms of the respondents’ licences nor the Telecommunications Act and did not infringe any of Telkom’s rights.<sup>49</sup>

### **3.2 Categories of Telecommunication Service Licences**

According to section 33 of the Telecommunications Act the categories of licences that may be granted for the provision of telecommunication services are the following:

- public switched telecommunication services (PSTS);
- mobile cellular telecommunication services (MCTS);

<sup>41</sup> The Nedtel case (note 40 above) para 10.2.

<sup>42</sup> The Nedtel case (note 40 above) para 10.4.

<sup>43</sup> A public switched telecommunications service licence, such as that held by Telkom.

<sup>44</sup> A licence to provide local access and public pay-telephone services.

<sup>45</sup> A licence to provide value-added network services.

<sup>46</sup> The Nedtel case (note 40 above) para 10.5.

<sup>47</sup> The Nedtel case (note 40 above) para 9.7.

<sup>48</sup> The Nedtel case (note 40 above) paras 10.8–10.11.

<sup>49</sup> The Nedtel case (note 40 above) paras 10.12, 10.15, 11.9 and 12.

- national long-distance telecommunication services;
- international telecommunication services;
- multi-media services;
- local access telecommunication services;
- public pay-telephone services;
- value-added network services (Vans);
- under-serviced area licences (USAL); and
- private telecommunication networks (PTN)

Section 32C(1)(a) also provides for a licence to be granted to Sentech to enable it to operate as a carrier of carriers. This licence was granted on 6 May 2002.

Section 33(1)(b) makes provision for further categories of licences to be prescribed by Icasa. On 8 January 2002, Icasa published a notice indicating that Icasa may, on application, grant and issue Global Mobile Personal Communication by Satellite (GMPCS) service licences and GMPCS earth gateway service licences.<sup>50</sup>

Icasa published proposed regulations which would prescribe new telecommunications services in terms of section 33(1)(b) of the Telecommunications Act, including commercial paging and asset tracking.<sup>51</sup> The regulations also proposed to prescribe private paging, private communal repeaters and private trunk services as services and activities that do not require a licence, in terms of section 33(2) of the Telecommunications Act.<sup>52</sup> However, no final regulations in this regard have yet been promulgated.

Section 33(2) states that Icasa may prescribe telecommunication services and activities, other than those referred to in section 33(1)(a), which may be provided or conducted without a licence. Icasa made draft regulations in terms of this section, which provide for a distinction to be made between an Internet access provider, which would provide direct access to the Internet and would require a licence, and an Internet service provider, which would provide indirect access to the Internet, via an Internet access provider, and would not require a licence.<sup>53</sup> However this proposal was abandoned due to representations from the industry that the differentiation would be difficult to make.<sup>54</sup>

Icasa conducted an enquiry in terms of section 27 of the Telecommunications Act to determine guidelines for the trial and launch of new services. However, this enquiry did not deal with new services as envisaged in section 33 of the Telecommunications Act, but rather with extensions and variations of services under existing licences, such as pre-paid MCTS. The enquiry found that it was necessary to encourage new services by placing as few restrictions as possible on their trial, and that existing licences would govern the trial of new services with regard to anti-competitive conduct. The document also set out guidelines for dealing with anti-competitive conduct with regard to the trial and launch of new services.<sup>55</sup>

<sup>50</sup> 'Categories of Licences Regulations' GN 27/2002 GG 217, *Regulation Gazette* 7250 dated 8 January 2002.

<sup>51</sup> 'Notice of intention to prescribe new Telecommunication service Licence Categories in terms of ss 33 and 34 of the Telecommunications Act, 103 of 1996' GN 357/2002 GG 23235 dated 15 March 2002 para 2.

<sup>52</sup> 'Notice of intention to prescribe new Telecommunication service Licence Categories in terms of s 33 and 34 of the Telecommunications Act 103 of 1996' (note 51 above) para 2.

<sup>53</sup> 'Notice of intention to make regulations in terms of s 96 read with s 33(2) of the Telecommunications Act, 103 of 1996 ('the Act') relating to certain types of telecommunications services or activities which may be conducted without licence' GN 4040/2000 GG 21642 dated 11 October 2000.

<sup>54</sup> Icasa 'Vans/PTN Regulatory Framework: Explanatory Memorandum' 19 September 2001.

<sup>55</sup> 'Findings and conclusions in terms of s 27(8)(A) of the Telecommunications Act (103 of 1996) on the s 27 enquiry on the guidelines for trial and launch of new services' GN 3165/2003 GG 25659 dated 3 November 2003.

In addition to the categories of licences dealt with above, section 42 of the Telecommunications Act provides that licences which predate the Telecommunications Act, those licences which were issued under section 78(2) of the Post Office Act, are deemed to be licences issued in terms of the Telecommunications Act.

### 3.3 Applications and Consideration of Applications

The Telecommunications Act provides for two classes of licences to be granted with different application procedures.

Section 34(1) deals with the manner of application for a licence for a service not listed in section 34(2)(a). Section 34(1) provides that any person may apply for a licence to provide telecommunication services 'in the manner prescribed'.

Applications for licences not listed in section 34(2)(a), such as licences for public pay-telephone services, but excluding Vans and PTN licences, are to be made in terms of section 34(1) in the manner detailed in regulations published by Icasa on 29 July 2002.<sup>56</sup> Icasa may in specific instances prescribe licensing conditions for licences that do not fall under section 34(2)(a).<sup>57</sup>

The manner of application for Vans and PTN licences was prescribed in regulations published on 1 October 2003.<sup>58</sup>

Applications for licences which fall under section 34(2)(a) can only be made once the Minister publishes an Invitation to Apply (ITA) in the Government Gazette. The Minister therefore has ultimate control over the initiation of a licensing process for any of the following telecommunication services:

- (i) a public switched telecommunication service;
- (ii) a mobile cellular telecommunication service;
- (iii) a national long-distance telecommunication service;
- (iv) an international telecommunication service;
- (v) a multimedia service; or
- (vi) any other telecommunication service prescribed for the purposes of the subsection.

In December 2001 GMPCS were prescribed as a telecommunication service under section 34(2)(a)(vi).<sup>59</sup> In December 2002 USAL applications were prescribed as applications in terms of section 34(2)(a)(vi) of the Telecommunications Act.<sup>60</sup> Icasa also proposed in draft regulations that mobile data and trunk mobile services be prescribed in terms of section 34(2)(a)(vi) of the Telecommunications Act, but final regulations have not been issued in this regard.<sup>61</sup>

Applications under section 34(2) must be dealt with in terms of the procedure

<sup>56</sup> 'Regulations relating to the manner in which applications for certain telecommunication service licences are to be made' GN 1334/2002 GG 23685 dated 29 July 2002.

<sup>57</sup> s 35A(1)(b) of the Telecommunications Act.

<sup>58</sup> 'Regulations relating to the manner in which applications for Value Added Network Service (Vans) licences are to be made' GN 1384/2003 GG 25519, Regulation Gazette 7783 dated 1 October 2003; 'Regulations relating to the manner in which applications for Private Telecommunication Network (PTN) licences are to be made' GN 1385/2003 GG 25519, Regulation Gazette 7783 dated 1 October 2003.

<sup>59</sup> 'Regulations approved' GN 2394/2001 GG 22971 dated 20 December 2001. This regulation was published again as 'Categories of Licences Regulations' (note 50 above).

<sup>60</sup> 'Under-serviced area telecommunications service category' GN 3465/2002 GG 24225 dated 27 December 2002.

<sup>61</sup> 'Notice of intention to prescribe new Telecommunication service Licence Categories in terms of ss 33 and 34 of the Telecommunications Act, 103 of 1996'.

set out in section 34(3) of the Telecommunications Act. Notice of the application and the proposed conditions of licence must be given in the Government Gazette, representations must be invited, and a hearing must be held,<sup>62</sup> which shall be open to the public unless sensitive information will be protected.<sup>63</sup>

In terms of section 35A of the Telecommunications Act the Minister is empowered to determine an alternative method in which applications for licences under section 34(2)(a) of the Telecommunications Act may be made.<sup>64</sup> Possible application procedures include auction and tender.<sup>65</sup> The Minister may also determine the process and conditions that will apply<sup>66</sup> as was the case with the bids sought for the Second National Operator (SNO) licence and USALs.

Section 34(4) of the Telecommunications Act provides that all applications and related documentation must be open to public inspection, unless the documents are commercially sensitive.

Section 35 of the Telecommunications Act sets out the procedure to be followed in deciding whether to grant an application. If the application is one in terms of section 34(2), Icasa must make a recommendation to the Minister and propose licence conditions.<sup>67</sup> Once a recommendation has been made to the Minister, the Minister may accept the recommendation, refer it back to Icasa, request further information from Icasa or reject the recommendation.<sup>68</sup> In all other applications, Icasa must inform the applicant of the decision, the reasons, and the licence conditions.<sup>69</sup>

### 3.4 Ownership and Control Restrictions

Section 35(3) and (4) of the Telecommunications Act provide for due regard to be given to applications from historically disadvantaged groups and applications which empower women in the telecommunications industry,<sup>70</sup> and for preference to be given to applications for a licence with a proposed equity ownership of up to thirty percent by historically disadvantaged groups or women.<sup>71</sup> The Telecommunications Act provides in section 52 for the regulation of ownership, control or holding of financial or voting interests in telecommunication services.

On 21 August 2001, the Minister issued policy directions in terms of section 5(4) of the Telecommunications Act, which dealt, in part, with the economic empowerment of persons from historically disadvantaged groups.<sup>72</sup> The policy direction is intended to give effect to section 2(l) and (q) of the Telecommunications Act.

The policy direction stipulated that all new major telecommunication service licences issued will require an aggregate amounting up to thirty percent of the shareholding of a licensee to be set aside for historically disadvantaged groups. The direction defines a 'major licence' as a telecommunication service licence in terms

<sup>62</sup> s 34(3) of the Telecommunications Act.

<sup>63</sup> s 34(3)(c) read with s 34(5) of the Telecommunications Act.

<sup>64</sup> s 35A(1)(a) of the Telecommunications Act.

<sup>65</sup> s 35A(1)(a) of the Telecommunications Act.

<sup>66</sup> s 35A(1)(a) of the Telecommunications Act.

<sup>67</sup> s 35(1)(a) of the Telecommunications Act.

<sup>68</sup> s 35(2) of the Telecommunications Act.

<sup>69</sup> s 35(1)(b) of the Telecommunications Act.

<sup>70</sup> s 35(3) of the Telecommunications Act.

<sup>71</sup> s 35(4) of the Telecommunications Act.

<sup>72</sup> 'Policy directions issued by Minister of Communications' GN 791/2001 GG 22603 dated 21 August 2001, as amended by GN 652/2002 GG 23372 dated 26 April 2002.

of section 34(2)(a) of the Telecommunications Act.<sup>73</sup> This requirement takes further the provision in section 35(4) of the Telecommunications Act that up to thirty percent ownership by women or historically disadvantaged groups attracts a preference in the evaluation of licence applications.

Icasa was tasked to ensure the incorporation of this condition in all new major telecommunications licences.<sup>74</sup> The policy direction also requires Icasa, when assessing applications for licences, to give due regard to applications from persons from historically disadvantaged groups including women.<sup>75</sup> This is similar to the provisions of the Telecommunications Act in section 35(3).

The regulations for applications for Vans licences require Vans applicants that are juristic persons to have at least fifteen percent shareholding by historically disadvantaged individuals.<sup>76</sup>

The policy direction also requires Icasa to make regulations for all operators, service providers, equipment suppliers and vendors regarding their contributions to the economic empowerment of persons from historically disadvantaged groups.<sup>77</sup> No such regulation has yet been gazetted.

Icasa is furthermore required to formulate licence conditions for all operators and service providers regarding their respective contributions towards the economic empowerment of persons from historically disadvantaged groups.<sup>78</sup> Icasa must also ensure that such regulations and licence conditions will provide that no reduction in the level of the shareholding of persons from historically disadvantaged groups in all major telecommunications licences shall be permitted without prior consent of the Minister.<sup>79</sup>

Regulations were published in February 2002 which require Icasa to furnish written approval if a change in composition of ownership of licensees would result in a decrease in control by historically disadvantaged individuals, increase in foreign control or effective change in ownership or control of a licensee.<sup>80</sup> These regulations also require a licensee to maintain accurate records of ownership and control interests and to provide Icasa with an account of all ownership and control interests.<sup>81</sup>

Section 40A of the Telecommunications Act, which deals with under-served area licences, also provides for due regard to be had to applications from historically disadvantaged groups and women.<sup>82</sup> Regulations limiting the ownership and control of such licences have been also made, in terms of section 52 of the Telecommunications Act.<sup>83</sup> The regulations provide that a person or affiliate of a person with a controlling interest or an ownership interest in a licence for the Second National Operator,<sup>84</sup> a licence issued to Sentech,<sup>85</sup> a licence for PSTS<sup>86</sup> or a

<sup>73</sup> Policy directions (note 72 above) Objectives, para 2.1.5.

<sup>74</sup> Policy directions (note 72 above) Economic Empowerment of Persons from Historically Disadvantaged Groups, para 1.1.

<sup>75</sup> Policy directions (note 72 above) Economic Empowerment of Persons from Historically Disadvantaged Groups, para 1.2.

<sup>76</sup> 'Regulations relating to the manner in which applications for Value Added Network Service (Vans) licences are to be made' (note 58 above).

<sup>77</sup> Policy directions (note 72 above) Economic Empowerment of Persons from Historically Disadvantaged Groups, para 2.1.1.

<sup>78</sup> Policy directions (note 72 above) Economic Empowerment of Persons from Historically Disadvantaged Groups, para 2.1.2.

<sup>79</sup> Policy directions (note 72 above) Economic Empowerment of Persons from Historically Disadvantaged Groups, para 2.1.3.

<sup>80</sup> 'Regulations in respect of the limitation of ownership and control of telecommunication services' GN 300/2002 GG 23190 dated 27 February 2002, regulation 4.

<sup>81</sup> 'Regulations in respect of the limitation of ownership and control of telecommunication services' (note 80 above) regulation 3.

<sup>82</sup> s 40A(2)(b) of the Telecommunications Act.

<sup>83</sup> 'Regulations limiting the ownership and control of s 40A licences' GN 2266/2003 GG 25386 dated 22 August 2003.

<sup>84</sup> s 32B of the Telecommunications Act.

<sup>85</sup> s 32C of the Telecommunications Act.

<sup>86</sup> s 36 of the Telecommunications Act.



licence for MCTS<sup>87</sup> may not apply for an under-serviced area licence or acquire an interest in an under-serviced area licensee.<sup>88</sup> In addition, no person or affiliate may own a controlling interest in more than one under-serviced area licensee<sup>89</sup> or an ownership interest in more than nine under-serviced area licensees.<sup>90</sup> Foreign persons are prohibited from directly or indirectly holding a controlling interest in an under-serviced area licensee.<sup>91</sup>

On 16 January 2003, the Minister issued a notice in terms of section 52 of the Telecommunications Act approving and publishing regulations made by Icasa relating to the restriction of ownership and control of all entities holding telecommunication licenses.<sup>92</sup> The regulation states that no one who holds an ownership interest or control interest in a licensee in any telecommunication service category in a concentrated market, or is an affiliate of such a person, shall hold an ownership interest or control interest in another licensee in the same telecommunication service category.<sup>93</sup> The regulation excludes the government and its agencies,<sup>94</sup> and passive institutional investments from the prohibition.<sup>95</sup>

### 3.5 Amendment of Licences

Section 48 of the Telecommunications Act provides that licences may be amended only in the circumstances set out in section 48(1), as follows:

- A licence to provide a Public Switched Telecommunication Network may be amended if the amendment relates to universal access or universal service obligations contemplated in section 36(2) and Icasa considers the amendment necessary as a result of changed circumstances or an amendment of the definition of universal access or universal service.
- Telkom's licence (issued in terms of section 36(1)) may be amended if the amendment is necessitated by the introduction of competition to Telkom in national long distance telecommunication services, local access telecommunication services or public pay-telephone services.
- All telecommunications service licences may be amended to make the conditions of the licence consistent with conditions being imposed generally in respect of all licences issued in the same category, for the purpose of ensuring fair competition between licensees in that category.
- All telecommunications licences may be amended to the extent necessitated by technological change.
- All telecommunications licences may be amended to the extent requested by the licensee.

This means that, while a licensee may request any amendment, the amendments

<sup>87</sup> s 37 of the Telecommunications Act.

<sup>88</sup> 'Regulations limiting the ownership and control of s 40A licences' (note 83 above) regulation 2.1.

<sup>89</sup> 'Regulations limiting the ownership and control of s 40A licences' (note 83 above) regulation 2.2.

<sup>90</sup> 'Regulations limiting the ownership and control of s 40A licences' (note 83 above) regulation 2.3.

<sup>91</sup> 'Regulations limiting the ownership and control of s 40A licences' (note 83 above) regulation 2.4.

<sup>92</sup> 'Regulations in respect of the limitation of ownership and control of telecommunication services in terms of s 52' GN R105/2003 GG 24288 dated 16 January 2003.

<sup>93</sup> 'Regulations in respect of the limitation of ownership and control of telecommunication services' (note 92 above) regulation 2(1).

<sup>94</sup> 'Regulations in respect of the limitation of ownership and control of telecommunication services' (note 92 above) regulation 2(2)(a).

<sup>95</sup> 'Regulations in respect of the limitation of ownership and control of telecommunication services' (note 92 above) regulation 2(2)(b).

that may be imposed by Icasa are limited to amendments contemplated in the circumstances listed above.

Section 48(2) provides that prior to a licence being amended on any basis other than the licensee's request, the regulator has to give the licensee written notification of the intended amendment and afford the licensee an opportunity to be heard.

Section 48(3)(a) makes sections 34(3), (4) and (5) applicable to requests by a licensee for amendment of his or her licence. The effect of this is that Icasa has to publish the application for amendment,<sup>96</sup> invite representations from the public<sup>97</sup> and make all documentation available for inspection by the public.<sup>98</sup> If necessary, Icasa is empowered to hold a hearing on the proposed amendment.<sup>99</sup> While section 48(3)(a) does not specifically limit the application of these sections, sections 34(3), (4) and (5) are clearly only meant to apply to applications for amendment to the extent to which these sections would have applied when the original application for a licence was made.

Section 48(3)(b) provides that section 35 applies to any application for an amendment in terms of section 48. After following the required procedures, Icasa must therefore make its recommendation to the Minister in respect of the proposed licence amendments for a licence that falls under section 34(2)(a). The Minister may accept Icasa's recommendation, request further information from Icasa, refer the application back to Icasa for consideration or reject the recommendation.<sup>100</sup> For a licence not listed under section 34(2)(a), Icasa must inform the applicant of its decision and the reasons, after following the prescribed procedures.

### 3.6 Renewal of Telecommunication Service Licences

A licensee may apply to the regulator to have its licence renewed.<sup>101</sup> The provisions of sections 34 and 35 apply to such an application.<sup>102</sup>

Additional conditions may not be imposed on a licence when it is renewed if the licence is an MCTS licence in terms of section 37(1) of the Telecommunications Act, or a licence that already existed at the commencement of the Telecommunications Act as provided for in section 42(1), and that licence provides for its renewal on the same conditions as already applied to it. Additional conditions may however be imposed if they are acceptable to the licensee.<sup>103</sup>

An application for renewal may only be refused if the licensee has contravened the provisions of the licence during the term of the licence, and the regulator or the Minister is satisfied that the licence would be contravened again if renewed.<sup>104</sup> A licence continues to be valid while an application for renewal is being considered.<sup>105</sup>

<sup>96</sup> s 34(3)(a) of the Telecommunications Act.

<sup>97</sup> s 34(3)(a) of the Telecommunications Act.

<sup>98</sup> s 34(4) of the Telecommunications Act.

<sup>99</sup> ss 34(3)(d) and 34(5) of the Telecommunications Act.

<sup>100</sup> s 35(2) of the Telecommunications Act.

<sup>101</sup> s 49(1) of the Telecommunications Act.

<sup>102</sup> s 49(2) of the Telecommunications Act.

<sup>103</sup> s 49(2) of the Telecommunications Act.

<sup>104</sup> s 49(3) of the Telecommunications Act.

<sup>105</sup> s 49(4) of the Telecommunications Act.

### 3.7 Transfer of Licences

Under section 50 of the Act a licensee may apply to transfer a telecommunications service licence from one person to another.<sup>106</sup> Sections 34 and 35 of the Telecommunications Act apply to the transfer of a licence.<sup>107</sup> In August 2003 regulations were promulgated which stipulate that the current licence holder must make the application and list the information that must be provided in such an application.<sup>108</sup> This information includes the identity of the parties, the type of licence, and whether the transferee has provided any other telecommunications service or been refused a licence in the preceding five years.

### 3.8 Public Switched Telecommunication Services (PSTS)

The Telecommunications Act defines PSTS as ‘the provision of telecommunication services to an end-user on a subscription basis or for a fee referred to in section 36’.<sup>109</sup> Section 36 of the Telecommunications Act deals with PSTS. Section 36A of the Telecommunications Act gives further content to the definition of PSTS.

A Public Switched Telecommunication Network (PSTN) is defined as ‘the telecommunication systems installed or otherwise provided, maintained and operated by a public switched telecommunication licensee for the purpose of providing public switched telecommunication services’.<sup>110</sup> Section 36B of the Telecommunications Act gives further content to the definition of PSTN.

#### 3.8.1 Telkom

Section 36(1)(a) of the Telecommunications Act deemed Telkom to be the holder of a licence to provide a PSTS in terms of the Post Office Act,<sup>111</sup> the predecessor of the Telecommunications Act. The section further provides that Telkom be deemed to have applied for a licence to provide PSTS in terms of the Telecommunications Act, and that the licence shall be granted subject to terms and conditions consistent with section 2 of the Telecommunications Act. The section provides for the conditions to be published and representations considered before the finalisation of the process.<sup>112</sup>

In terms of the Act, Telkom is afforded a period of exclusivity to provide basic PSTS.<sup>113</sup> Telkom’s licence<sup>114</sup> specifies that this period of exclusivity is five years from the date of issue of the licence, which was 7 May 1997.<sup>115</sup> The period of exclusivity therefore expired on 7 May 2002. The licence itself is valid for twenty five years.<sup>116</sup>

Section 36(1)(b) of the Telecommunications Act specifies that the

<sup>106</sup> s 50(1) of the Telecommunications Act.

<sup>107</sup> s 50(2) of the Telecommunications Act.

<sup>108</sup> ‘Regulations on application for transfer of telecommunication service licences’ GN 1242/2003 GG 25409, *Regulation Gazette* 7755 dated 28 August 2003.

<sup>109</sup> s 1 of the Telecommunications Act.

<sup>110</sup> s 1 of the Telecommunications Act.

<sup>111</sup> The Post Office Act, 44 of 1958.

<sup>112</sup> s 36(6), (7) and (8) of the Telecommunications Act.

<sup>113</sup> s 36(3) of the Telecommunications Act.

<sup>114</sup> ‘Licence issued to Telkom SA Limited to provide telecommunication services under s36 of the Telecommunications Act, 1996’ GN 768/1997 GG 17984 dated 7 May 1997 (Telkom PSTS licence).

<sup>115</sup> Telkom PSTS licence (note 114 above) clause 3.

<sup>116</sup> s 36(1)(a) of the Telecommunications Act; Telkom PSTS licence (note 114 above) clause 13.1.1.

telecommunication services licensed by virtue of the deeming provision in section 36(1)(a) are national long-distance telecommunication services, international telecommunications services, local access telecommunication services and public pay-telephone services.

According to the White Paper on Telecommunications<sup>117</sup>, the central goal of the period of exclusivity granted to Telkom is the rolling out of basic network services as quickly and extensively as possible.<sup>118</sup> The White Paper envisaged Telkom taking the primary role in providing universal access or universal service, with the initial two cellular network companies to play a secondary role with regard to universal service.<sup>119</sup> To this end, section 36(2) of the Telecommunications Act requires Telkom (and any other PSTS licensee) to comply with universal service conditions. Clause 4 of Telkom's PSTS licence imposes universal service conditions dealing with basic service provision,<sup>120</sup> public pay-telephone service,<sup>121</sup> emergency services,<sup>122</sup> services for users with special needs<sup>123</sup> and affordability.<sup>124</sup>

During the period of exclusivity, Telkom could exclusively provide those PSTS services allocated to Telkom in section 36(1)(b) of the Telecommunications Act, that is national long-distance and international telecommunication services, local access telecommunication services and public pay-telephone services, as well as:

- telecommunication facilities to be used by any person for the provision of Vans;
- telecommunication facilities comprising fixed lines to be used by an MCTS provider; and
- telecommunication facilities to be used by any person for the provision of PTNs.<sup>125</sup>

Schedule A to Telkom's licence contain targets for the provision of new lines, including lines in under-serviced areas, lines for priority customers and villages, and the replacement of lines. If Telkom did not meet the total line target and under-serviced line target in five years it had to pay a monetary penalty.<sup>126</sup> Telkom did not meet these targets and paid penalties of approximately R10 million.<sup>127</sup> Clause 3.2 of Telkom's licence provides as an incentive that the exclusivity period could have been extended for one year up to and including the sixth anniversary of the effective date, if ninety percent of the total line target and eighty percent of the under-serviced line target had been reached at the end of four years. Telkom's exclusivity rights ended on 07 May 2002.

The White Paper on Telecommunications also envisaged that market segments would gradually be opened to various degrees of competition. It envisaged a fully operational Second National Operator (SNO) six years after the process outlined

<sup>117</sup> Note 1 above.

<sup>118</sup> White Paper on Telecommunications (note 2 above), para 2.6.

<sup>119</sup> White Paper on Telecommunications (note 2 above) para 2.9.

<sup>120</sup> Telkom PSTS licence (note 114 above) clause 4.1.

<sup>121</sup> Telkom PSTS licence (note 114 above) clause 4.2.

<sup>122</sup> Telkom PSTS licence (note 114 above) clause 4.3.

<sup>123</sup> Telkom PSTS licence (note 114 above) clause 4.4.

<sup>124</sup> Telkom PSTS licence (note 114 above) clause 4.5.

<sup>125</sup> Telkom PSTS licence (note 114 above) clause 3.

<sup>126</sup> Telkom PSTS licence (note 114 above) clause A.6.3.

<sup>127</sup> Telkom 'Report on licence obligations 2002' 15 July 2002 19.

in the White Paper had begun.<sup>128</sup> However, section 32A(1) of the Telecommunications Act provides for an SNO from 7 May 2002. The section states that Telkom and the SNO shall be the holders of PSTS licences from 7 May 2002 until 2 May 2005. The SNO is entitled to no less favourable licence terms and conditions of licence than those granted to Telkom.<sup>129</sup>

### 3.8.2 Licensing process of the SNO

Applications for the provision of PSTS fall under section 34(2)(a) of the Telecommunications Act. Applications must be made according to the process outlined in paragraph 3.3 above, and must either be initiated by an invitation issued by the Minister in terms of section 34(2)(a) or proceed as determined by the Minister in terms of section 35A(1). Section 32B of the Telecommunications Act also applies to applications for the SNO licence, providing for Transnet Limited and Eskom Holdings Limited to have equity interests in the SNO determined by their contributions to it.<sup>130</sup> The Minister issued policy directions in August 2001, which were amended in April 2002, setting out the process in relation to the licensing of the SNO in broad terms.<sup>131</sup>

The policy directions stated that:

- An ITA for a PSTS licence for the SNO would be issued in 2001 by the Minister.
- The SNO would be permitted to use Telkom's telecommunications facilities until 7 May 2004, in accordance with an agreement between the parties, to be concluded within 60 days of the issuing of the PSTS licence.<sup>132</sup> If the parties failed to agree, Icasa would determine the terms and conditions within 30 days.<sup>133</sup> The Telecommunications Act provides that the SNO may use Telkom's facilities for two years after the commencement of the SNO's PSTS licence.<sup>134</sup> The policy direction therefore assumed that the licence would commence by 7 May 2002.
- The SNO would develop its own facilities and infrastructures by 7 May 2004.
- Defined targets of infrastructure roll-outs, universal service obligations, universal access targets and time frames and penalties associated with failure to achieve the infrastructure roll-out would be specified in the ITA and in the licence. This is consistent with section 36(2) of the Telecommunications Act.
- The process to be followed for the licensing of the SNO would occur in the following phases:
  - The first phase would involve the allocation of 19 percent equity stake to persons from historically disadvantaged groups.
  - The second phase would be the allocation of the 51 percent equity stake to a local and or international investor.

<sup>128</sup> White Paper on Telecommunications (note 2 above) para 2.22.

<sup>129</sup> s 32B(1) of the Telecommunications Act.

<sup>130</sup> s 32B(2)–(5) of the Telecommunications Act.

<sup>131</sup> 'Policy directions issued by the Minister of Communications' (note 72 above).

<sup>132</sup> s 32A(2)(a) and (b) of the Telecommunications Act.

<sup>133</sup> s 32A(3) and (4) of the Telecommunications Act.

<sup>134</sup> s 32A(2)(a) of the Telecommunications Act.

- 30 percent equity interest would be allocated to Eskom and Transnet.<sup>135</sup>

On 15 May 2002, the Minister published a notice in terms of section 35A(1)(a) of the Telecommunications Act, confirming and expanding upon the above process for the licensing of the SNO.<sup>136</sup> The notice also set out the manner and process in which applications for the equity interest in the SNO would be determined.

### 3.8.2.1 The 19 percent interest

On 20 December 2001, the Minister issued an ITA for the 19 percent stake to persons from historically disadvantaged groups.<sup>137</sup>

On 15 April 2002, Icasa received ten applications in response to the ITA, of which seven complied with paragraph 3.2 of the ITA and were therefore accepted for further evaluation.

On 31 July 2002, Icasa recommended to the Minister that Nexus Connection be awarded for the 19 percent stake in the SNO licence, subject to certain terms and conditions, especially regarding the guarantee of funding, recommended by Icasa. The Minister granted the award in terms of the recommendation, on 31 October 2002.<sup>138</sup>

### 3.8.2.2 The 51 percent interest

The second phase of the licensing process was the allocation of a 51 percent stake in the SNO to a strategic equity partner.

The ITA for the 51 percent in the SNO was published on 24 May 2002.<sup>139</sup> Two applications were formally received by Icasa on 31 October 2002, from Goldleaf Trading (Pty) Ltd and Optis Telecommunications (Pty) Ltd.<sup>140</sup> On 17 January 2003 Icasa recommended to the Minister that neither of the two applicants be awarded the 51 percent stake in the SNO. The Minister then amended the process for the licensing of the SNO, setting out a new process for applications for the 51 percent stake, which would be initiated by an invitation to express interest.<sup>141</sup> The notice provided for the establishment of an SNO working committee to manage the early phases of the process.

On 31 March 2003, the Minister, acting in terms of section 35A of the Telecommunications Act, published an invitation to express interest for the allocation of 51 percent equity in the SNO, setting out a new process for the awarding of the 51 percent equity interest.<sup>142</sup> The invitation to express interest set out a four phased process:

<sup>135</sup> 'Policy directions issued by the Minister of Communications' (note 72 above) para 1.4.

<sup>136</sup> 'Manner in which applications are to be made for equity interests in the Second National Operator and the applicable licensing process for the granting of a public switched telecommunication service licence to the Second National Operator' GN 755/2002 GG 23427 of 15 May 2002.

<sup>137</sup> 'Invitation to apply for nineteen percent equity interest in the Second National Operator' GN 2396/2001 GG 22971 dated 20 December 2001.

<sup>138</sup> Icasa 'Public switched telecommunications'; available at <http://www.icasa.org.za/Default.aspx?page=1070&moduledata=353>.

<sup>139</sup> 'Publication of the invitation to apply for the provision of public switched telecommunication services' GN786/2002 GG 23460 dated 24 May 2002.

<sup>140</sup> 'Notice of applications received from applicants for the 51 percent equity stake of the Second National Operator' GN 2911/2002 GG 24031 dated 5 November 2002.

<sup>141</sup> 'Amendment of schedule to GN 755/2002 GG 23427 dated 15 May 2002' GN 422/2003 GG 24361 dated 4 February 2003.

<sup>142</sup> 'Invitation to express interest for the allocation of 51 percent equity in the Second National Operator' GN 965/2003 GG 24682 dated 31 March 2003.

- Phase 1 — Submission of expression of interest to pre-qualify
- Phase 2 — One on one negotiations with SNO working committee
- Phase 3 — Icasa evaluates applications and makes recommendations
- Phase 4 — The Minister grants and Icasa issues the licence

Four applicants qualified for Phase 2 of the process, namely TWO Consortium (Pty) Ltd, WIP Investments Nine (Pty) Ltd t/a CommuniTel, Detecon International GmbH and TeleAccess Investments (S.A.) (Pty) Ltd.<sup>143</sup>

In June 2003, Icasa announced that applications from two entities, TWO Consortium and CommuniTel, would be considered in phase 3 of the process.<sup>144</sup> After considering the two applications, Icasa announced that:

- both applications failed to sufficiently demonstrate their ability to satisfy the objects outlined in section 2 of the Act;
- both applicants failed to provide evidence of sufficiently reliable long term commitments to fund a 25 year SNO licence;
- both applicants made representations which were contingent on uncertain future events and conditions and Icasa could accordingly place no reliance on these representations.

On the basis of these findings, Icasa recommended that the 51 percent interest in the SNO be granted to neither applicant. Icasa recommended further that the 51 percent application process for the SNO licence be formally closed.<sup>145</sup>

On 18 December 2003, the Minister announced that the two applicants, Two Consortium and Communitel, would share a 26 percent stake of the SNO. The remaining 25 percent of the 51 percent would be 'warehoused' by the Government. It remains for Icasa to issue the licence after an entity is formed by the various stakeholders.<sup>146</sup>

## 3.9 Mobile Cellular Telecommunications Services

### 3.9.1 *The initial two MCTS providers*

The Telecommunications Act defines an MCTS as 'a telecommunication service provided by a licensed mobile cellular telecommunications operator'.<sup>147</sup>

On 14 February 1993, the Minister of Posts and Telecommunications, acting under the then Radio Act, 3 of 1952 and the Post Office Act, 44 of 1958, announced the intention to grant two licences to provide national cellular telephony service. Applications were invited for licences to construct, use and maintain such a service.<sup>148</sup> On 29 October 1993, the Postmaster General announced the issue of licences to Vodacom and MTN.<sup>149</sup> The issue of these licences predated the

<sup>143</sup> 'Ministry of Communications short listing and commencement of one-on-one negotiations' GN 1400/2003 GG 24876 dated 23 May 2003.

<sup>144</sup> 'Applications received for the 51 percent equity stake in the Second National Operator' GN 1852/2003 GG 25160 dated 30 June 2003.

<sup>145</sup> Icasa '51% Equity Interest Recommendation to the Minister of Communications' 28 August 2003.

<sup>146</sup> Press statement by the Minister of Communications, Dr Ivy Matsepe-Casaburri, on the Second National Operator (SNO); available at <http://www.gov.za/speeches/index.html>; Icasa media release on 19 December 2003; available at

<http://www.icasa.org.za/Repository/resources/Events&%20Publications/Media%20Releases/media%20release%20sno%20191203.doc>.

<sup>147</sup> s 1 of the Telecommunications Act.

<sup>148</sup> Minister of Posts and Telecommunications 'Invitation to Apply for a Licence to Provide a National Cellular Radio Telephony Service'.

<sup>149</sup> 'Issue of licences to provide national cellular telecommunication services' GN 1078/1993 GG 15232 (MCTS licence).

Telecommunications Act. However, section 37(1)(a) of the Telecommunications Act deems Vodacom and MTN to be the holders of licences to provide MCTS. The section provides that Vodacom and MTN must apply for licences in terms of the Telecommunications Act, which incorporate the terms and conditions of the existing licences, within six months or an extended period allowed. The deadline for these applications was extended to 30 April 1998.<sup>150</sup>

The licences are identical in all material respects. They provide that:

The licensee is authorised to construct, maintain and use a Public Land Mobile Network (PLMN) to

- Provide a Global System for Mobile communications (GSM) national mobile radio telephony service operating in the 890 MHz to 960 MHz frequency band, and
- Connect fixed and mobile terminal equipment using GSM cellular radio telephony technology for the provision of service and community service telephones, and
- Interconnect with the Telkom network and with the PLMN of a similarly licensed person.<sup>151</sup>

These provisions are subject to clause 3 of each licence,<sup>152</sup> which sets out the detail of what the licensee is entitled and obliged to do. This clause stipulates that leased lines must be used for all connections between the elements of its own PLMN, for interconnections between its PLMN and the PLMN of other licensed entities, and for interconnection between its PLMN and the PSTN of Telkom. At the time, the lines could only be leased from Telkom. If, however, Telkom was unwilling or unable to provide the said leased lines, the licensee could apply to the Postmaster General to procure, construct or use its own.

In terms of clause 2.2 of each licence, the licensee may exercise its rights under the licence partially through agents or service providers. However, the licensee retains ultimate responsibility for the acts of the service providers where such acts constitute a contravention of the conditions of the licence. In accordance with this provision, Vodacom and MTN may enter into contracts with service providers. The service providers do not hold licences to provide MCTS services but derive their rights and obligations from contracts entered into with MTN and Vodacom.

The licences are valid for 15 years from 1 June 1994, after which the licences provide for automatic renewal on the same terms unless five years notice of termination is given or new terms are agreed in writing.<sup>153</sup>

On 19 August 2002, Icasa issued new national MCTS licences in terms of section 37(1) of the Telecommunications Act to Vodacom<sup>154</sup> and MTN.<sup>155</sup>

These licences incorporate the terms of the original licences as required by section 37(1) of the Telecommunications Act. The commercial date of operation remains 1 June 1994 and the licences will still expire on 31 May 2009. The licences

<sup>150</sup> 'Notification with respect to the period during which applications may be lodged' GN 1701/1997 GG 18415 dated 6 November 1997.

<sup>151</sup> MCTS licence (note 149 above) clause 2.1.

<sup>152</sup> MCTS licence (note 149 above) clause 2.1.

<sup>153</sup> MCTS licence (note 149 above) clauses 5.4 and 5.5.

<sup>154</sup> 'Licence to provide a national mobile cellular telecommunication service issued to Vodacom (Pty) Ltd in terms of s 37(1) of the Telecommunications Act, No 103 of 1996' GN 1483/2002 GG 23760 dated 19 August 2002 (Vodacom's MCTS licence).

<sup>155</sup> 'Licence to provide a national mobile cellular telecommunication service issued to Mobile Telephone Networks (Pty) Ltd in terms of s 37(1) of the Telecommunications Act, No 103 of 1996' GN 1484/2002 GG 23760 dated 19 August 2002 (MTN's MCTS licence).



have been amended by:

- The substitution of references to Telkom with references to PSTS licensees.
- The addition of clause 3A, which requires the construction of licensed lines according to a timetable set out in Schedule 1. Licensed lines are defined as telecommunication lines which the licensee is authorised by the licence to construct. Licensed lines were originally dealt with in the multiparty implementation agreement that formed part of the original MCTS licence.<sup>156</sup>
- The substitution of Icasa for the Postmaster General as a supervising authority.
- The addition of clause 4A, requiring the provision of community service telephones. Community service telephones were originally dealt with in the multiparty implementation agreement that formed part of the original MCTS licence.<sup>157</sup>
- The addition of a dispute resolution clause in clause 4B.
- The addition of clause 8A detailing the provision of operator-assisted emergency services.
- The addition of clause 10A detailing the provision of a directory information service, including the requirement to make customer details available to PSTS licensees for inclusion in the PSTS licensees' directories, at the request of the customer.
- The addition of clause 10B detailing operator assisted services to assist customers in using the licensee's services.
- The addition of clause 12B regarding the preparation of accounting records.
- The addition of clause 13A regarding metering and billing.
- The addition of clause 13B regarding the connection of customer equipment to a licensed line.
- The addition of clause 13C dealing with arrangements in areas where only one MCTS licensee has constructed licensed lines, to allow the other licensee to make use of such lines. The clause in each licence makes specific reference to either MTN or Vodacom. No mention is made of the third MCTS licensee, Cell C, with regard to the use of licensed lines.
- The addition of clause 14A dealing with numbering. The clause allocates an access code to the licensee and provides that allocation of numbers to customers is at the licensee's discretion.
- The addition of clause 16A dealing with radio frequencies. This clause includes a provision that Icasa will renew the licensee's radio frequency licence annually.

### ***3.9.2 The licensing process for the third MCTS provider***

In terms of the original section 37(2)(b) of the Telecommunications Act, the regulatory authority (at the time Satra) had two years from the date of commencement of the Act,<sup>158</sup> to conduct an enquiry into matters relating to

<sup>156</sup> 'Multiparty Implementation Agreement' clause 4, in MCTS licence (note 149 above).

<sup>157</sup> 'Multiparty Implementation Agreement' clause 5, in MCTS licence (note 149 above).

<sup>158</sup> The Telecommunications Act provides that the commencement date was 1 July 1997.

additional licences to provide MCTS. The inquiry found the establishment of two additional MCTS operators to be financially viable.<sup>159</sup> On 26 February 1999, acting in terms of section 34(2)(a)(ii) of the Telecommunications Act, the then Minister for Posts, Telecommunications and Broadcasting issued an ITA for one MCTS licence.<sup>160</sup> The same Minister then approved and published Satra's regulation that the application fee for an application for the additional mobile cellular telecommunication service licence would be R75 000.<sup>161</sup>

Satra announced that the criteria according to which each application would be evaluated would be:<sup>162</sup>

- the quality of its business plan and investment strategy;
- its empowerment strategy;
- the impact that its proposal would have on the communications industry and on the consumer;
- its technical plan; and
- its universal service potential.

The applicants were notified on 29 February 2000 that Satra intended to recommend Cell C's application to the Minister, and invited to submit comments on this intention.<sup>163</sup> The applicants were then invited to submit comments on an expert report which analysed the applications.<sup>164</sup>

On 7 April 2000, believing that a final recommendation had already been made by Satra and that the Minister was about to award the licence to Cell C, Nextcom approached the Transvaal Provincial Division of the High Court by way of an urgent application to prevent the award of the licence or, if the licence had been awarded, to suspend the licence pending a review of the process followed up to that stage. Nextcom alleged that the process to determine the successful applicant had been beset by a number of serious irregularities that had materially infringed its fundamental right to fair and just administrative action.<sup>165</sup>

Nextcom based its allegations on an affidavit deposed to by the then chairperson of Satra, Dr Nape Maepe, who alleged that, immediately prior to the internal deliberations which were to be held by Satra to identify the successful applicant which would receive its intended recommendation, he was forced by the Minister of Communications and the office of the President to withdraw from the proceedings. Dr Maepe also alleged that there were material procedural irregularities and a failure to give proper consideration to the advice provided by experts employed by Satra.<sup>166</sup>

During the course of the litigation, it became clear that Satra had not yet given

<sup>159</sup> 'Notice in respect of the inquiry into the economic feasibility of the provision of more than two mobile cellular telecommunication services' GN 1526/1998 GG 19115 dated 31 July 1998.

<sup>160</sup> 'Invitation to apply for one mobile cellular telecommunication service licence' GN 314/1999 GG 19806 dated 16 February 1999.

<sup>161</sup> 'Approval of regulation regarding the application fee for application for more than one mobile cellular telecommunication service licence' GN 299/1999 GG 19827 of 5 March 1999.

<sup>162</sup> 'Information document with regard to the third mobile cellular telecommunication service licence applications' GN 956/1999 GG 20090 dated 14 May 1999.

<sup>163</sup> *Nextcom (Pty) Ltd v Funder NO & Others 2000 (4) SA 491 (T)* at 500F; s 35(1) of the Telecommunications Act prior to amendment by Act 64 of 2001.

<sup>164</sup> *Nextcom case* (note 163 above) at 501B–D.

<sup>165</sup> *Nextcom case* (note 163 above).

<sup>166</sup> *Nextcom case* (note 163 above) at 499H–500D.

its final recommendation to the Minister. Nextcom accordingly sought an order compelling the immediate disclosure of Satra's final recommendation to the Minister, once such final recommendation had been prepared, to all the applicants for the award of the third cellular licence.<sup>167</sup>

The Court found that the applicants for the licence were entitled to be informed of the final recommendation as soon as it had been made. This decision was based on the Court's finding that:

The granting of the licence represents a huge public procurement, requiring very substantial investments by all the bidders and in particular by the contender who eventually emerges as the successful applicant for whom it also promises substantial returns. It is therefore important that the public be reassured that the process of choosing the successful bidder has remained unblemished throughout. Publication of the final recommendation may in itself contribute significantly to the reassurance of all the parties involved and the public at large that Satra's process has been fair, objective, unbiased and just.<sup>168</sup>

The Court found that the disclosure of the final recommendation is in accordance with the values and principles governing public administration in terms of section 195 of the Constitution.<sup>169</sup> The disclosure would contribute to ensuring accountability and transparency on the part of Satra while reassuring those who are concerned that the process may have been compromised.<sup>170</sup> The Court found further that the applicants were entitled to the information on the basis of the right to freedom of information and the right to just administrative action.<sup>171</sup>

In exploring what relief would be appropriate in the circumstances, the Court expressed concern about the effectiveness of any order compelling Satra to inform the applicants of the final recommendation made to the Minister if the Minister could immediately act on such a recommendation, thereby nullifying the purpose for which the information was sought. According to the judge, the information was sought in order to assess whether there existed grounds to prevent the Minister from acting on Satra's recommendation.<sup>172</sup> In the circumstances, the judge ordered that Satra must inform the applicants of the final recommendation at the same time that it was transmitted to the Minister, and that the Minister would be prohibited from acting on that recommendation for five days after receiving it.<sup>173</sup>

On 30 June 2000, Satra advised the contenders that it had notified the Minister that Satra's recommendation was that the third MCTS licence be granted to Cell C and that certain specified conditions be imposed. Satra advised that the reasons for the recommendation would be made available on 4 July 2000.<sup>174</sup>

Satra was disbanded on 1 July 2000.<sup>175</sup> On 4 July 2000, Icasa, Satra's successor in law,

<sup>167</sup> *Nextcom case* (note 163 above) at 5011–J.

<sup>168</sup> *Nextcom case* (note 163 above) at 510C.

<sup>169</sup> The Constitution of the Republic of South Africa, Act 108 of 1996.

<sup>170</sup> *Nextcom case* (note 163 above) at 510H.

<sup>171</sup> *Nextcom case* (note 163 above) at 504F–G, 505A.

<sup>172</sup> *Nextcom case* (note 163 above) at 510I–511B.

<sup>173</sup> *Nextcom case* (note 163 above) at 496B–E.

<sup>174</sup> *Nextcom (Pty) Ltd v Funde NO & Others* (TPD, case no 8734/2000, 28 July 2000, unreported) at 6 (unreported *Nextcom case*).

<sup>175</sup> s 18 of the Icasa Act, 13 of 2000.

made the reasons for Satra's decision available to the applicants.<sup>176</sup>

On 7 July 2000, Nextcom made an interim application to the High Court to suspend Icasa's recommendation pending a review of the recommendation and interdict the Minister from acting on the recommendation pending the final determination of the review application.<sup>177</sup>

Argument in the interim application was concluded on 21 July 2000. The decision of the Court was handed down on 28 July 2000. The Court found that:

- there was a reasonable prospect that a review court would find that the executive interference in the adjudication process compromised Icasa's impartiality which is required by the Constitution and by section 5(3) of the Telecommunications Act;
- Nextcom had failed to establish any irregularity based on conflicts of interest in the adjudication process;
- at the time that the public hearings were held, the public was entitled to access to all the information relating to the applications, which had not been provided and that the lack of access to this information amounted *prima facie* to a procedural irregularity;
- there was evidence to suggest that Icasa ignored or did not give proper weight to the opinions of its experts, and that this may indicate that Icasa did not adequately apply its mind to the matter in question and that such a failure amounted to an irregularity which vitiated the proceedings and the outcome thereof.<sup>178</sup>

The court ultimately found that Nextcom had fulfilled the requirements of the interim interdict sought, and granted it.<sup>179</sup>

The question of final relief was never finalised in the Nextcom matter since Nextcom and Cell C reached an out of court settlement, the terms of which were never made public,<sup>180</sup> which resulted in Nextcom withdrawing its opposition to the process of awarding the third MCTS licence, which was ultimately awarded to Cell-C.<sup>181</sup> Cell-C's licence was issued on 22 June 2001.<sup>182</sup>

### 3.10 Value Added Network Services (Vans)

A 'value-added network service' is defined in the Telecommunications Act as a telecommunication service provided by a person over a telecommunication facility, which facility has been obtained by that person in accordance with the provisions of section 40(2) of the Act to one or more customers of that person concurrently, during which value is added for the benefit of the customers, which may consist of:

<sup>176</sup> Unreported *Nextcom* case (note 174 above) at 6.

<sup>177</sup> Unreported *Nextcom* case (note 174 above).

<sup>178</sup> Unreported *Nextcom* case (note 174 above) at 32.

<sup>179</sup> Unreported *Nextcom* case (note 174 above) at 51.

<sup>180</sup> Icasa Annual Report 2001/2002 13.

<sup>181</sup> 'Decision of Minister of Communications, Dr Ivy Matsepe-Casaburri, on the third mobile cellular telecommunication licence'; available at <http://www.gov.za/speeches/index.html>.

<sup>182</sup> 'Mobile Cellular Telecommunication Service Licence issued to Cell C (Pty) Limited' GN 1601/2001 GG 22429 dated 29 June 2001 (Cell C's MCTS Licence).

- any kind of technological intervention that would act on the content, format or protocol or similar aspects of the signals transmitted or received by the customer in order to provide those customers with additional, different or restructured information;
- the provision of authorised access to, and interaction with, processes for storing and retrieval of text and data;
- managed data network services.

Examples of Vans include:

- Electronic data interchange;
- Electronic mail;
- Access to a database or a managed data network service;
- Voice mail;
- Store-and-forward fax;
- Video conferencing;
- Telecommunications related publishing and advertising services, whether electronic or print;
- Electronic information services, including internet service provision.<sup>183</sup>

Satra published a schedule setting out interim guidelines for applications for licences to provide Vans.<sup>184</sup> These guidelines were repealed on 1 October 2003, when the Minister published regulations relating to the manner in which applications for Vans licences should be made.<sup>185</sup>

According to the regulations, if the applicant has turnover exceeding R1 million, the application is required to set out employment strategies relating to historically disadvantaged individuals. In addition, if the applicant is a juristic person, it is required to have a minimum of 15 percent shareholding by historically disadvantaged individuals. Deemed Vans operators<sup>186</sup> with an annual turnover of R1 million and above, have 24 months effective from 1 October 2003 to have a minimum 15 percent shareholding of historically disadvantaged individuals.

### 3.10.1 Internet as Vans

Satra held an inquiry to decide the question whether provision of Internet service falls under a PSTN licence or a Vans licence.<sup>187</sup> Satra concluded that Internet service provision was a Vans and could be provided under a Vans licence.<sup>188</sup>

<sup>183</sup> 'Licence issued to Telkom SA Limited to provide Telecommunication Services under s 40 of the Telecommunications Act 103 of 1996' GN 769/1997 GG 17984 of 7 May 1997 (Telkom's Vans licence).

<sup>184</sup> 'Interim Guidelines relating to the manner in which applications shall be made in respect of licences for Vans' GN 1701/1997 GG 18415 dated 6 November 1997.

<sup>185</sup> 'Regulations relating to the manner in which applications for Value Added Network Service (Vans) licences are to be made' (note 58 above).

<sup>186</sup> In terms of s 40(1)(b) of the Telecommunications Act, which provides that providers of Vans who provided such services immediately before the 20 May 1996 in terms of the Post Office Act, 44 of 1958, are deemed to be Vans licensees, but must apply for licences six months after the commencement of the Act or within any extended period allowed by Icasa.

<sup>187</sup> *Pronouncement – P0001* 14 October 1997 para 3.

<sup>188</sup> *Pronouncement – P0001* (note 187 above) para 4.

### 3.10.2 The section 27 enquiry into VPNs

Icasa held an enquiry in terms of section 27 of the Telecommunications Act,<sup>189</sup> into whether VPNs are a Managed Data Network Service (MDNS). Icasa noted, in a document published on 14 May 2001, that a Vans licensee is entitled to use any technical resources and managerial skills to meet its customers' requirements of availability, reliability and security, and that the use of such resources and skills is part of the value-adding process.<sup>190</sup> Icasa also noted that VPN techniques could be used in a PTN.<sup>191</sup>

Icasa found that a VPN is

neither a MDNS nor a PTN but is manifested as desirable service characteristics resulting from software based on technological intervention in the management, configuration and operation of a Vans, which is a legal service in terms of section 40 of the Act, particularly section 40(4)(b).<sup>192</sup>

A licence to provide Vans would therefore include the authority to provide VPNs.

### 3.10.3 The AT&T matter

In the matter of Telkom SA Ltd v AT&T Global Network Services South Africa (Pty) Ltd (the AT&T matter), Telkom lodged a complaint with Icasa in terms of section 100 of the Telecommunications Act against AT&T, a Vans licensee, to the effect that the services provided by AT&T were not authorised by its Vans licence issued under section 40 of the Telecommunications Act.<sup>193</sup> The crux of the complaint was that AT&T was providing VPNs (virtual private networks) to its clients, which in Telkom's view VPNs constituted Private Telecommunication Networks (PTNs) for which AT&T did not have a licence, and which were not included in AT&T's Vans licence. Telkom also was of the view that the provision of VPNs infringed on Telkom's rights to provide PSTS, amounted to subletting of facilities in contravention of section 40(4) of the Telecommunications Act and was a violation of AT&T's contract with Telkom for telecommunication facilities.

AT&T lodged a counter complaint that Telkom was refusing to provide telecommunication facilities to AT&T, with the effect that Telkom's Vans operations were given an undue preference, in violation of section 53 of the Telecommunications Act.

Icasa found that a VPN is not a PTN but an MDNS, which falls into the definition of Vans in section 40(2) of the Telecommunications Act. Icasa also found that AT&T was not providing a PSTS nor was it subletting

<sup>189</sup> "Notice of intention to hold an enquiry into whether a Virtual Private Network (VPN) constitutes a Managed Data Network Service (MDNS)" GN 4043/2000 GG 21642 dated 11 October 2000.

<sup>190</sup> Icasa's "Findings and conclusions on the s27 Enquiry whether a Virtual Private Network (VPN) constitutes a Managed Data Network (MDNS) or not" at [http://www.icasa.org.za/Repository/resources/Events&%20Publications/Publications/Government%20gazettes/Finding%20on%20VPN%20%20MDNS%202\\_.pdf](http://www.icasa.org.za/Repository/resources/Events&%20Publications/Publications/Government%20gazettes/Finding%20on%20VPN%20%20MDNS%202_.pdf)

<sup>191</sup> Icasa's finding (note 190 above) para 3.7.

<sup>192</sup> Icasa's finding (note 190 above) para 3.9.

<sup>193</sup> Icasa's ruling in *Telkom SA Ltd v AT&T Global Network Services South Africa (Pty) Ltd*, 21 June 2002; available at <http://www.icasa.org.za/Default.aspx?page=1018&moduledata=193>.

telecommunications facilities obtained from Telkom. Icasa found also that Telkom was giving its own Vans provider an undue preference by unlawfully withholding telecommunication facilities from AT&T.<sup>194</sup>

Telkom has taken Icasa's decision on review in the High Court.<sup>195</sup>

### 3.10.4 *The Internet Solutions matter*

In the matter of Telkom SA Ltd v Internet Solutions (Pty) Ltd (Internet Solutions matter),<sup>196</sup> Telkom lodged a complaint with Icasa in terms of section 100 of the Telecommunications Act that Internet Solutions is making its telecommunications facilities available to its customers through a facility known as IP-Net for the purpose of data communication between two points thus constituting a PTN. Telkom also alleged that Internet Solutions was providing a private international link from the United Kingdom to a company, KWV Ltd. According to Telkom Internet Solutions was unlawfully re-selling the bandwidth it leases from Telkom providing KWV with data communications facilities.

Icasa found that section 40(2) of the Telecommunications Act, which lists a number of Vans activities, is not exhaustive. It includes data communication, conveyance of data by means of protocols, access to databases and the use of any technology to add value to a service. Icasa found that Internet Solutions, by using protocols to encode and convey data, was not violating section 32 or section 36 of the Telecommunications Act, but was providing a legitimate Vans to its client in terms of its licence under section 40 of the Telecommunications Act.<sup>197</sup>

## 3.11 Private Telecommunication Network Services

The Telecommunications Act defines a PTN as

a telecommunication system provided by a person for purposes principally or integrally related to the operations of that person and which is installed onto two or more separate, non-contiguous premises and where the switching systems (nodes) of at least two of these premises are interconnected to the public switched telecommunication network as contemplated in section 41.<sup>198</sup>

A PTN is accordingly a network constructed for a person's own use. According to section 41(1)(b) of the Act, a licence is only required for a PTN where such a network is interconnected to the PSTN, since the definition of a PTN states that a PTN must be interconnected with the PSTN at two or more premises.

The Telecommunications Act distinguishes between a Vans and a PTN. The principal difference between the two is that a Vans is a commercial service. A PTN is for own use. The services are not of a commercial nature. In the AT&T matter referred to above, Icasa described a PTN as a network provided in-house and

<sup>194</sup> Icasa's ruling (note 193 above) para 9.

<sup>195</sup> *Telkom South Africa Limited v William Currie NO and Others* (TPD, case no 24870/2002, unreported).

<sup>196</sup> Icasa's ruling in *Telkom SA Ltd v Internet Solutions (Pty) Ltd*, 14 June 2002; available at <http://www.icasa.org.za/Default.aspx?page=1018&moduledata=193>.

<sup>197</sup> Icasa's ruling (note 196 above) para 6.

<sup>198</sup> s 1 of the Telecommunications Act.

licensed to the in-house provider for the purpose of enhancing the operations of the business. One of the other key differences between a Vans and a PTN is that a Vans may not carry a voice signal until a date yet to be fixed by the Minister. On the other hand, a PTN may convey both voice and non-voice signals that are principally and integrally related to the activities of the PTN user.

On 1 October 2003, the Minister published Icasa's regulations relating to the manner in which applications for PTN licences are to be made.<sup>199</sup> These regulations replaced the interim guidelines on the manner in which applications for PTN licences must be made.<sup>200</sup>

Section 41(1)(c) provides that providers of PTNs, which must be licensed in terms of section 41(1)(b), who provided such services before the commencement of the Telecommunications Act in terms of the Post Office Act, 44 of 1958, are deemed to be PTN licensees, but must apply for licences six months after the commencement of the Act or within any extended period allowed by Icasa. Icasa has announced that all deemed and interim PTN licensees would have to apply for a new PTN licence within 60 days after the promulgation of the final terms and conditions for PTN licences.<sup>201</sup>

### 3.12 Under-serviced Area Licences

Section 40A of the Telecommunications Act provides that the Minister shall determine those geographic areas where there is a teledensity of less than five percent and in respect of which small businesses<sup>202</sup> may apply to provide services. These licences are referred to as Under Serviced Area Licences or USALs.

USAL holders may provide any telecommunication services in the area specified, including voice over Internet protocol, fixed-mobile and public pay-telephone services,<sup>203</sup> and may obtain interconnection with PSTS and MCTS licensees.<sup>204</sup> All USALs shall have materially the same terms and conditions.<sup>205</sup> Woman applicants and applicants from historically disadvantaged groups will be given 'due regard' in the consideration of applications.<sup>206</sup> A policy direction issued by the Minister on 21 August 2001 set out the above requirements in more detail.<sup>207</sup>

On 19 December 2002, the Minister issued an ITA for USALs in 10 municipal districts situated in the Northern Province (Limpopo), Kwa-Zulu Natal, Eastern Cape, Free State and North West Province.<sup>208</sup> Icasa published a new draft licence in August 2003 to replace the draft licence which originally appeared in the ITA.<sup>209</sup>

Notice of applications received in response to the ITA was published in September 2003.<sup>210</sup> At least one application was received in every municipal district

<sup>199</sup> 'Regulations relating to the manner in which applications for Private Telecommunication Network (PTN) licences are to be made' (note 58 above).

<sup>200</sup> Notification with respect to the period within which applications may be lodged' (note 150 above).

<sup>201</sup> 'Notice of extension of 27 February 2004 deadline for deemed and interim Value-Added Network Service licensees and Private Telecommunications Network licensees' GN 311/2004 GG 26 105 dated 27 February 2004.

<sup>202</sup> Defined as a 'small business' in terms of s 1 of the National Small Business Act, 102 of 1996.

<sup>203</sup> s 40A(3) of the Telecommunications Act.

<sup>204</sup> s 40A(6) of the Telecommunications Act.

<sup>205</sup> s 40A(5) of the Telecommunications Act.

<sup>206</sup> s 40A(2)(b) of the Telecommunications Act.

<sup>207</sup> Policy directions (note above).

<sup>208</sup> 'Invitation to Apply (ITA) for licences to provide telecommunication services in under-serviced areas' GN 3458/2002 GG 24204 dated 19 December 2002.

<sup>209</sup> 'Correction to draft licence published for under-serviced area licences' GN 2193/2003 GG 25343 dated 8 August 2003.

<sup>210</sup> 'Notice in terms of s 34(2)' GN 2503/2003 GG 25498 dated 23 September 2003.



in which applications were invited, save one municipal district in the Northern Province (Limpopo), which did not attract any applications.<sup>211</sup> Icasa held oral hearings regarding the applications in January and February 2004 and made recommendations to the Minister of Communications on those bidders who should be awarded licences, in July 2004.<sup>212</sup>

### 3.13 Sentech

#### 3.13.1 Multimedia services

The Act defines a 'multimedia service' as

a telecommunication service that integrates and synchronises various forms of media to communicate information or content in an interactive format, including services such as-

- (a) internet through television;
- (b) pay-per-view;
- (c) video on demand;
- (d) electronic transactions (including e-commerce);
- (e) text;
- (f) data;
- (g) graphics;
- (h) animation;
- (i) audio;
- (j) visual content,

but shall not include mobile cellular telecommunication services and public switched telecommunication services.

Differences between a multimedia service licence and a Vans licence include:

- Vans is not necessarily interactive although there is nothing in the definition of
- Vans which precludes this;
- Vans does not necessarily integrate and synchronise various forms of media, although there is nothing in the definition of Vans which precludes this;
- A multimedia licensee is not limited to using facilities provided by a PSTS licensee.

The Telecommunications Act provides in section 32C that:

(1) With effect from 7 May 2002, Sentech Limited referred to in section 4 of the Sentech Act, 1996 (Act 63 of 1996), shall be granted a licence to provide multimedia services to any person who requests such service.

(2) Sentech shall provide the multimedia service as a common carrier on a

<sup>211</sup> Bushbuckridge/Lowveld Municipality.

<sup>212</sup> 'Notice of hearings regarding the application received for under-served area licences'

GN 39/2004 GG 25918 dated 14 January 2004; 'Notice of amendment of hearing schedule regarding the applications received for under-served area licences in DC-39, Bophirima District' GN 264/2004 GG 26063 dated 14 February 2004.

reasonable, equitable and non-discriminatory basis.

(3) In respect of the granting of other multimedia services licences-

- (a) the Minister shall invite applications on a date to be fixed by the Minister by notice in the Gazette; and
- (b) section 34(2)(b) and (c) apply with the necessary changes.

A Multimedia Service licence was issued to Sentech Ltd on 6 May 2002.<sup>213</sup> Sentech is a state-owned company established under the Sentech Act, 63 of 1996. The licence is issued for a period of 15 years effective from 7 May 2002.<sup>214</sup>

A condition of the licence is that Sentech is required to create and maintain 500 school Internet laboratories in 500 rural schools over five years.<sup>215</sup>

No invitations to apply for other multimedia services licences in terms of section 32C(3) of the Telecommunications Act have yet been issued.

### 3.13.2 *Carrier of carriers*

The Telecommunications Act defines a 'carrier of carriers' as a telecommunication service (including any signal conveyed by means of the telecommunication system of that service) which-

- originates on the telecommunication system of a public switched telecommunication service licensee or mobile cellular telecommunication service licensee or an under-serviced area licensee in the Republic and terminates in a telecommunication system in another country or vice versa; or
- originates and terminates in a telecommunication system of an operator licensed in another country to provide international services, but is conveyed via a telecommunication system in the Republic on a wholesale basis, but which specifically excludes the termination of international telecommunication services to end-users directly in the Republic.

On 8 May 2002 Icasa issued a licence to Sentech to provide an international telecommunication gateway service enabling it to operate as a carrier of carriers in terms of section 32C(1)(a) and 32C(6) of the Act.<sup>216</sup>

### 3.13.3 *Sentech's application to amend its licences*

Sentech applied in April 2003 to amend its licences.<sup>217</sup> Sentech wished to amend its carrier of carriers licence by adding the word 'lease' in clause 3.1, allowing it to lease facilities for its service.<sup>218</sup> Sentech wished to amend its multimedia licence by

- deleting clause 3.6 of the multimedia licence, to allow it to provide facilities to

<sup>213</sup> 'Licence issued to Sentech Limited to provide Multimedia Services: Terms and conditions' GN 686/2002 GG 23405 dated 8 May 2002 (Sentech's multimedia services licence).

<sup>214</sup> Sentech's multimedia services licence clause 2.

<sup>215</sup> Sentech's multimedia services licence clause 5.2.

<sup>216</sup> 'Licence issued to Sentech Limited to provide an International Telecommunications gateway Service: Terms and conditions' GN 684/2002 GG 23405 dated 8 May 2002 (Sentech's carrier of carriers licence).

<sup>217</sup> 'Notice of intention to amend the telecommunications service licences issued to Sentech Limited in terms of section 32C(6)' GN 984/2003 GG 24708 dated 3 April 2003.

<sup>218</sup> 'Notice of intention to amend the telecommunications service licences issued to Sentech Limited in terms of section 32C(6)' (note 217 above) para 2.

Vans licensees;<sup>219</sup>

- deleting clause 1.2.18, which restricts Sentech's sharing of infrastructure, co-location and interconnection;<sup>220</sup> and
- deleting clause 5.2 and annexure A, which deal with community service obligations.<sup>221</sup>

Written representations were received and oral hearings were held regarding the proposed amendments.<sup>222</sup> At the oral hearing, Sentech made a new proposal regarding the community service obligations in its multimedia licence. As a result, Icasa invited comments on the new proposed amendments.<sup>223</sup> Sentech's multimedia services licence was amended in April 2004 although the licence has as of July 2004 not yet been published in the Gazette.

### 3.14 Global Mobile Personal Communications by Satellite Services

On 20 December 2001, the Minister issued a policy direction in terms of section 5 of the Telecommunications Act on global mobile personal communications by satellite services in South Africa.<sup>224</sup> In the policy direction, a 'GMPCS system' is defined as

any satellite system, whether fixed or mobile, broadband and/or narrowband, global or regional, geostationary or non-geostationary, existing or planned, providing telecommunication services directly to end users from a satellite or network or constellation of satellites, other than and excluding those elements of the Public Switched Telecommunication Network (PSTN) by means of which, inter alia, satellite telecommunication services are provided. Such elements include, but are not limited to V-Sat and satellite newsgathering network infrastructure.

In December 2001, the Minister approved and published regulations issued by Icasa, firstly prescribing GMPCS as a service in respect of which an ITA must be issued in terms of section 34(2)(vi) of the Telecommunications Act and authorising Icasa to issue such licences;<sup>225</sup> and secondly determining the application fee and licence fees for licences to provide a GMPCS service or GMPCS earth gateway service.<sup>226</sup> On the same date, the Minister published an ITA for a telecommunications service licence by means of a GMPCS service.<sup>227</sup>

<sup>219</sup> 'Notice of intention to amend the telecommunications service licences issued to Sentech Limited in terms of section 32C(6)' (note 217 above) para 6.

<sup>220</sup> 'Notice of intention to amend the telecommunications service licences issued to Sentech Limited in terms of section 32C(6)' (note 217 above) para 7.

<sup>221</sup> 'Notice of intention to amend the telecommunications service licences issued to Sentech Limited in terms of section 32C(6)' (note 217 above) para 8.

<sup>222</sup> 'Notice of intention to amend the telecommunications service licences issued to Sentech Limited in terms of section 32C(6) of the Telecommunications Act, 103 of 1996, as amended' GN 2348/2003 GG 25447 dated 9 September 2003.

<sup>223</sup> 'Notice of intention to amend the telecommunications service licences issued to Sentech Limited in terms of section 32C(6) of the Telecommunications Act, 103 of 1996, as amended' (note 223 above) introduction.

<sup>224</sup> 'Policy direction in terms of s 5 of the Telecommunications Act on Global Mobile Personal Communications by Satellite in South Africa' GN 2392/2001 GG 22971 dated 20 December 2001.

<sup>225</sup> 'Regulations approved' (note 59 above).

<sup>226</sup> 'Regulations approved' GN 2393/2001 GG 22971 dated 20 December 2001.

<sup>227</sup> 'Invitation to apply for a telecommunications service licence by means of Global Personal Telecommunications by Satellite (GMPCS) service' GN 2395/2001 GG 22971 of 20 December 2001.

On 10 December 2002, the Minister issued an amended policy direction on GMPCS.<sup>228</sup> One difference from the previous policy direction was that the new policy direction allowed a single entity to hold more than one licence, including both a GMPCS service licence and a GMPCS gateway licence simultaneously.<sup>229</sup>

The regulation authorising Icasa to issue GMPCS licences was replaced by a new, similar regulation in December 2002, also in terms of section 34(2)(vi), which simply authorised Icasa to issue a GMPCS service licence subject to section 35 of the Telecommunications Act, with no reference to GMPCS gateway licences, and made reference to the definitions contained in the new policy direction.<sup>230</sup>

Proposed licence terms and conditions for a GMPCS service licence were published for comment in December 2002<sup>231</sup> but no applications for GMPCS have been gazetted to date and this process seems to have been abandoned.

### 3.15 Mobile Data Services

Wireless Business Solutions (WBS) is the holder of a national mobile data telecommunication licence to provide a mobile data telecommunications service.<sup>232</sup> The licence was issued in terms of section 78(2) of the Post Office Act<sup>233</sup> and is deemed to be a licence under the Telecommunications Act in terms of section 42 of the Telecommunications Act.

WBS has applied to amend its licence.<sup>234</sup> Most of the proposed amendments are superficial. The only substantial amendment is that WBS wishes to remove the limitation on the number and type of frequency channels, and on the band in which the channels may be allocated.<sup>235</sup> The amendments were published for comment and public hearings were held on 2 February 2004.<sup>236</sup> The amendments have not yet been gazetted, although the licence was amended in April 2004.

## 4. FREQUENCY LICENSING: CHAPTER IV OF THE TELECOMMUNICATIONS ACT

The radio frequency spectrum is universally acknowledged as a scarce public resource.<sup>237</sup> Because of the continual increase in the number of telecommunication services available, demand for radio frequency exceeds availability. For this reason it is necessary to establish a policy framework for the control and the assignment of spectrum.

Chapter IV of the Telecommunications Act deals with radio frequency spectrum. According to section 28(1), Icasa is vested with the control, planning,

<sup>228</sup> 'Policy directions on Global Personal Telecommunications by Satellite in the Republic of South Africa' GN 3425/2002 GG 24170 dated 10 December 2002 (Policy directions on GMPCS).

<sup>229</sup> Policy directions on GMPCS (note 228 above) para 4.

<sup>230</sup> 'Regulations approved' GN 3426/2002 GG 24171 dated 10 December 2002.

<sup>231</sup> 'Proposed licence terms and conditions under which a GMPCS service shall be licensed' GN 3444/2002 GG 24185 of 13 December 2002.

<sup>232</sup> National Mobile Data Telecommunications Licence issued to Vula Mobile Data (Pty) Ltd trading as Wireless Business Solutions.

<sup>233</sup> The Post Office Act (note 111 above).

<sup>234</sup> 'Notice of intention to amend the National Mobile Data Telecommunications Licence issued to Wireless Business Solutions (Pty) Ltd in terms of section 78 of the Post Office Act No 44 of 1958' GN 3396 GG 25825 dated 12 August 2003.

<sup>235</sup> 'Notice of intention to amend the National Mobile Data Telecommunications Licence issued to Wireless Business Solutions (Pty) Ltd in terms of section 78 of the Post Office Act No 44 of 1958' (note 234 above) clause 12 read with clause 12 of the existing licence.

<sup>236</sup> 'Notice of public hearings in terms of section 34 of the Telecommunications Act regarding the application by Wireless Business Solutions (Pty) Ltd [WBS] to amend their National Mobile Data Telecommunications Licence [NMDTL] issued in terms of Section 78 of the Post Office Act, No. 44 of 1958' GN 94/2004 GG 25937 dated 21 January 2004.

<sup>237</sup> Intven, Oliver and Sepúlveda (note 6 above) para 2.3.4; White Paper on Telecommunications (note 2 above) para 5.5.

administration, management and licensing of the radio frequency spectrum. In doing so, Icasa is required to comply with applicable standards and requirements of the International Telecommunications Union and its radio regulations.<sup>238</sup>

Section 30(1) prohibits anyone from transmitting or receiving any signal by radio without a licence, certificate or authority from Icasa. A licence confers on a person, or any person in his or her employ, or under his or her control, the right to use radio frequency or a group of radio frequencies, or a station, for prescribed purposes.<sup>239</sup> A certificate of proficiency is required in order to use or maintain a station. Such a certificate issued to a person who qualifies to operate a station, either under the radio regulations<sup>240</sup> or section 30(4) of the Telecommunications Act.<sup>241</sup> An authority to operate equipment is issued only to a person holding of a certificate of proficiency and may be required by a licence.<sup>242</sup>

#### 4.1 Frequency Use Licences

Many telecommunication services rely on the use of radio frequency. Such services would accordingly require not only a telecommunication service licence (for example a licence to provide a mobile cellular telecommunication service) but also a spectrum licence.<sup>243</sup>

Section 30(1)(a) of the Telecommunications Act provides that no person shall transmit a signal by radio except in accordance with a licence 'to use any radio frequency or group of radio frequencies for any purpose and in the manner prescribed'. Section 30(3)(b) provides that a frequency use licence will be required in addition to any telecommunication service licence, other than Telkom's, in terms of chapter V of the Telecommunications Act, which uses radio in the provision of the service. Section 30(3)(d) provides for an applicant for a telecommunication service licence, excluding Telkom, to apply for a frequency spectrum licence in terms of section 30(1)(a).

Section 30(3)(a) provides that Telkom is deemed to have applied for a frequency spectrum licence and that the application shall be granted when Telkom's PSTS licence in terms of section 36(1) is granted. Telkom's frequency use licence was duly granted.<sup>244</sup>

MCTS licensees have licences to use frequency spectrum in the 900 MHz bands.<sup>245</sup> Sentech has been issued with a carrier of carriers spectrum licence<sup>246</sup> and a multimedia spectrum licence.<sup>247</sup>

<sup>238</sup> s 28(2) of the Telecommunications Act.

<sup>239</sup> s 30(1)(a) of the Telecommunications Act.

<sup>240</sup> s 95 of the Telecommunications Act read with the Radio Act, 3 of 1952, 'Radio Regulations' GN R2862/1979 GG 6794 dated 28 December 1979 as amended.

<sup>241</sup> s 30(1)(b) of the Telecommunications Act.

<sup>242</sup> s 30(1)(c) of the Telecommunications Act.

<sup>243</sup> Intven, Oliver and Sepúlveda (note 6 above) para 2.3.4; White Paper on Telecommunications (note 2 above) para 5.5; s 30(3)(b) of the Telecommunications Act.

<sup>244</sup> 'Licence issued to Telkom SA Limited to use Radio frequency Spectrum and Radio Stations under s30 of the Telecommunications Act, 1996 The Licence' GN 768/1997 GG 17984 dated 7 May 1997.

<sup>245</sup> See the MCTS licences of Vodacom (note 154 above) and MTN (note 155 above) clauses 16 and 16A, and Cell C's MCTS licence (note 182 above) at clause 2.1.

<sup>246</sup> 'Radio Frequency Spectrum and Radio Station Licence issued to Sentech Limited on Monday, 6 May 2002 in terms of Section 30 of the Telecommunications Act 103 of 1996 as amended and pursuant to the Carrier of Carriers Service Licence Radio Frequency Spectrum and Radio Station Licence' GN 685/2002 GG 23405 dated 8 May 2002.

<sup>247</sup> 'Radio Frequency Spectrum and Radio Station Licence issued to Sentech Limited on Monday, 6 May 2002 in terms of Section 30 of the Telecommunications Act 103 of 1996 as amended and pursuant to the Multimedia Services Licence Radio Frequency Spectrum and Radio Station Licence' GN 687/2002 GG 23405 dated 8 May 2002.

## 4.2 Certificates of Proficiency

A certificate of proficiency is issued by Icasa to a person who has passed the requisite examination that qualifies him or her to operate specific equipment, if the certificate is required by the radio regulations,<sup>248</sup> or prescribed by any other regulations.<sup>249</sup> According to Icasa,<sup>250</sup> the prescribed purposes for which certificates are required are:

- The operation of an amateur radio;
- The operation of a radio onboard an aircraft with a maximum certified mass of 2720 kg;
- The operation of a radio onboard an aircraft as a Commercial, Senior Commercial and Airline transport pilot;
- The operation of a radio onboard a vessel of which the carrier-wave power of the transmitter does not exceed 50 W;
- For holders of Foreign Certificates, for the operation of a radio onboard an aircraft in South Africa.

## 4.3 Authority to Operate

Section 30(1)(c) of the Telecommunications Act provides that an authority to use a station may be required by a frequency or station licence, the radio regulations or any other law. Such an authority may only be issued to the holder of a certificate of proficiency under section 30(1)(b). Regulations prescribe the procedure for application for authority to operate radio apparatus.<sup>251</sup>

## 4.4 Guidelines for Licences

Icasa has issued licence application guidelines for applications for radio frequency spectrum, station licences, certificates and authorities.<sup>252</sup> The guidelines are based on a published document entitled 'Revision of South African Frequency Allocation Plans (Band Plans) and Migration Strategies'.<sup>253</sup>

## 4.5 Procedure for Application of Licenses

Section 30(2)(b) provides for application procedures to be prescribed. Section 30(3)(e) provides that the process for considering applications outlined in section 35(2), (3) and (4) of the Telecommunications Act applies to the consideration of applications for frequency use licences. Section 30(7) provides for procedures for amendment, renewal and transfer of frequency use licences to be prescribed.

<sup>248</sup> s 30(1)(c) of the Telecommunications Act.

<sup>249</sup> Such as the Civil Aviation Regulations in terms of the Aviation Act, 64 of 1962, originally published in GN R1219/1997 GG 18286 dated 26 September 1997 as amended.

<sup>250</sup> Icasa 'Rules & Certificates of Proficiency'; available at <http://www.icasa.org.za/Default.aspx?page=1451&moduledata=864>.

<sup>251</sup> 'Regulations in respect of applications for radio frequency spectrum licences, station licences, certificates and authorities' GN R291/2002 GG 23212 of 6 March 2002 read with the Radio Regulations (note 240 above) chapter 6, para 5.

<sup>252</sup> Icasa 'Licence application guidelines'; available at <http://www.icasa.org.za/Repository/Resources/Telecoms/LICENCEpercent20APPLICATIONpercent20GUIDELINES.doc>.

<sup>253</sup> 'Revision of South African frequency allocation plans (band plans) and migration strategies' GN 759/1997 GG 17983 dated 6 May 1997, as amended.

Procedures for applications for radio frequency spectrum, station licences, certificates and authorities have been published.<sup>254</sup> According to these regulations, application forms for the various licenses are obtainable from Icasa. The categories of licences and certificates which may be applied for are:<sup>255</sup>

- Aeronautical, for example
  - Applications for General Certificate of Competency in Radio Telephony (Aeronautical)
  - Restricted Radio Operator's Certificate (Aeronautical)
- Amateur including four classes of licence for purposes such as
  - Communication between amateur radio stations
  - Transmitting and receiving Morse code
  - Weather satellite reception and re-transmission
- Maritime, for example
  - General Operator's Certificate (Maritime);
  - Restricted Radio Certificate (Maritime);
  - Global Maritime Distress and Safety Systems (GMDSS);
- Mobile and Fixed Services, including
  - Alarm system
  - Cellular
  - Paging System
  - Satellite News Gathering
  - Vehicle Tracking
  - Asset tracking
  - Mobile Data Telecommunication Services

This list is not exhaustive.

#### **4.6 Radio frequency spectrum licences in the 1800 MHz frequency band and Third Generation radio frequency spectrum licences**

The Telecommunications Act provides in section 30A that MCTS licensees may apply for access to the 1800 MHz radio frequency band within six months of the commencement of the introduction of the new paragraph, or within such extended date as the Minister may determine, and that Icasa shall assign a radio frequency spectrum to the applicants on payment of fees and subject to prescribed conditions.<sup>256</sup> The section also provides that Telkom and the SNO shall be deemed to hold radio frequency licences in the 1800 MHz band and provides for Telkom to make application for such a licence six months after the SNO is licensed.<sup>257</sup>

The MCTS licensees have all been granted temporary 1800 MHz licences. However, Icasa has not yet prescribed final conditions for 1800 MHz spectrum licences. Permanent licences have therefore not been issued.

Section 30B of the Telecommunications Act provides for third generation

<sup>254</sup> 'Regulations in respect of applications for radio frequency spectrum licences, station licences, certificates and authorities' (note 251 above).

<sup>255</sup> Icasa 'Categories of licences'; available at <http://www.icasa.org.za/default.aspx?page=1452>, read with the Radio Regulations (note 240 above).

<sup>256</sup> This was inserted by the Telecommunications Amendment Act, 64 of 2001, which came into effect on 30 November 2001.

<sup>257</sup> s 30A(2) of the Telecommunications Act.

telecommunication radio frequency licences (3G licences). The section makes identical provisions with regard to 3G licences as section 30A does with regard to 1800 MHz licences.

Icasa has not yet prescribed conditions for 3G licences. The date for applications for 3G licences by MCTS licensees has been extended twice, the latest extension date was 31 May 2003.<sup>258</sup>

## 5. EQUIPMENT LICENSING: CHAPTER VI OF THE TELECOMMUNICATIONS ACT

### 5.1 Equipment Type Approval

Section 54(1) of the Telecommunications Act prohibits any person from using, supplying, selling, offering for sale, lease or hire, any type of telecommunication equipment or facility in connection with telecommunication unless that type has been approved by Icasa. The Telecommunications Act provides that Icasa may prescribe the types of equipment that do not need approval<sup>259</sup> and the circumstances in which the use of certain equipment does not need approval.<sup>260</sup>

#### 5.1.1 Mobile telephone blocking devices

On 28 November 2002, Icasa published its findings in a section 27 enquiry held into the use of mobile telephone blocking devices.<sup>261</sup> Icasa found that there was no legitimate radio communications use for cellular jamming devices. Accordingly, Icasa decided that the use of these devices would not be authorized.

#### 5.1.2 Labelling of telecommunications equipment

Icasa has published regulations relating to the labelling of telecommunications equipment.<sup>262</sup> In terms of these regulations, all type-approved telecommunication equipment, facility or radio apparatus is required to have a legible label permanently affixed to the outside of such equipment, facility or radio apparatus, bearing-

- the Icasa logo; and
- the Icasa issued licence number.

### 5.2 Equipment Standards

Icasa is also empowered by the Telecommunications Act to prescribe standards for the operation and performance of any telecommunication equipment.<sup>263</sup> The Telecommunications Act requires that the standards be aimed at:

<sup>258</sup> 'Notice in terms of s 30B(1)(a)' GN 929/2002 GG 23489 dated 6 June 2002.

<sup>259</sup> s 54(2)(a) of the Telecommunications Act (note 8 above).

<sup>260</sup> s 54(2)(b) of the Telecommunications Act.

<sup>261</sup> 'Findings and conclusions on mobile telephone blocking devices enquiry' GN 3266/2002 GG 24123 dated 28 November 2002.

<sup>262</sup> 'Regulations in respect of the labelling of telecommunication equipment' GN 289/2002 GG 23212, *Regulation Gazette* 7304 dated 6 March 2002.

<sup>263</sup> s 55(1) of the Telecommunications Act.



- Protecting the integrity of the telecommunication service network;
- Ensuring the proper functioning of the connected equipment;
- Avoiding radio or other interference with telecommunication.<sup>264</sup>

Icasa has made the following regulations in this regard.

### ***5.2.1 Asymmetric Digital Subscriber Line Customer Premises Equipment***

Icasa has prescribed standards for Asymmetric Digital Subscriber Line (ADSL) Customer Premises Equipment (CPE) to comply with in order to be type approved by Icasa.<sup>265</sup>

### ***5.2.2 Integrated Services Digital Network Customer Premises Equipment***

Icasa has published regulations prescribing standards for type approval of Integrated Services Digital Network (ISDN) CPE.<sup>266</sup>

### ***5.2.3 Calling Line Identification***

Regulations have been published which require Analogue Calling Line Identification (CLI), Customer Premises Equipment (CPE) to comply with the Icasa standard TE-010 in order to be type approved by Icasa.<sup>267</sup>

## **5.3 Registration as a Supplier**

According to section 56 of the Telecommunications Act, no person can supply telecommunication equipment or facilities unless he or she has been registered with Icasa. On 6 March 2002, regulations setting out the procedure for registration as a supplier were published.<sup>268</sup> A radio dealer's registration certificate may be applied for in terms of the radio regulations.<sup>269</sup>

## **6. Licence fees**

Section 88 of the Telecommunications Act provides for licence application fees and annual licence fees. Applications for licences, approvals, certifications and registrations made in terms of the Telecommunications Act must be accompanied by a prescribed application fee.<sup>270</sup> In addition, every holder of a frequency use

<sup>264</sup> s 55(2) of the Telecommunications Act.

<sup>265</sup> 'Regulations in respect of the standards applicable to Asymmetrical Digital Subscriber Line (ADSL) Customer Premises Equipment' GN 1488/2002 GG 23766 dated 20 August 2002.

<sup>266</sup> 'Regulations in respect of the standards applicable to Integrated Services Digital Network Customer Premises Equipment' GN 1285/2003 GG 24758 dated 16 April 2003.

<sup>267</sup> 'Regulations in respect of the standards applicable to Analogue Calling Line Identification' GN 1489/2002 GG 23767 dated 20 August 2002.

<sup>268</sup> 'Regulations in respect of the procedure for the registration of suppliers of telecommunication facilities and equipment' GN 290/2002 GG 23212, Regulation Gazette 7304 dated 6 March 2002.

<sup>269</sup> Icasa 'Categories of licences' available: <http://www.icasa.org.za/default.aspx?page=1452>, read with the Radio Regulations (note 240 above).

<sup>270</sup> s 88(1) of the Telecommunications Act.

licence or telecommunication service licence must pay to Icasa, at the prescribed time, the licence fee specified in the licence or, where no such fee is so specified, the prescribed licence fee.<sup>271</sup> It is a statutory offence for a licensee not to pay the annual licence fee at the specified time.<sup>272</sup> All fees and revenue received in terms of section 88 must be paid into the National Revenue Fund.<sup>273</sup>

One of the legal issues arising from the imposition of licence fees in terms of section 88 is whether or not these fees amount to 'national taxes, levies or duties' as contemplated in section 77(1)(b) of the final Constitution. If the fees do amount to such taxes, levies or duties, the Telecommunications Act should have been subject to the procedures that apply to Money Bills when being considered by Parliament.<sup>274</sup> Although the White Paper on Telecommunications suggests that the funds from licence fees are intended to contribute to funding for the expenditure of the DoC, Icasa and the USA,<sup>275</sup> the Telecommunications Act does not include any such provision. The ambiguity of the status of the fees received is emphasised by the requirement that they be paid into the National Revenue Fund.<sup>276</sup>

However, the fact that the Telecommunications Act does not deal only with the raising of taxes, levies or duties, or a subordinate matter<sup>277</sup> and the fact that it was not subject to special procedures in Parliament suggests that the licence fees were not intended to be 'national taxes, levies or duties' as contemplated by section 77 of the Constitution.

While there are no South African cases on this issue, the Supreme Court of the United States of America had cause to consider it in *National Cable Television Association v U.S.*<sup>278</sup> The court found that a public agency may impose a fee when the fee is exacted in return for a grant which bestows a benefit on the person. The court found that one of the determining factors of the magnitude of the fee was the value of the benefit to the recipient. There should therefore be an element of proportionality between the value of the service the licensee is licensed to provide, and the licence fee payable. Other factors include the costs incurred by the regulatory authority in regulating the industry in the public interest.<sup>279</sup> These may be factors that a South African Court would consider should the matter come before it.

Regulations have been promulgated which determine licence fees for Vans and PTN, MCTS,<sup>280</sup> PSTS<sup>281</sup> and GMPCS.<sup>282</sup> Licence application fees for radio frequency spectrum licences, approvals, certificates or registrations, authorities and station licences are included in chapter 6 of the Radio Regulations.<sup>283</sup>

<sup>271</sup> s 88(2) of the Telecommunications Act.

<sup>272</sup> s 88(3) of the Telecommunications Act.

<sup>273</sup> s 88(4) of the Telecommunications Act. The equivalent in the Constitution (note 169 above) of s 185 of the Constitution of the Republic of South Africa Act, 200 of 1993 ('the interim Constitution') is s 213.

<sup>274</sup> s 77(3) of the Constitution ((note 169 above).

<sup>275</sup> White Paper on Telecommunications (note 2 above) para 5.15.

<sup>276</sup> Note 273 above.

<sup>277</sup> s 77(2) of the final Constitution.

<sup>278</sup> *National Cable Television Association v US* 415 US 336 (1974).

<sup>279</sup> *National Cable Television Association v US* 415 US 336 (1974).

<sup>280</sup> 'Regulation' GN 314/1999 GG 19833 dated 8 March 1999.

<sup>281</sup> 'Regulations' GN 1333/2002 GG 23685 dated 29 July 2002.

<sup>282</sup> 'Licence Fees Regulations' GN 26/2002 GG 23012, *Regulation Gazette* 7250 dated 8 January 2002.

<sup>283</sup> The Radio Regulations (note 240 above).

## CONCLUSION

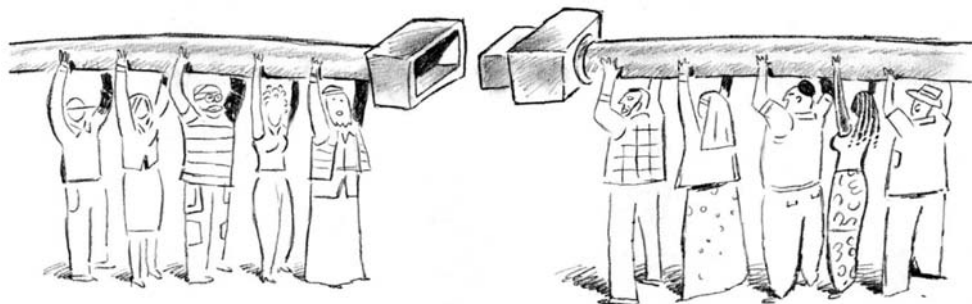
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Telecommunications licensing is a useful tool with which the state can control the allocation of valuable state telecommunications resources, and prevent confusion in the industry. However, lengthy or complex licensing procedures and onerous conditions also can be an unnecessary obstacle in the growth of the telecommunications industry. This is especially the case when the licensing process is not carried out efficiently, consistently and timeously.

The Telecommunications Act has set out the legislative framework within which telecommunications licensing is to take place. However, the Telecommunications Act has stopped short of prescribing a licensing process and has enabled the regulator, Icasa, and, in certain circumstances the Minister of Communications, to prescribe the process for Telecommunications licensing. Icasa is often left with the task of crafting licensing processes in order to accommodate the dictates of policy. While this allows for a measure of flexibility and responsiveness in the licensing processes, it also engenders a lack of certainty in the regulation of the industry. The framework that has been provided thus far is not adequate for the objects it is intended to achieve.

# Interconnection and Facilities Leasing

Joy-Marie Lawrence<sup>1</sup>



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# INTRODUCTION

In the world we live in, access to information and the means of access to the plethora of media through which the information is disseminated, is crucial. Telecommunications in its broadest sense is about making contact with others. Interconnection and facilities leasing are two ways in which telecommunication service providers obtain access to the networks or facilities of other service providers, ultimately allowing customers access to other communication services.<sup>2</sup> The first part of the chapter discusses interconnection and facilities leasing, what it is, why it is important and whether it should be regulated. Thereafter the regulatory framework governing interconnection and facilities leasing in South Africa, with the primary focuses on the Telecommunications Act<sup>3</sup> and the applicable regulations, is discussed.

## 1. WHAT ARE INTERCONNECTION AND FACILITIES LEASING AND WHY ARE THEY IMPORTANT?

Interconnection is defined in the Telecommunications Act, as the linking of two telecommunications systems so that users of either system may communicate with users of, or utilise services provided by means of, the other system or any other telecommunications system.<sup>4</sup> The definition of interconnection in the Telecommunications Act refers to both customers and services. Customers on one network can only speak to customers on another network (or access the services on another network) if the two networks are interconnected through a physical or logical link.<sup>5</sup> If two or more networks are not interconnected, the customers of the one would not be able to communicate with customers of the other networks nor use the services of the other networks. Network service providers usually conclude interconnection agreements between themselves, which regulate the technical, physical and commercial aspects of the interconnection relationship.

Facilities leasing refers to a vertical relationship between network service providers and other service providers.<sup>6</sup> One service provider leases the facilities of another in order to provide services to end-users; however the facilities need not necessarily only be leased, as the wording of the Telecommunications Act makes reference to both lease or otherwise make available telecommunication facilities. The facilities to which a service provider would want to have access would include wire, antenna, towers, underground ducting, cables, buildings, fixed links,<sup>7</sup> and land on which the facilities are located. There are a number of reasons why a

<sup>2</sup> For a discussion on the notion of universal access, that is access to telecommunication services by end-users, see chapter 8 herein.

<sup>3</sup> Telecommunications Act, 103 of 1996 as amended by the Telecommunications Amendment Act, 64 of 2001.

<sup>4</sup> s 1 of the Telecommunications Act.

<sup>5</sup> *Newton's Telecom Dictionary* defines interconnection as '[a] term generally used to describe the connection with or without a protective connecting arrangement, of customer or phone company-provided communications equipment to facilities of the local phone companies' H Newton *Newton's Telecom Dictionary* 18 ed (2002) 380. This definition is specifically written with the US context in mind, as in South Africa we do not have local phone companies, yet.

<sup>6</sup> s 44(2) of the Telecommunications Act provides: 'Telkom and any other provider of a public fixed switched telecommunication service shall, when requested by any other person providing a telecommunication service, including a private telecommunication network, lease or otherwise make available telecommunication facilities to such other person pursuant to an agreement to be entered into between the parties, unless such request is unreasonable.' Facilities Leasing is defined as 'the leasing or otherwise making available of telecommunication facilities' in GN 1260/2000 GG 20993 dated 15 March 2000 guideline 1.1.

<sup>7</sup> Fixed link is defined as 'a telecommunications line connecting two points neither of which is 'Terminal Equipment', in GN 1078/1993 GG 15232 dated 29 October 1993. A further definition of 'fixed link' is 'A communications link between two fixed points. Such links

service provider would want to have access to the facilities of another service provider, particularly that of an incumbent service provider. Such reasons would include reduction in the duplication of resources, for example sharing a tower or building to install receiving equipment. Another reason is to reduce start up costs by new entrants by utilising an established network. At times, and usually in developing markets which are in the process of liberalisation, the regulatory framework requires new entrants and service providers such as value added network service providers (Vans) to obtain facilities from the incumbent provider of telecommunication services usually a state owned entity. Service providers usually conclude agreements in relation to facilities leasing. These agreements typically regulate the technical specifications of the leased facility and commercial aspects of the leasing arrangement.

## 2. SHOULD INTERCONNECTION AND FACILITIES LEASING BE REGULATED?

Often the biggest hindrance to a competitive telecommunications industry is the service providers themselves, especially in an industry where service providers have enjoyed monopoly or duopoly status. Historically, in most countries, telecommunications services were provided by monopoly players. Often these were, and in some countries they still are, publicly owned monopolies. 'Strategic anti-competitive behaviour on interconnection matters by incumbents has retarded or prevented competition in many telecommunications markets around the world.'<sup>8</sup> In many countries, when government introduced competitors to these incumbents or liberalised particular segments of the market such as the Vans segment, it would typically require new entrants and liberalised segments to obtain their facilities from the incumbent. For example in South Africa, each of the licences of Cell C<sup>9</sup>, MTN<sup>10</sup> and Vodacom<sup>11</sup> stipulate that these operators have to obtain their fixed links from Telkom<sup>12</sup> or another public switched telecommunications service (PSTS) licensee, unless Telkom or the other PSTS licensee is unable or unwilling to provide these links. This is required by section 37(2) of the Telecommunications Act. Section 40(2)<sup>13</sup> of the Telecommunications Act, as amended provides that Vans licensees must obtain their facilities from Telkom or another PSTS licensee until a date to be fixed by the Minister of Communications. In South Africa, as in many other countries, the monopoly incumbent would also be operating in the Vans segment, thus competing with new

may be uni-directional (eg carrying television programme material to a transmitter) or bi-directional (eg carrying telephone traffic), and may be point to point or point to multipoint'; available at [http://www.radio.gov.uk/topics/spectrum-strat/document/sm\\_96/spec12.htm](http://www.radio.gov.uk/topics/spectrum-strat/document/sm_96/spec12.htm) accessed on 12 February 2004.

<sup>8</sup> Hank Intven and McCarthy Tetrault *Telecommunications Regulation Handbook* (2000) Module 3 3-1; also William Melody (ed) *Telecom Reform, Principles, Policies and Regulatory Practices* (Den Private Ingeniorfond, Technical University of Denmark, Lyngby, 1997) for an overview of the development of the telecommunications industry in the international context.

<sup>9</sup> Cell C (Pty) Ltd. Licence issued in terms of GN 1601/2001 GG 22429 dated 29 June 2001.

<sup>10</sup> Mobile Telephone Networks (Pty) Ltd. Licence issued in terms of GN 1078/1993 GG 15232 dated 29 October 1993.

<sup>11</sup> Vodacom (Pty) Ltd. Licence issued in terms of GN 1078/1993 GG 15232 dated 29 October 1993.

<sup>12</sup> Telkom SA Ltd (Telkom) licence can be found in GN 768/1997 GG 17984 of 7 May 1997 (Telkom PSTS licence).

<sup>13</sup> s 40(2) of the Telecommunications Act provides:

'A licence to provide any value-added network services, including, but not limited to, electronic data interchange, electronic mail, protocol conversion, access to a database or a managed data network service, shall contain a condition that the service in question be provided by means of telecommunication facilities (a) until 7 May 2002 provided by Telkom or made available to Telkom as contemplated in section 44; and (b) after 7 May 2002, provided by Telkom and the second national operator or any of them until a date to be fixed by the Minister by notice in the Gazette.'

entrants who are dependant on it for their facilities.<sup>14</sup> Monopoly incumbents often engage in anti-competitive practices by restricting access to their networks and facilities. In a context where the incumbent also competes in a dependent segment such as Vans it could typically favour its own subsidiary above other competitors, thus discriminating in favour of its own subsidiary.

An incumbent would typically use one or more of the following anti-competitive practices:

- it would refuse to interconnect or provide facilities with the new entrant on the basis of technical or commercial grounds, or
- it would delay negotiations between the parties as much as possible, or
- it would agree to interconnect only at points of interconnection determined by it thus increasing the costs to the new entrant, or
- it would demand high prices for terminating the new entrant's traffic onto its networks, or
- it would provide inferior technical solutions, which would affect the quality of service to the new entrant's subscribers.

In the context of facilities leasing, the incumbent would typically, on the basis of technical or legal arguments, refuse to provide facilities at all or timeously. 'It is the supply of facilities that they have found delays that have affected their network rollout and service quality. There is only one source of supply for those facilities (ie Telkom).'<sup>15</sup> Often it would refuse to make service level commitments or require service providers to lease bundled services with a lack of transparency in its charging structures, thereby charging more than what would be charged in an unbundled service. Unbundling allows a new entrant to purchase particular interconnection functions and pay for each of them separately.<sup>16</sup> This is particularly relevant where entrants, in order to be competitive, aim to provide enhanced services in addition to their basic communications services.

An example of a manner in which an incumbent discontinued the supply of telecommunication facilities and services, is in the case of *Satellite Data Networks (Pty) Ltd v Telkom SA Ltd*,<sup>17</sup> where the Court ordered that the Respondent to restore all telecommunication facilities and services (which included all the Respondent's remote exchange equipment, associated equipment to enable client connections, the Applicant's national backbone services, the Applicant's client's circuits and the Applicant's normal telephony services including telephone and telefax services) which existed as at 22 February 2000 to the Applicant with immediate effect pending the final determination of the relief.

A monopoly or dominant service provider could abuse its position and thus prevent effective competition from developing in the telecommunications industry, as can be seen in the following example. The South African Vans

<sup>14</sup> Telkom has also been issued with a Vans licence in terms of s 40(1)(a) of the Telecommunications Act which provides:

'Telkom shall be deemed to be the holder of a licence to provide, subject to subsection (3), the value-added network services provided by it immediately before the date of commencement of this Act: Provided that as at the date of commencement of this Act Telkom shall be deemed to have applied to the Minister for a licence in terms of this Act in respect of each such service, and the Minister shall, after the provisions of section 36(6), (7), (8) and (9) have been complied with, in relation to the terms and conditions of the licence, grant the application and issue such licence to Telkom with a period of validity of 25 years from the date of commencement of this Act.'

<sup>15</sup> Regulatory Statement on Interconnection and Facilities Leasing (Regulatory Statement) in GN 1337/1999 GG 20229 dated 18 June 1999 42.

<sup>16</sup> 'The purpose of unbundling policies is to lower economic and technical barriers to competitive entry.' *Telecommunications Regulations Handbook* (note 8 above) 3-40.

<sup>17</sup> *Satellite Data Networks (Pty) Ltd v Telkom SA Ltd* (WLD, 24 February 2000, case no 2000/1776, unreported).

Association (SAVA) on 20 August 1999 lodged a section 53 complaint with Icasa on behalf of its members, alleging that Telkom was engaging in anti-competitive behaviour. The complaint took the form of a request that Icasa direct Telkom under section 53 to cease and refrain from taking the following actions: (1) stating or in any way implying to the customers and prospective customers of service providers other than Telkom, that other service providers are providing services illegally; (2) stating or in any way implying to the customers and prospective customers of other service providers that Icasa was investigating the legality of the provision of services by other service providers; (3) stating or in any way implying to the customers and prospective customers of other service providers that Telkom was investigating the legality of the provision of services by other service providers; (4) stating or in any way implying to the customers and prospective customers of other services providers that Telkom had an exclusive right to provide the services provided by other service providers; (5) refusing or threatening to refuse to provide telecommunications facilities to any other service provider who did not confirm or agree to confirm in writing certain of Telkom's interpretations of the Act regarding the extent of its exclusive right to provide certain services and facilities. Icasa made its determination known on 10 September 1999. Icasa directed Telkom to immediately cease and refrain from making statements to Vans customers regarding the legal status of Vans operators; implying that other Vans operators are under investigation and that their services will be terminated; and issuing threats to terminate the existing facilities and services of Vans operators.<sup>18</sup>

Icasa furthermore on 10 September 1999 issued a notice in terms of section 100 of the Telecommunications Act read in conjunction with regulation 1(a) of regulation R 346 of 6 March 1998 that it would investigate and adjudicate the alleged failure of Telkom to comply with conditions 9.1 and 9.2 of its PSTS licence and conditions 8.1 and 8.2 of its Vans licence. Icasa did not investigate however and so this matter was taken to the High Court again in the matter of AT&T Global Network Services SA (Pty) Ltd and Others v Telkom SA Limited and Others.<sup>19</sup> The applicants applied for an order interdicting the first respondent, pending the final determination of an action by Icasa, from refusing or threatening to refuse to provide to the applicants existing and new telecommunications facilities.

The Court on the jurisdiction issue came to the following conclusion 'I agree with Telkom's submission that this Court does not have jurisdiction to entertain this application' Prior to Icasa's determination. A second point in limine raised was the defence of *res judicata*. Telkom contended that the issues before the Court had been decided by Icasa, when it refused to grant the additional relief sought from it by SAVA. The Court concluded on this issue that:

Icasa declined to decide this issue and said that they will do so after having

<sup>18</sup> Condition 9.1 of Telkom PSTS licence (note 12 above) provides:

"The Licensee shall not show undue preference to, or exercise undue discrimination against, particular persons or persons of any class or description in respect of (a) the provision of any telecommunication services (including, without limitation, maintenance services) in accordance with any obligations imposed by this Licence; (b) the connection of Approved Equipment to the Public Switched Telecommunication Network; (c) the granting of permission to connect any Operator's telecommunication system with the Public Switched Telecommunication Network in accordance with section 43 of the Act and the guidelines contemplated thereunder; and (d) the quality and terms of any Interconnection Services provided by the Licensee to an Operator under any agreement between them."

Condition 9.2 of Telkom PSTS licence (note 12 above) provides:

"The Licensee may be deemed to have shown undue preference or undue discrimination as described in condition 9.1 if the Authority determines that it unfairly favours to a material extent any business carried on by it so as to place at a significant competitive disadvantage persons lawfully competing with that business."

<sup>19</sup> TPD, 16 November 1999, case no 27624/1999, unreported.



investigated the issue. The matter has not been rendered *res judicata* and in my view the second point in *limine* must be dismissed.

Telkom took Icasa's decision of 10 September 1999 on review to the High Court<sup>20</sup> and the Court set aside Icasa's determination of 10 September 1999. The Court concluded that Telkom had not received the procedurally fair administrative action to which it was entitled under the Constitution of 1996 and hence this was grounds enough on review to set aside the decision. The Court therefore came to the further conclusion that it need not consider any other grounds of review. The Court furthermore ordered Icasa to dispose of the complaints within six months of the date of the court order. The matter was referred back to Icasa for consideration and on 6 & 7 June 2000 Icasa delivered its draft judgment in the matter. Icasa's draft judgment was made final by a resolution of the Council of Icasa on 26 June 2000.<sup>21</sup> Icasa ruled in favour of SAVA and made a number of orders. Icasa held that in terms of section 44(3) it was the only party lawfully mandated to consider the reasonableness of requests made in terms of this section. Furthermore, the respondent (Telkom) could not refuse to provide facilities to licensed providers simply on its own suspicion of illegality. In addition Icasa held that where a reasonable suspicion of illegality exists, the respondent should amongst other things not withhold facilities without the written consent of Icasa. Icasa's decisions of 6&7 June and its judgment of 26 June 2000 was then taken on review by Telkom, however the parties reached an agreement that the correct procedures had not been followed. This agreement was made an order of court and the review was set aside.<sup>22</sup>

The case of *Transnet Limited v Telkom SA Limited*,<sup>23</sup> was heard on 14 November 2002 and on 11 April 2003. At the 14 November 2002 hearing the Court ordered that, pending the outcome of the interdict application,

the respondent (Telkom) shall forthwith restore all telecommunication facilities and services to the applicant that it has interrupted or discontinued. The respondent is interdicted from discontinuing or interrupting any telecommunication facilities and services currently provided by the respondent to the applicant (including, but not limited to primary rate ISDN lines).

At the 11 April 2003 hearing the Court ordered:

that respondent is interdicted from discontinuing the provision of any and all telecommunication facilities and services currently provided by the respondent to the applicant, including but not limited to primary rate ISDN lines. This order shall operate with immediate effect and shall remain effective pending the final determination of the dispute between the respondent and the applicant concerning the legality of the use of the relevant telecommunication facilities and services by the Independent Communications Authority of South Africa.

<sup>20</sup> *Telkom Ltd v M Mayimela-Hashatse NO, SATRA, SAVA* (TPD, 17 April 2000, case no 27451/1999, unreported).

<sup>21</sup> Council Resolution SCM 260600 dated 26 June 2000. The Council resolved to adopt the draft judgment as being the judgment of Icasa and regarded the said judgment as being final in as far as the matter is concerned.

<sup>22</sup> *Telkom SA Ltd v H Dikgale NO, Icasa, SAVA* (TPD, 20 March 2001, case no 19341/2000, unreported). SAVA has also recently referred the issue of Telkom's refusal to give access to value added network operators access to facilities as amounting to anti-competitive behaviour to the Competition Commission. This matter is still pending.

<sup>23</sup> TPD, case no 31876/2002, unreported.

### 3. HOW SHOULD INTERCONNECTION AND FACILITIES LEASING BE REGULATED?

The following section analyses the role of regulators and the challenge in trying to find the balance between regulating to create and sustain a competitive telecommunications sector and allowing commercial negotiations between the parties. 'Today there is a consensus among telecommunications experts and policy makers that decisive and informed guidance by regulators is required to pave the way for effective interconnection arrangements.'<sup>24</sup> Regulation seeks to pre-empt typical anti-competitive behaviour by inter alia obliging parties to interconnect and lease facilities, providing guidelines on the contents of agreements setting, time frames for concluding agreements, providing dispute resolution mechanisms and circumstances in which price regulation for dominant operators may be imposed. Throughout the world, the various regulatory authorities have adopted a number of different approaches to interconnection issues.<sup>25</sup>

Some countries (eg Canada, Japan and the US) emphasise the ex ante approach. The regulator deals with interconnection matters in great detail (with input from industry), setting down precise guidelines and leaving little to be negotiated between the parties ... At the other end of the spectrum there are countries like New Zealand, Malaysia, Poland and Chile whose laws simply stipulate an obligation on the part of the incumbent to offer interconnection and leave the terms to emerge entirely from negotiations between interconnecting parties. ... Between the two extremes there are institutional arrangements that leave the terms of interconnection to be negotiated between the parties in accordance with general regulatory principles but give the regulator the responsibility for intervening if and when the parties reach an impasse. This is the case in Australia, Chile now, Hong Kong, Sweden and the UK.<sup>26</sup>

It remains to be seen whether these models are wholly appropriate for South Africa. In parts of the world where regional economic development has taken place, regional interconnection and facilities leasing regulatory models have been developed as guidelines for nation states and to promote consistency in the regulation of access to telecommunications.<sup>27</sup>

The globalisation of telecommunications and the interconnection of networks between countries have resulted in countries entering into bi-lateral or multi-lateral undertakings in respect of telecommunication issues such as interconnection. South Africa is a member of the World Trade Organisation (WTO) and is a party to all relevant telecommunications agreements, including those provisions on interconnection.<sup>28</sup>

<sup>24</sup> *Telecommunications Regulation Handbook* (note 8 above) 3-1.

<sup>25</sup> ITU Regulatory Colloquium No 4 *Interconnection: Regulatory issues* Briefing Report 4 June 1995 90 sets out in a table format the 'Methods of decision making on interconnection policy: international experience'.

<sup>26</sup> *Interconnection: Regulatory issues* Briefing Report (note 24 above) 91-2.

<sup>27</sup> While regulation of interconnection is mainly a national responsibility, the European Commission is also playing a role in its evolution by means of Directives that are then adapted by each of the country members. For example, European Union Directive 1997/33/EC on Interconnection in Telecommunications and European Union Directive 2002/19/EC on Access to, and Interconnection of, electronic communications networks and associated facilities.

<sup>28</sup> *Telecommunications Regulation Handbook* (note 8 above) 3-5. For further information on the WTO see [http://www.wto.org/english/docs\\_e/legal\\_e/legal\\_e.htm#schedules](http://www.wto.org/english/docs_e/legal_e/legal_e.htm#schedules) accessed on 12 February 2004.

These rules were included in the Reference Paper, an informal text containing regulatory principles negotiated among WTO Members. The Reference Paper became legally binding on WTO Members that attached it as part of their ‘additional commitments’ in their GATS Schedule of Commitments on telecommunications market access.<sup>29</sup>

Another interconnect service which has been regulated is number portability, as this service is extremely important to the effectiveness of competition. Without number portability, customers can expect to change their telephone numbers each time they change carriers.<sup>30</sup> The question is who owns the telephone number — the user or the operator? The costs associated with number portability are quite substantial and may include: one-off costs of building number portability capability into the infrastructure; customer transfer costs associated with moving a customer to a competing network; and call by call costs associated with routing the call to the network to which the customer is connected.<sup>31</sup> The Telecommunications Act has provided that number portability will be regulated. The Telecommunications Act has stipulated that Icasa shall prescribe a numbering plan for use in respect of telecommunication services and measures to ensure that number portability shall be introduced in 2005 including the creation of a national number portability database and cost allocation and cost recovery among licensees.<sup>32</sup>

#### **4. THE REGULATORY FRAMEWORK OF INTERCONNECTION AND FACILITIES LEASING IN SOUTH AFRICA**

The provisions of sections 43 and 44 of the Telecommunications Act, together with regulations made thereunder, regulate interconnection and facilities leasing in South Africa. The regulatory framework anticipates that parties will agree on the terms and conditions of interconnection and facilities leasing through commercial negotiations. However, it seeks to assist new entrants in these negotiations by obliging the incumbent, Telkom to interconnect and provide facilities, by providing guidelines on the contents of agreements and by establishing a system of redress to the regulator in the event of a failure to agree or in the event of a breach of the agreement.<sup>33</sup>

Section 43 of the Telecommunications Act regulates interconnection and section 44 regulates facilities leasing. While interconnection and facilities leasing are two different types of access, the regulatory frameworks governing obligations are similar. Hence section 44 incorporates by reference certain sub-sections of section 43. In the sections below, the regulatory aspects of interconnect and facilities leasing are dealt with together due to the similarity of the regulatory governance.

<sup>29</sup> *Telecommunications Regulation Handbook* (note 8 above) 3-5.

<sup>30</sup> Study Report ‘Interconnect: An overview prepared by Pricewaterhousecoopers’ (1999) 66.

<sup>31</sup> *Ibid* 66.

<sup>32</sup> s 89(1) of the Telecommunications Act substituted by s 30(a) of the Telecommunications Amendment Act.

<sup>33</sup> ss 43, 44 and 100 of the Telecommunications Act and the Interconnection and Facilities Leasing Guidelines in GN 1259 GG 20993 dated 15 March 2000 and GN 1260 GG 20993 dated 15 March 2000, the Supplementary Facilities Leasing Guidelines GN 1215 GG 23613 dated 9 July 2002 and the Supplementary Interconnection Guidelines in GN 3457 GG 24203 dated 19 December 2002, collectively referred to as the Guidelines.

## 4.1 Section 43(1): Interconnection

Section 43(1) was substituted in its entirety by the Telecommunications Amendment Act.<sup>34</sup> Prior to its amendment, section 43(1)(a) provided that Telkom shall, when requested by any other person providing a telecommunication service, interconnect its telecommunication system to the telecommunication system of that person unless such request is unreasonable. Section 43(1)(b) stipulated that with effect from a date to be fixed by the Minister by notice in the Gazette, every other person who provides a telecommunication service shall, when requested by any other such person, interconnect its telecommunication system to the telecommunication system of such other person unless such request is unreasonable. Section 43(1)(c) provided that for the purposes of paragraphs (a) and (b), a request contemplated in those paragraphs is not unreasonable where Icasa determines that the requested interconnection is technically feasible and will promote increased public use of telecommunication services or more efficient use of telecommunication facilities.

The amended section 43(1)(a) provides that any public switched telecommunication service licensee shall, when requested by any other person providing telecommunications services, interconnect its telecommunication systems to the telecommunication systems of the other person, in accordance with the terms and conditions of an interconnection agreement entered into between the parties, unless such request is unreasonable. This amendment took into account that Telkom no longer had exclusivity to provide PSTS. A request for interconnection is not unreasonable<sup>35</sup> where Icasa determines that the requested interconnection is technically feasible and will promote the efficient use of the public switched telecommunication network and can be implemented on a reciprocal basis between the parties.<sup>36</sup> The old test was whether the requested interconnection was reasonable, ie ‘technically feasible’, and would ‘promote increased public use of telecommunication services or more efficient use of telecommunication facilities’. It also required the promotion of public use of telecommunications facilities generally and not specific types of telecommunications facilities. The new test provides that the request must promote the efficient use of the public switched telecommunication network. The amendment is probably narrower and more difficult test to comply with — it requires the requestor to promote the increased use of a specific type of telecommunications facilities, namely public switched telecommunications facilities; however the new provision has not yet been interpreted by Icasa.

The second change introduced by the Telecommunications Amendment Act was the introduction of the reciprocity requirement. The amended section 43(1) states that a request for interconnection will not be unreasonable if implementable on a reciprocal basis between the parties. It is not clear what is meant by ‘reciprocal basis’ and no definition is provided in the Telecommunications Amendment Act. Reciprocity could imply that parties interconnect on the same or even similar terms.<sup>37</sup> However, service providers depending on when they have entered the

<sup>34</sup> s 43 (1) substituted by s 18(a) of the Telecommunications Amendment Act.

<sup>35</sup> The Telecommunications Act does not stipulate whose burden it is to provide reasonableness or unreasonableness, but one can assume that it is the person who claims unreasonableness.

<sup>36</sup> s 43(1)(b) of the Telecommunications Act.

<sup>37</sup> The opposite of reciprocity would imply a one-sided approach.

market would vary in the rollout of their operations and networks. In addition, there are different types of providers such as mobile operators and under-served area operators providing different services on networks with quite different characteristics. Hence in those circumstances it would be challenging for a relatively new service provider or different type of operator to provide interconnection on the 'same' basis as the incumbent service provider. Thus reciprocity, it is arguable, should be interpreted in the context of existing or continuing non-level playing fields until such time as the playing fields are indeed level.

## 4.2 Facilities Leasing — section 44(1)-(2)

Section 44(1) of the Telecommunications Act, prior to its deletion by the Telecommunications Amendment Act provided for the leasing of facilities between Telkom, Transnet Ltd (Transnet) and Eskom Ltd (Eskom). The deleted provisions provided for Transnet, and Eskom when requested by Telkom to lease or otherwise make available to Telkom any of their telecommunications facilities on terms and conditions to be negotiated and agreed between the parties, and approved by Icasa, until a date to be fixed by the Minister.<sup>38</sup> The same would apply if Transnet or Eskom requested Telkom to make its telecommunications facilities available.<sup>39</sup> The only basis, upon which a party can reject a request, is if there is no spare capacity on its own facilities. The only basis upon which Telkom could make a request for the facilities is if its facilities are inadequate and it cannot itself obtain the necessary additional facilities economically, technically and timeously or if the use of the facilities will in any manner facilitate the provision by Telkom of services. Section 44(1) was deleted in its entirety in the Telecommunications Amendment Act.

Section 44(2) as amended provides that Telkom and any other provider of a PSTS shall, when requested by any other person providing a telecommunication service, lease or otherwise make available telecommunication facilities to such other person pursuant to an agreement to be entered into between the parties, unless such request is unreasonable.<sup>40</sup> The provisions of section 43(1)(b)(i) and (ii), (c) and (e) shall apply, with the necessary changes, in relation to any request and agreement contemplated in subsection (2).<sup>41</sup> Should the parties dispute the reasonableness of the request for facilities leasing this has to be referred to Icasa for its decision.<sup>42</sup> Once again the test of reasonableness as set out in the interconnection provisions must be applied, except that the third leg of the test that of reciprocity is not applicable in the case of facilities leasing. Since facilities leasing is a unidirectional undertaking, the exclusion of the reciprocity leg of the test is consistent, as there could be no reciprocal leasing of facilities.

<sup>38</sup> s 44(1) of the Telecommunications Act was deleted by s 19(a) of the Telecommunications Amendment Act.

<sup>39</sup> s 44(1)(d) of the Telecommunications Act.

<sup>40</sup> s 44(2) of the Telecommunications Act.

<sup>41</sup> s 44(3) of the Telecommunications Act.

<sup>42</sup> s 43(1)(d)(ii) of the Telecommunications Act.

### 4.3 Agreements to be lodged with Authority – sections 43(2) and 44(4)

In the event of the parties concluding an agreement for interconnection or facilities leasing, this must be lodged with Icasa. The Telecommunications Act stipulates that the purpose of the lodging of the agreement is for Icasa to determine whether the agreement is consistent with the Guidelines prescribed by Icasa.<sup>43</sup> The parties do not need to lodge the agreement with Icasa if they have been exempted by the regulations.

### 4.4 Authority to prescribe Guidelines – sections 43(3) and 44(5) and (6)

Section 43(3) requires Icasa to prescribe guidelines relating to the form and content of interconnection agreements dealing with among others; the time period within which interconnection pursuant to the agreement must be carried out, the quality or level of service to be provided; and the fees and charges payable for such interconnection. The interconnection agreement must be in writing. The interconnection agreement must furthermore, provide for all of the issues set out in the Telecommunications Act as well as those set out in the Guidelines. The remainder of the issues are left to the parties to negotiate.

Similarly, section 44(5) requires Icasa to prescribe guidelines relating to the form and content of agreements for the leasing or other manner in which telecommunication facilities are made available. The Telecommunications Amendment Act included an additional provision that stipulated that the Guidelines as contemplated in paragraph (a) may relate to resale<sup>44</sup> (including the basis for determining wholesale and retail tariffs) and the manner in which telecommunication facilities are made available.<sup>45</sup>

### 4.5 Provision of facilities other than from Telkom – section 44(7)

Section 44(7) provides

- (a) In the application of section 43(1)(d)(iii) and (4)(b) in relation to making the telecommunication facilities of a public switched telecommunication service licensee available to another person and where the Authority is satisfied that the holder of a public switched telecommunication service licence is unwilling or unable to make suitable facilities available to that person within a reasonable period of time, the Authority may, instead of proposing terms and conditions as contemplated in section 43(4)(b), authorise that person to provide or obtain any necessary telecommunication facilities other than from such holder on conditions determined by the Authority, notwithstanding the provisions of sections 38(2),<sup>46</sup> 40(2)<sup>47</sup> and 41(2)(a)<sup>48</sup> and this section;

<sup>43</sup> s 43(2) of the Telecommunications Act.

<sup>44</sup> s 1 of the Telecommunications Act: 'Resale means the provision of any public switched telecommunication service by means of telecommunication facilities which are obtained by the public switched telecommunication service licensee or under-served area licensee in order to sell such services to its customer, and "reseller" shall be construed accordingly.'

<sup>45</sup> s 44(5)(b) of the Telecommunications Act.

<sup>46</sup> s 38(2) of the Telecommunications Act: 'A licence issued to a person other than Telkom authorising the provision of a national long-distance telecommunication service shall contain a condition requiring the telecommunication system in question to be interconnected, in terms of section 43, to the telecommunication system of Telkom or any other person providing a public switched telecommunication service.'

<sup>47</sup> s 40(2) of the Telecommunications Act:

'A licence to provide any value-added network services, including, but not limited to, electronic data interchange, electronic mail,

- (b) Subject to section 32A(2)<sup>49</sup> and (4)<sup>50</sup> notwithstanding the guidelines contemplated in subsection (5), no public switched telecommunication service licensee shall be required to unbundle its local loop for the period of two years referred to in section 32A(2)(a) and (4).<sup>51</sup>

The request to obtain facilities other than from Telkom has been heard before Icasa. For example, Citec (Pty) Ltd (Citec) brought an application on 22 March 2000 requesting Icasa to authorise it to obtain the requested satellite facilities other than from Telkom, in terms of section 44(7). Citec brought a further application on 4 April 2000 to Icasa, requesting Icasa to authorise it to obtain the requested wireless facilities other than from Telkom, also in terms of section 44(7). Icasa held a hearing on 15 December 2000 in respect of both applications. By agreement, the parties withdrew the application of 24 March 2000 as it was still the subject of ongoing negotiations between them. The hearing thus only proceeded on the issue of the request pertaining to the satellite facilities. Icasa concluded that, despite the fact that Telkom had refused to negotiate previously, the section 44(7) application by Citec was premature and directed the parties to return to negotiate a facilities leasing agreement in terms of section 44(3) and (4) of the Act and in the event that the parties are unwilling or unable to negotiate or agree on any terms and conditions within the period of three months, they shall thereafter submit the issue to the Authority in terms of section 44(3) and therefore section 43(1)(e)(ii),<sup>52</sup>

#### 4.6 Request for Facilities Leasing or to interconnect – section 43(4)

The parties have to notify Icasa of any request to interconnect or for facilities leasing.<sup>53</sup> If the reasonableness of such request is disputed, the parties shall refer the dispute to Icasa for its decision.<sup>54</sup> If the parties are unwilling or unable to negotiate or agree on terms and conditions within the period or extended period (as allowed by Icasa) then all outstanding issues shall be submitted to Icasa for resolution.<sup>55</sup>

Since Icasa is tasked with making a determination as to the reasonableness of the request in the case of an interconnection request, it make take into consideration

protocol conversion, access to a database or a managed data network service, shall contain a condition that the service in question be provided by means of telecommunication facilities (a) until 7 May 2002 provided by Telkom or made available to Telkom as contemplated in section 44; and (b) after 7 May 2002, provided by Telkom and the second national operator or any of them until a date to be fixed by the Minister by notice in the Gazette.'

s 40(2) was substituted by s 15(a) of the Telecommunications Amendment Act.

<sup>49</sup> s 41(2) of the Telecommunications Act: '(a) A private telecommunication network shall not be provided by means of telecommunication facilities other than facilities made available by Telkom or any other person providing a public switched telecommunication network service as contemplated in section 46(1), except as provided in paragraph (b). (b) The provisions of paragraph (a) shall not apply in respect of (i) a private telecommunication network provided by means of a telecommunication system situated on a single piece of land or contiguous pieces of land owned by the same person; or (ii) any private telecommunication network maintained by Transnet or Eskom.'

<sup>50</sup> s 32A(2) of the Telecommunications Act: '(a) For a period of two years after the date of commencement of the public switched telecommunication service licence the second national operator may use Telkom's facilities on a resale basis in accordance with agreements concluded between the parties for the purposes of providing public switched telecommunication services. (b) The agreements contemplated in paragraph (a) become effective within 60 days of the issuing of the public switched telecommunication service licence to the second national operator.'

<sup>51</sup> s 32A(4) of the Telecommunications Act: '(a) Where the Authority receives, a request contemplated in subsection (3), it shall, within 30 days of that request, determine the terms and conditions of the agreement in a manner consistent with this Act. (b) Where the Authority makes a determination in terms of paragraph (a), the determination shall be binding on the parties and shall form part of the agreement between the parties. (c) The agreement contemplated in paragraph (b) shall lapse two years after the date of its conclusion.'

<sup>52</sup> s 44(7) of the Telecommunications substituted by s 19(d) of the Telecommunications Amendment Act.

<sup>53</sup> *Citec (Pty) Ltd and Telkom SA Ltd*, heard before Icasa on 15 December 2000 4.

<sup>54</sup> s 43(1)(d)(i) of the Telecommunications Act. s 43(1) was substituted by s 18(a) of the Telecommunications Amendment Act.

<sup>55</sup> s 43(1)(d)(iii) of the Telecommunications Act.

the factors referred to in section 43(1)(b) and any other relevant factor.<sup>56</sup> The amendment to this section gives Icasa a wider discretion in making its determination as to the reasonableness of the request as it can take any other factors into account. In the case of facilities leasing, where the reasonableness of the request is disputed, the factor of reciprocity is not measured.

There is no time period within which Icasa has to determine and resolve disputes and this negatively impacts on the parties negotiating powers and prevents a quick resolution of the matter. 'Regulators must resolve disputes in a decisive and timely manner or competition and sector development will be retarded.'<sup>57</sup> The WBS case is an example of a telecommunications seeker being frustrated in the delay in its inability to interconnect, with resultant loss of profits.<sup>58</sup>

#### **4.7 Authority may impose terms and conditions – section 43(5)(b)**

Where Icasa determines that any terms and conditions are not consistent with the Guidelines, it may direct the parties to renegotiate and agree on new terms and conditions within such period as Icasa may specify. Icasa may itself propose terms and conditions consistent with the Guidelines and which subject to renegotiation shall be agreed by the parties within such period as Icasa may determine.<sup>59</sup> This provision applies to both interconnection and facilities leasing agreements.<sup>60</sup>

#### **4.8 Enforceability of terms and conditions – section 43(6)**

In the event of Icasa declaring terms and conditions to be applicable under section 43(4)(b), then it shall be enforceable between the parties. Terms and conditions determined under section 43(4)(c) to be inconsistent with the Guidelines, shall not be enforceable between the parties. This provision applies to both interconnection and facilities leasing agreements.

#### **4.9 Negotiations not precluded if licence not awarded as yet – section 43(8)**

Should a party not be issued with a licence authorising it to provide any telecommunications service, this does not preclude the parties from negotiating an interconnection or facilities leasing agreement.

<sup>56</sup> § 43(1)(b) of the Telecommunications Act.<sup>4</sup>

<sup>57</sup> *Telecommunications Regulations Handbook* (note 8 above) 3-21.

<sup>58</sup> The dispute mechanism in the guidelines and the Telecommunications Act, also does not give the person who lodges the dispute satisfaction that the dispute would be resolved quickly and the resultant decision adhered to. s 100(3) of the Telecommunications Act provides: 'Where the Authority, after investigation, finds that the licensee concerned has been responsible for a failure or contravention contemplated in subsection (1), the Authority may -

(a) direct the licensee to desist from any further failure or contravention;

(b) direct the licensee to pay the prescribed fine;

(c) direct the licensee to take such remedial and other steps as may be determined by the Authority;

(d) where the licensee has repeatedly been guilty of such failure or contraventions, in terms of this section, revoke his or her licence.'

<sup>59</sup> § 43(5)(b) of the Telecommunications Act.

<sup>60</sup> § 44(6) of the Telecommunications Act.



#### 4.10 Period of interconnection agreement – section 43(10)

Prior to its amendment the Telecommunications Act did not regulate the duration of interconnection agreements that parties could conclude and left that to the parties to determine. However, the Telecommunications Amendment Act has now provided that the parties to an interconnection agreement have the right to renegotiate the terms of their interconnection agreements after five years.<sup>61</sup> The rationale put forward for the insertion of this clause was '(to) ensure that no party is locked into an inefficient or unfair long term interconnection agreement, a situation that will ultimately prejudice consumer rights'.<sup>62</sup> In the case of facilities leasing there is no prescribed period for an agreement between the parties, nor a similar right to renegotiate the terms of their facilities leasing agreement after five years.

#### 4.11 Interconnection rates to be made public – section 43(11)

Interconnection rates and any agreement with regard thereto shall be made public.<sup>63</sup>

### 5. INTERCONNECTION AND FACILITIES LEASING GUIDELINES

#### 5.1 Background

On 19 August 1998, Icasa issued a notice in terms of section 27 of the Telecommunications Act inviting representations in respect of the form and content of interconnection and facilities leasing agreements. Icasa invited the public to also make representations and comments at public hearings, which were held on 13 and 14 November 1998. After the hearings Icasa published draft interconnection and facilities leasing Guidelines (draft Guidelines).<sup>64</sup> The draft Guidelines reiterated the provisions of the Telecommunications Act and provided that prior to the third anniversary date (7 May 2000) the Ministerial guidelines<sup>65</sup> would prevail where applicable over Icasa's Guidelines in respect of interconnection with Telkom. The draft Guidelines when made final, were to replace the Ministerial guidelines in their entirety from 7 May 2000 onwards.

Icasa also published its Regulatory Statement on Interconnection and Facilities Leasing.<sup>66</sup> The aim of the Regulatory Statement was to provide insight and guidance to the industry as to Icasa's views on interconnection and facilities leasing.

<sup>61</sup> s 43(10) of the Telecommunications Act: '(a) Five years after the date on which an interconnection agreement is concluded a party to that agreement may request the other party or parties to promptly negotiate in good faith to modify or amend some or all of the terms of such agreement. (b) Subsections (1) to (6) and the regulations promulgated under this section shall apply, with the necessary changes, in relation to any proposed modification or amendment of any term or condition contemplated in paragraph (a): s 43(10) was inserted by s18(d) of the Telecommunications Amendment Act.

<sup>62</sup> Telecommunications Amendment Bill GN 829/2001 GG 22630 dated 29 August 2001 s 18(e).

<sup>63</sup> s 43(10) of the Telecommunications Act. s 43(10) was inserted by s 18(d) of the Telecommunications Amendment Act.

<sup>64</sup> GN 168/1999 GG 19764 dated 12 February 1999.

<sup>65</sup> s 443 of the Telecommunications Act required the Minister of Communications (the Minister) to issue guidelines in respect of Telkom within 12 months of the commencement of the Telecommunications Act. The Minister issued these guidelines referred to as the ministerial guidelines in GN 771/1997 GG 17984 dated 7 May 1997. The ministerial guidelines were to lapse in favour of the interconnection guidelines prescribed by the Authority on or after 7 May 2000: s 1(c) GN 771/1997 GG 17984 dated 7 May 1997.

<sup>66</sup> Note 16 above.

<sup>67</sup> GN 1259/2000 GG 20993 dated 15 March 2000.

The Minister approved and published the final Guidelines issued by Icasa on 15 March 2000 the Interconnection Guidelines<sup>67</sup> and Facilities Leasing Guidelines (“the 2000 Interconnection Guidelines” and “the 2000 Facilities Leasing Guidelines” respectively)<sup>68</sup>

Subsequently, there have been amendments to the interconnection and facilities leasing Guidelines as a result of the changes in the industry and technology. The Minister approved and published supplementary Facilities Leasing Guidelines<sup>69</sup> and supplementary Interconnection Guidelines in 2002 (“the 2002 Interconnection Guidelines” and “the 2002 Facilities Leasing Guidelines” respectively).<sup>70</sup> The following section analyses the 2000 and 2002 Guidelines in more detail.

## **5.2 Analysis of Interconnection Guidelines and Supplementary Interconnection Guidelines**

In general, the interconnection Guidelines deal with the contents of interconnection agreements, principles governing requests and negotiations for interconnection, principles governing the provision of interconnection, quality of service, and declarations of Major Operators and Essential Services.

### **5.2.1 Major operators and Essential Services**

A ‘Major Operator’ is defined in the 2000 Interconnection Guidelines<sup>71</sup> as an operator that controls at least 35 percent of the telecommunications market in which it operates, unless it can show that it does not have market power. Furthermore an operator may be deemed to be a Major Operator if it has the ability to materially affect the terms of participation (having regard to price and supply) in the telecommunications market for basic telecommunication services as a result of control over Essential Services or use of its position in the market. Icasa can declare an operator a Major Operator by notice in the Government Gazette, where, in its opinion, this would promote the objects of the Telecommunications Act.<sup>72</sup>

Icasa has declared Telkom to hold at least 35 percent of the relevant telecommunications markets for Essential Services, and so to be a Major Operator for the provision of interconnection.<sup>73</sup> A Major Operator need not have control over the entire telecommunications market, but may be a Major Operator in one aspect of the telecommunications market.

The 2002 Interconnection Guidelines have provided for a process in terms of which a party may be included in the category of a Major Operator and for a process for a Major Operator to be excluded from the category of a Major Operator.<sup>74</sup> Any person may make a written request to Icasa to have a licensee

<sup>68</sup> GN 1260/2000 GG 20993 dated 15 March 2000.

<sup>69</sup> GN 1215/2002 GG 23613 dated 9 July 2002.

<sup>70</sup> GN 3457/2002 GG 24203 dated 19 December 2002.

<sup>71</sup> Guideline 1.1 of the 2000 Interconnection Guidelines.

<sup>72</sup> *Ibid.*

<sup>73</sup> Guideline 2.2.2 of the 2002 Interconnection Guidelines.

<sup>74</sup> At the date of writing this chapter, Cell C has lodged a request with Icasa to have Vodacom and MTN declared Major Operators but these proceedings have been withdrawn by Icasa. Cell C’s application can be found in GN 1987/2003 GG 25212 dated 14 July 2003. Icasa published in GN 1780/2003 GG 25139 dated 25 June 2003 an invitation to interested parties to submit comments. However, this notice has been withdrawn in GN 1858/2003 GG 25174 dated 25 June 2003.

declared a Major Operator. The request must be accompanied by supporting documentation, establishing a reasonable basis for such a request,<sup>75</sup> indicating that (a) a licensee's share of the relevant telecommunication market is at least 35 percent; or (b) an industry change that requires reclassification of an Essential Service has occurred, necessitating that such licensee, should be reclassified as a Major Operator.<sup>76</sup> Icasa shall then consider the request and undertake a process that involves publishing the request in the Government Gazette, seeking public comment and conducting any hearings. Based on its findings, Icasa may declare a licensee to be a Major Operator in one or more of the telecommunication markets.<sup>77</sup> The implications of being a Major Operator are that all charges imposed by a Major Operator for Essential Services for interconnection to any requesting Public Operator<sup>78</sup> must be no greater than the Major Operator's fully allocated costs of providing such services, calculated according to the accounting separation principles set out in the Major Operator's Chart of Accounts/Cost Allocation Manual, including a reasonable cost of capital.<sup>79</sup> After a particular date<sup>80</sup> the Major Operator must provide such services at the long run incremental cost (LRIC). Sentech Ltd (Sentech) brought an application<sup>81</sup> to have the supplementary interconnection Guidelines declared invalid. In Sentech's founding application, it alleged that in the draft Guidelines it was declared to be a public operator for the purposes of interconnection.<sup>82</sup> However when the final Guidelines were published, Sentech was excluded from the definition of public operator.<sup>83</sup> Sentech on 14 July 2003 withdraw its court application.

### 5.2.2 Contents of agreements

Guideline 3 of the 2000 Interconnection Guidelines stipulates that an interconnection agreement must<sup>84</sup> address each of the matters set out in guideline 3.1, unless not relevant to the form of interconnection that has been requested.<sup>85</sup> The matters that are listed range from the scope and specification of interconnection, charges for interconnection, provision of Point of Interconnection (POI) and interconnection capacity, information handling and confidentiality. An interconnection agreement shall also contain all the terms and conditions of the agreement between the parties relating to interconnection matters, and no amendments, alterations, additions, variations or consensual cancellations will be of any force or effect unless they are reduced to writing, signed by both parties and approved by Icasa.<sup>86</sup>

<sup>75</sup> Guideline 2.4.1 of the 2002 Interconnection Guidelines.

<sup>76</sup> Guideline 2.4 of the 2002 Interconnection Guidelines.

<sup>77</sup> Guidelines 2.4.2 and 2.4.3 of the 2002 Interconnection Guidelines.

<sup>78</sup> Guideline 1.6.1 of the 2002 Interconnection Guidelines: "Public operator" means a provider of a public switched telecommunication service or a mobile cellular telecommunication service, or an under-served area telecommunication service."

<sup>79</sup> Note 78 above guideline 3.2.

<sup>80</sup> The 2002 Interconnection Guidelines provide at 3.1 that they will apply only for a transitional period of 2 years, implying that LRIC must be introduced thereafter.

<sup>81</sup> *Sentech v Icasa, Minister of Communications, Telkom SA Ltd* (TPD. 13 June 2003, case no 16316/03, unreported).

<sup>82</sup> *Ibid* 21: "Thus in the draft guidelines, Sentech was declared to be a public operator for the purposes of interconnection. The significance of being included in the definition of public operator is that only public operators are entitled to Essential Services for interconnection from interconnection providers such as Telkom at (1) cost based charges, as were provided for in section 3 of the draft guidelines, and (2) ultimately, long run incremental cost (LRIC) based charges, as provided for in section 11 of the 2000 guidelines."

<sup>83</sup> Note 88 above 24.

<sup>84</sup> Note the use of the word 'must'.

<sup>85</sup> Guideline 3.1 of the 2000 Guidelines.

<sup>86</sup> Note 68 above guideline 3.2.

### ***5.2.3 Interconnection agreements not to preclude rights***

An interconnection agreement must not:

- (a) seek to preclude or frustrate the exercise of any statutory powers or prevent any person from seeking the exercise of statutory powers;
- (b) impose any penalty, obligation or disadvantage on a person for seeking the exercise of any statutory powers;
- (c) prohibit a person from providing an interconnection service, which that person is lawfully able to provide;
- (d) frustrate the provision of a telecommunication service by a person, which that person is lawfully able to provide.<sup>87</sup>

Furthermore a service acquired as part of interconnection may not be used for any unlawful purpose.<sup>88</sup> Guideline 5.3 stipulates that an interconnection seeker may at any time request that an interconnection provider vary any term or condition of an interconnection agreement.<sup>89</sup> An interconnection provider may refuse that request but if it does so this will be a dispute for the purposes of section 43 of the Telecommunications Act.

### ***5.2.4 Requests for interconnection and good faith negotiations***

An interconnection provider must provide interconnection information to an interconnection seeker who requests reasonable interconnection information.<sup>90</sup> An interconnection provider need not provide interconnection information if Icasa determines that it is not to be provided. Guideline 6.2 implores the parties to an interconnection agreement to negotiate in good faith and use their reasonable endeavours to resolve all disputes relating to the form of interconnection.<sup>91</sup>

### ***5.2.5 Maintenance of any to any connectivity***

The Guidelines have stipulated that the aim of an interconnection agreement must be to promote the increased public use of telecommunication services or the more efficient use of telecommunication facilities, and to this end the operators are obligated to ensure that the connectivity of the networks is maintained.<sup>92</sup> Guideline 7.1 stipulates that the terms of each interconnection agreement must facilitate interconnection in a manner that promotes any to any connectivity including by ensuring that:

- (a) a customer of an interconnection seeker or interconnection provider is able to call, from any terminal device, a customer of any other interconnection seeker and/or interconnection provider on a non-discriminatory basis; and
- (b) the transmission of calls across and within telecommunication systems

<sup>87</sup> Note 68 above guideline 5.1.

<sup>88</sup> Note 68 above guideline 5.2.

<sup>89</sup> Note 68 above guideline 5.3.

<sup>90</sup> Note 68 above guideline 6.1.

<sup>91</sup> Note 68 above guideline 6.2.

<sup>92</sup> Guideline 7 of the 2000 Interconnection Guidelines.

should be seamless to both the calling and the called parties.<sup>93</sup>

The Guidelines stipulate that an interconnection provider may only terminate an agreement on the following grounds:

- a fundamental breach of the interconnection agreement has occurred, or
- vis major, or
- liquidation, deregistration or insolvency of one of the parties.

Guideline 7.2(b) of the 2000 Interconnection Guidelines provides that the interconnection provider must give reasonable written notice of its intention to terminate specifying the grounds of termination, in the case of breach, requiring that the breach be remedied for service providers within not less than three months and in the case of public operators or private operators not less than three months. Furthermore, the interconnection seeker must have been given the opportunity to remedy the breach and have failed to do so. However, an interconnection provider of an Essential Service may not terminate an interconnection agreement without Icasa's consent.<sup>94</sup>

An interconnection agreement must not allow the suspension of interconnection except where this is necessary to address material degradation of telecommunications systems or services or other material threats to the maintenance of the interconnection.<sup>95</sup> Furthermore an interconnection agreement must establish termination and suspension procedures that minimise any adverse affect of that termination or suspension on customers.<sup>96</sup>

### ***5.2.6 Non-discrimination principles***

An interconnection provider must treat the interconnection seeker, the telecommunications service of the interconnection seeker and the customer of the interconnection seeker in a non-discriminatory manner.<sup>97</sup> This includes providing the service on a no less favourable basis than the treatment that the interconnection provider affords to its subsidiaries, affiliates or other similarly situated telecommunications service providers or operators.<sup>98</sup>

### ***5.2.7 Quality of service***

An interconnection agreement must contain service levels that reflect good interconnection practice and provide reasonable remedies for any failure to meet those services levels.<sup>99</sup> Furthermore, the parties must comply with all relevant standards of the International Telecommunications Union and such other technical standards as Icasa may prescribe from time to time.<sup>100</sup> In the event of the

<sup>93</sup> Guideline 7.1 of the 2000 Interconnection Guidelines.

<sup>94</sup> Guideline 7.3 of the 2000 Interconnection Guidelines.

<sup>95</sup> Guideline 7.4 of the 2000 Interconnection Guidelines.

<sup>96</sup> Guideline 7.5 of the 2000 Interconnection Guidelines.

<sup>97</sup> Note 68 above guideline 8.

<sup>98</sup> Note 68 above guideline 8.1(a), (b) and (c).

<sup>99</sup> Note 68 above guideline 9.1

<sup>100</sup> Note 68 above guideline 9.2

parties failing to reach an agreement with regard to the quality or level of service, this will be determined by Icasa.<sup>101</sup>

### **5.2.8 Interconnection charging structure**

The 2000 Interconnection Guidelines stipulate that:

Charges for interconnection must be structured to match the pattern of underlying costs incurred and to distinguish and separately price the following aspects of interconnection:

- fixed once off charges for the establishment and implementation of physical interconnection;
- periodic rental charges for use of facilities, equipment and resources including interconnection capacity; and
- variable charges for telecommunications services and supplementary services.<sup>102</sup>

Furthermore the charges for interconnection must not exceed retail charges for the provision of equivalent services. Where a Major Operator provides Essential Services, it must provide those Essential Services to any requesting Public Operator at LRIC. LRIC is calculated on the basis of relevant forward looking economic costs calculated for an efficient telecommunication service provider and including a reasonable cost of capital.<sup>103</sup> Major Operators providing Essential Services must provide Essential Services to Service Providers at no more than the Major Operators' best retail prices less avoidable costs provided that this price is not less than LRIC of the Major Operator.<sup>104</sup> Major Operators may charge Service Providers no more than the fully allocated costs of the Major Operator for establishing a POI.<sup>105</sup> Major operators may charge Private Operators<sup>106</sup> no more than the retail charge for the provision of an equivalent service.

The 2002 Interconnection Guidelines included transitional obligations of interconnection providers, for a two year period prior to the application of the LRIC pricing regime.<sup>108</sup>

All charges imposed by a Major Operator for Essential Services for interconnection to any requesting Public Operator (as this is defined in the 2002 Interconnection Guidelines<sup>109</sup>) must be no greater than the Major Operator's fully allocated costs (FAC) of providing such services, calculated according to the

<sup>101</sup> Note 68 above guideline 9.3

<sup>102</sup> Note 68 above guideline 10, which provides for Interconnection Charging Structure, and guideline 11, which provides for Interconnection Charges.

<sup>103</sup> Note 68 above guideline 11.2.

<sup>104</sup> Note 68 above guideline 11.3.

<sup>105</sup> Guideline 11.4 of the 2000 Interconnection Guidelines.

<sup>106</sup> Guideline 1: "Private Operator" means a provider of a private telecommunication network.

<sup>107</sup> Guideline 11.5 of the 2000 Interconnection Guidelines.

<sup>108</sup> Guideline 3.1 of the 2002 Interconnection Guidelines: "...This clause shall be effective upon publication in the Gazette and shall only apply for a period of no more than two years from its effective date. Upon the first anniversary of the effective date of this clause, the Authority shall publish a notice in the Gazette seeking public comment on the progress of the transition to the LRIC pricing regime. Upon consideration of the comments filed in response to such notice and evidence produced at any hearing that the Authority may conduct, the Authority may order the termination of this clause and the effectiveness of the LRIC regime prior to the second anniversary of the effective date of this clause."

<sup>109</sup> "Public Operator" is defined in guideline 1.6.1 of the 2002 Interconnection Guidelines, as "means a provider of a public switched telecommunications service or a mobile cellular telecommunications service, or an under-served area telecommunication service". This definition replaced the definition of Public Operator in the 2000 Interconnection Guidelines.

accounting separation principles set out in the Major Operator's COA/CAM, including a reasonable cost of capital. The costs used in calculating the amount which a Major Operator may charge for providing Essential Services can include the costs which are determined on a current cost accounting basis as set forth in the relevant section of the Major Operator's COA/CAM and may include 'common costs' associated with such services. The sum of the allocation of common costs for all Essential Services shall equal the total common costs associated with the relevant accounts from the Major Operator's COA/CAM. 'Common costs' are defined as the costs necessarily incurred in the provision of some or all of the telecommunication services provided by a Major Operator, which cannot be attributed directly to any of those services<sup>110</sup>. The calculation is fairly complex, and deals also with 'avoidable costs' (ie the costs that can be attributed to sales, marketing, advertising, public relations, customer service, billing, collection, and other costs associated with offering those services by the Major Operator to customers who are not telecommunication licensees, and which can be avoided when such services are provided to telecommunication licensees)<sup>111</sup>, and opportunity costs (ie the revenues that a Major Operator would have received for the sale of telecommunication services in the absence of competition from telecommunication service providers that purchase Essential Services.)

The interconnection charging structure imposed by Icasas needs to take cognisance of the country's development, the competitiveness in the industry and the efficiency with which the operators operate and attracting further investment into the sector. There have been a number of different charging models that have been applied in other jurisdictions. However, each model makes certain assumptions, which may not necessarily be appropriate to South Africa. The question still remains as to whether this temporary model will meet the requirements of the South African market and assist in the transition to the LRIC model, given the convergence of technology and competing requirements of operators.

In April 2004, in terms of an amendment to sections 43 and 44 of the Telecommunications Act<sup>112</sup>, those operators licensed under the Act in terms of sections 32B, 32C, 36, 37, 38, 39 and 40A (which includes Sentech, the SNO, the mobile operators and Vans) have all been declared to be Public Operators for purposes of the Interconnection Guidelines. Public operators are obliged to make telecommunications facilities available to interconnection seekers in accordance with the provisions of the charging mechanism set out in the 2002 Interconnection Guidelines.

The provisions of the 2000 Interconnection Guidelines and the 2002 Interconnection Guidelines discussed above highlight the framework within which Icasas has determined that interconnection charges should be calculated, amended and accounted for, and any dispute regarding interconnection charges are to be determined by Icasas.

<sup>110</sup> Guideline 1.3 of the 2002 Interconnection Guidelines.

<sup>111</sup> Guideline 1.1 of the 2002 Interconnection Guidelines.

<sup>112</sup> GN439/2004, GG 26224 dated 1 April 2004.

### ***5.2.9 Efficient provisioning***

The forecasting, ordering and provisioning of interconnection must be efficient and occur within reasonable time frames and must not include any unnecessary or inefficient steps.<sup>113</sup> Furthermore the facilities or systems required for interconnection shall be provided in sufficient capacity to enable the efficient transfer of signals between interconnected telecommunication systems.<sup>114</sup> The Guidelines also stipulate that an interconnection seeker's request for interconnection should be given reasonable priority over the customer orders of the interconnection provider.<sup>115</sup>

#### ***5.2.10 Requests for interconnection***

An interconnection agreement must be entered into as soon as practicable but in any event not later than three months after the interconnection provider has received a request for interconnection.<sup>116</sup> This period may however be extended by such time as allowed by Icasá in any particular case.<sup>117</sup>

#### ***5.2.11 Requests for new services and system change***

Where an interconnection seeker requests interconnection, it must make the request in writing and provide the interconnection provider with information in relation to the form of interconnection, the approximate date the interconnection is required, and an estimate of the capacity required.<sup>118</sup> All requests for new interconnection need to be filed with Icasá.<sup>119</sup> The interconnection provider must inform the interconnection seeker in writing within 15 calendar days of the provision of the information; whether it is able to supply that form of interconnection and whether it will be able to do so within the time frames required by the interconnection seeker. In the event that the interconnection provider is unable to meet the time frames required, the interconnection provider must specify the date by which interconnection can be established. In the event that the interconnection provider is able to provide interconnection then it must ensure that the system conditioning and providing procedures required to provide that interconnection are undertaken within the time required by the interconnection seeker. In addition a Major Operator that is an interconnection provider must provide six months notice to interconnection seekers of planned changes to its telecommunications system that may materially impact the telecommunication services on the telecommunication systems of the interconnection seeker.

#### ***5.2.12 Establishment and location of Points of Interconnection***

The Guidelines provide that when a service provider, referred to in the

<sup>113</sup> Guideline 12.1 of the 2000 Interconnection Guidelines: this provision does not set out what the unnecessary or inefficient steps are.

<sup>114</sup> Guideline 2.2 of the 2000 Interconnection Guidelines.

<sup>115</sup> Guideline 12.3 of the 2000 Interconnection Guidelines.

<sup>116</sup> Guideline 13.1 of the 2000 Interconnection Guidelines.

<sup>117</sup> Ibid.

<sup>118</sup> Guideline 14.1 of the 2000 Interconnection Guidelines.

<sup>119</sup> Guideline 14.2 of the 2000 Interconnection Guidelines.



interconnection Guidelines as an interconnecting operator<sup>120</sup> requests interconnection with the Major Operator's network, the point of interconnection (POIs) must be established and located at any technically feasible point in a Major Operator's network system.<sup>121</sup> Furthermore, POIs must be established as soon as practicable following a request or conclusion of an interconnection agreement, and in any case not later than 45 days from conclusion of an interconnection agreement.<sup>122</sup> Where interconnection occurs between operators each operator must bear its own port, network management system and switch costs to support the POI and the parties shall share the cost of the interconnection capacity.<sup>123</sup>

Where a party seeking interconnection from a Major Operator requests that facilities be co-located with the facilities of the Major Operator, such co-location shall be provided unless it is not technically feasible:

The definition of technically feasible interconnection points is not static. Telecommunications networks continue to evolve. As new technologies, such as those based on the Internet Protocol and digital subscriber loops, are rolled out, it is becoming technically feasible to interconnect networks at different points. Therefore, interconnection agreements and regulatory directives should not prescribe limitations on the points of interconnection that will be permitted. It should be open to interconnecting operators to propose interconnection at different points as networks evolve.<sup>124</sup>

In those instances in which a Major Operator demonstrates that it is unable to establish the interconnection at the location requested, an alternative location near to the requested site must be identified by the Major Operator.<sup>125</sup>

### **5.2.13 Caller line identity (CLI)**

CLI and all necessary signalling data shall be passed between interconnecting parties in accordance with accepted international standards and all requirements issued by Icasa.<sup>126</sup>

### **5.2.14 Inter-operator working group**

The parties to an interconnection agreement will form appropriate working groups to discuss matters relating to interconnection and to endeavour to amicably resolve any disputes that may arise.<sup>127</sup> The first meeting of such a working group will be facilitated by Icasa and thereafter be under the rotating chairmanship of the members of the working groups.<sup>128</sup>

<sup>120</sup> Note 68 above guideline 1: "Interconnection seeker" means a provider of a telecommunication service who has interconnected or has requested that it be able to interconnect its telecommunication system to the telecommunication system of an Interconnection Provider."

<sup>121</sup> Note 68 above guideline 15.

<sup>122</sup> Note 68 above guideline 15.2.

<sup>123</sup> Note 68 above guideline 15.4.

<sup>124</sup> *Telecommunications Regulation Handbook* (note 8 above) 3-38.

<sup>125</sup> Guideline 15.5 of the 2000 Interconnection Guidelines.

<sup>126</sup> Guideline 16 of the 2000 Interconnection Guidelines.

<sup>127</sup> Guideline 17 of the 2000 Interconnection Guidelines.

<sup>128</sup> An alternative to an inter-operator working group is an industry technical committee. The use of the industry technical committee has proved to be successful in Canada where the Canadian Interconnection Steering Committee (CISC) and its sub committees

### 5.2.15 Confidentiality

All confidential information provided in relation to interconnection must be kept confidential<sup>129</sup> and should only be disclosed to employees, agents or advisers who need to know that information for the purposes of the provisioning of interconnection or advising thereon.<sup>130</sup> Furthermore, confidential information may not be disclosed to any person involved in the development or provision of retail services of the other party or its subsidiaries or affiliates.<sup>131</sup> For purposes of the public interest, the Guidelines have stipulated that the confidentiality provisions of an interconnection agreement must not prevent or frustrate the public disclosure of any interconnection agreement by Icasa.<sup>132</sup>

### 5.2.16 Transparency of agreements

Where a Major Operator has entered into an interconnection agreement for a particular interconnection service, the operator shall make that agreement publicly available.<sup>133</sup> In the event that an operator requests that parts of an interconnection agreement not be made publicly available, Icasa will make a determination as to the nature of the confidential information and may exempt the operator from making such information publicly available.

## 5.3 Analysis of Facilities Leasing Guidelines and Supplementary Facilities Leasing Guidelines

### 5.3.1 Background

On 15 March 2000, the Minister approved and published the Facilities Leasing Guidelines.<sup>134</sup> In 2002, Icasa proposed supplementary Facilities Leasing Guidelines. The Facilities Leasing Guidelines are very similar to the Interconnection Guidelines and the following section highlights some of the differences and amendments that have been affected to the Facilities Leasing Guidelines.

### 5.3.2 Major Operator

The 2002 Facilities Leasing Guidelines have declared Telkom to be a Major Operator, and the telecommunications facilities of Telkom to be Essential Facilities.<sup>135</sup> At the time, Icasa made the following observation: ‘Independently, Icasa is of the opinion that declaring such telecommunications facilities as essential facilities will promote the objects of the Telecommunications Act as amended.’<sup>136</sup>

included participation from interested industry firms, as well as representatives of the regulator. *Telecommunications Regulations Handbook* (note 8 above) 3-20.

<sup>129</sup> Guideline 18.1(b); except where the disclosure is authorised in writing by the other party, authorised or required by law or lodged with Icasa in terms of s 43(2) of the Telecommunications Act.

<sup>130</sup> Guideline 18.1 of the 2000 Interconnection Guidelines.

<sup>131</sup> Guideline 18.2 of the 2000 Interconnection Guidelines.

<sup>132</sup> Guideline 18.3 of the 2000 Interconnection Guidelines.

<sup>133</sup> Guideline 19 of the 2000 Interconnection Guidelines.

<sup>134</sup> Note 69 above.

<sup>135</sup> Guideline 2.3 of the 2000 Facilities Leasing Guidelines.

<sup>136</sup> *Ibid.*

### 5.3.3 Facilities charging structure

The 2000 Facilities Leasing Guidelines have provided that the charges for the provision of facilities shall be structured to distinguish and separately price the following aspects:

- (a) the establishment and implementation (if any) of the physical facilities, including testing;
- (b) rental charges for use of facilities, equipment and resources; and
- (c) variable charges for ancillary and supplementary services.<sup>137</sup>

Similarly to the Interconnection Guidelines, the charges must be transparent and sufficiently unbundled so that the party seeking facilities does not have to pay for system components or facilities that it does not require.<sup>138</sup> Guideline 12 of the 2000 Facilities Leasing Guidelines shall apply to the charges for all telecommunication facilities leased by a facilities provider to a facilities acquirer that have not otherwise been declared by Icas to be an Essential Facility that is provided by a Major Operator.<sup>139</sup> In other words, the charging structure for all Public Operators must be based on the same principles.

### 5.3.4 Charging for making facilities available

The 2002 Facilities Guidelines have amended guideline 13 of the 2000 Guidelines, which provided for facilities leasing charges. A transitional period of 2 years (unless extended by Icas) was introduced to permit the orderly transition to the LRIC pricing regime.<sup>140</sup> The new provisions provide for a cost based method of charging for essential facilities and this method does not allow the inclusion of any costs for which the recovery is already provided through other cost recovery mechanisms.<sup>141</sup>

The 2002 Facilities Guidelines have stipulated that in providing a group of Essential Facilities, certain common costs will be allowed if they are efficiently incurred, meaning that they can not be attributed directly to the provision of individual Essential Facilities (in the same manner as is the case with interconnection charging under the Interconnection Guidelines). The sum of the allocation of common costs for all essential facilities and services must be equal the total common costs associated with the relevant accounts from the COA/CAM. In the calculation of the economic costs of an essential facility, avoidable costs,<sup>142</sup> opportunity costs<sup>143</sup> and revenues to subsidise other services<sup>144</sup> must be excluded from the calculation. The supplementary facilities Guidelines also stipulate that the essential facility rates shall be structured consistently with the manner in which the costs of providing the essential facilities are incurred.<sup>145</sup> The complex model also

<sup>137</sup> Guideline 12.1 of the 2000 Facilities Leasing Guidelines.

<sup>138</sup> Guideline 12.2 of the 2000 Facilities Leasing Guidelines.

<sup>139</sup> Guideline 3.10 of the 2000 Facilities Leasing Guidelines.

<sup>140</sup> Guideline 4.1 of the 2002 Facilities Leasing Guidelines.

<sup>141</sup> Guideline 4.9 of the 2002 Facilities Leasing Guidelines.

<sup>142</sup> Guideline 4.5(b)(i) of the 2002 Facilities Leasing Guidelines: 'Avoidable costs are the costs of marketing, billing, collection and other costs associated with offering retail telecommunications services to subscribers who are not telecommunications service providers'

<sup>143</sup> Guideline 4.5(b)(ii) 'Opportunity costs include the revenues that a Major Operator would have received for the sale of telecommunications services, in the absence of competition from public operators that purchase essential facilities.'

<sup>144</sup> Guideline 4.5(b)(iii) of the 2002 Facilities Leasing Guidelines: 'Revenues to subsidise other services include revenues associated with essential facilities or telecommunications services offerings other than the essential facility for which a rate is being established.'

<sup>145</sup> Guideline 4.7 of the 2002 Facilities Leasing Guidelines.

deals with the number of units (eg shared local loops) that the Major Operator uses or provides. With respect to Essential Facilities that a Major Operator offers on a usage-sensitive basis, the number of units is defined as the unit of measurement of the usage (eg minutes of use- or call-related database queries) of the Essential Facilities.<sup>146</sup>

In April 2004, in terms of an amendment to sections 43 and 44 of the Telecommunications Act<sup>147</sup>, those operators licensed under the Act in terms of sections 32B, 32C, 36, 37, 38, 39 and 40A (which includes Sentech, the SNO, the mobile operators and Vans) have all been declared to be Public Operators for purposes of the Facilities Leasing Guidelines. Public operators are obliged to make telecommunications facilities available to facilities acquirers in accordance with the provisions of the charging mechanism set out in the 2002 Facilities Leasing Guidelines.

### ***5.3.5 Second National Operator (SNO)***

A significant amendment to the 2000 Facilities Leasing provisions is an amendment that makes the provisions consistent with the two-year period during which Telkom and the SNO may share infrastructure. Any facilities leasing agreement reached between Telkom and the SNO, shall lapse after a period of two years under the 2002 Facilities Leasing Guidelines.

These Guidelines and the Facilities Leasing Guidelines are without prejudice to the rights granted to the second network operator under section 32A of the Telecommunications Act. Pursuant to section 32A(2)(a) and section 32A(4)(c) of the Telecommunications Act, any Facilities Leasing agreements entered into by the second network operator with Telkom relating to resale for the purpose of providing public switched telecommunication services shall lapse two years after the date of their conclusion. The term of any Facilities Leasing agreements entered into pursuant to section 44 of the Telecommunications Act by the second network operator and Telkom relating to Facilities Leasing shall be governed by the terms and conditions of such Facilities Leasing agreements and applicable law.<sup>148</sup>

### ***5.3.6 Obligations of facilities provider***

A request for any Essential Facilities is deemed to be reasonable when those Facilities are provided by a Major Operator unless Icasa determines otherwise, in an instance where the reasonableness is disputed and such dispute is referred to Icasa.<sup>149</sup> The Essential Facilities of a Major Operator include:

- (a) shared access to the local loop by SNO in terms of section 32A(2)(a) of the Telecommunications Act;
- (b) switching facilities;

<sup>146</sup> Ibid.

<sup>147</sup> GN439/2004, GG 26224 dated 1 April 2004.

<sup>148</sup> Guideline 2.2 of the 2002 Facilities Leasing Guidelines.

<sup>149</sup> Guideline 3.3 of the 2002 Facilities Leasing Guidelines.

<sup>150</sup> Guideline 3.3 of the 2002 Facilities Leasing Guidelines.

<sup>151</sup> Guideline 3.5 of the 2002 Facilities Leasing Guidelines.

- (c) collocation space and facilities where such space exists, allowing for reasonable expansion by the Major Operator in determining space availability;
- (d) transmission facilities connecting two or more local exchanges within a local exchange area;
- (e) rights of way, way leaves or servitudes to the extent permissible under the Major Operator's rights-due regard shall be given to s 32B (5) (d) and (e) of the Act; and
- (f) space on or within poles, ducts, cable trays, manhole, hand holds and conduits owned or controlled by the Major Operator and where such space exists allowing for reasonable expansion by the Major Operator in determining space availability. Any services that are ancillary and necessary for the provision of the above shall be provided.<sup>150</sup>

In terms of the Interconnection Guidelines, a request for interconnection with an Essential Service is not deemed to be reasonable unless certain criteria are met, whereas in the facilities leasing provisions, a request for an Essential Facility is deemed reasonable. However, a facilities provider need not make telecommunications facilities that are Essential Facilities available where the facilities provider does not also make such telecommunication facilities available to itself or an affiliate or uses such telecommunication facilities in offering its own competing service.<sup>151</sup> The 2002 Facilities Leasing Guidelines apply to all facilities providers and facilities acquirers and sets out additional rights and obligations when concluding facilities leasing agreements. The 2002 Facilities Leasing Guidelines should be read in conjunction with the 2000 Facilities Leasing Guidelines as together they form a single regulatory framework for facilities leasing under section 44 of the Telecommunications Act.

## Conclusion

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Interconnection and facilities leasing allows industry participants to offer their customers an enhanced service through the sharing of networks and infrastructure. This approach to providing services also reduces the infrastructure investment required while enhancing the productivity of telecommunications networks. These benefits can only accrue if the telecommunications market is structured to promote such co-operation in interconnection between competing industry players. In environments where a monopoly or duopoly exists, established industry players would not feel obliged to entertain such cooperative arrangements since their market dominance does not require them to cooperate with other parties. This state of affairs does not promote improved services and the efficient allocation of resources, which is ultimately to the detriment of the consumer. To counteract this detrimental state of affairs, a degree of industry regulation is desirable. However, regulation needs to maintain a balance between promoting desirable socio-economic outcomes and action, which may be construed as

interfering with the commercial relationships between industry players. Industry should be provided with clear guidelines that incentivise competing industry players to cooperate without reducing their level of competitive intensity since this ultimately also provides benefits to the consumer.

South Africa is currently confronted with the scenario outlined above and needs to carefully manage its regulatory environment to meet these challenges. In addition, the regulation of the industry takes place within the context of South Africa's existing trade regime governed by agreements with inter alia the World Trade Organisation and the International Telecommunications Union. New international standards across networks as well as technological advancements require an ongoing review of the applicability of the regulatory regime. In this regard, South Africa is following in the footsteps of a number of developed and developing countries that have confronted this challenge and attempted to create an industry environment to suit the requirements of all its stakeholders.

To date, South Africa has incorporated references to interconnection and facilities leasing in its existing legislation. However, the development of more detailed regulations and the manner of their implementation will ultimately determine their ability to influence the behaviour of industry players to meet the objectives of the legislation. Without such explicit regulatory guidance, the benefits emanating from structured cooperation between industry players will not accrue and the dominant operator will continue to utilise its market dominance to limit the reach of its competitors and ultimately limit the options available to consumers.

Therefore, in order for government to achieve its mandate of 'access to telecommunications for the achievement of economic and social goals ...' as well as '... affordable communications' through the development of a competitive telecommunications industry, it needs to ensure that its regulatory mechanisms in interconnection and facilities leasing, are adhered to and are continually updated to keep abreast of new commercial and technology developments.

# Telecommunications Pricing Regulation

Lisa Thornton and James Hodge<sup>1</sup>



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<sup>1</sup> The authors would like to thank Mandla Msimang for providing information for the completion of this chapter.

# Introduction

This chapter focuses on retail pricing regulation in the telecommunications arena.<sup>2</sup> It begins with a look at why it is important to regulate telecommunications pricing. The next section sets out the relevant provisions of the Telecommunications Act, 103 of 1996. The following two sections detail the implementing of pricing regulation regarding the public switched telecommunication services (PSTS) and mobile cellular telecommunication services (MCTS) market segments, respectively. The next section details the rules for the keeping and producing regulatory accounts. The conclusion offers several recommendations for an improved regulatory regime for pricing regulation.

## 1. WHY PRICING REGULATION?

Pricing regulation is necessary where markets fail to produce competitive prices.<sup>3</sup> This is certainly true in South Africa. A monopoly situation does not produce competitive prices and Telkom has enjoyed a monopoly in respect of PSTS for more than eight years since the start of the current regulatory regime. A duopoly in the MCTS market segment also does not produce competitive prices.<sup>4</sup> Thus, effective pricing regulation is essential in the South African telecommunications market.

The importance of effective pricing regulation has been expressed clearly by various experts, including the following.

The importance of price regulation during the development of competition is not to be disputed. However, the regulatory approach must be commensurate with market conditions. Telecommunications networks involve huge investments. At the early stage of market liberalisation, the incumbent would still possess enormous market power. Without ex ante regulation, damage to the competition environment could be done before new entrants could ever establish a foothold, thus shying away potential investors.<sup>5</sup>

## 2. THE TELECOMMUNICATIONS ACT PROVISIONS REGARDING PRICING

### 2.1 Determining Fees and Charges for Telecommunication Services – The Rate Regime

Section 45(1) of the Telecommunications Act states that the fees and charges that may be levied by a licensee for telecommunication services are to be determined in a manner that may be prescribed by regulation by the Independent Communications Authority of South Africa (Icasa).<sup>6</sup> Generally the regulations made are referred to as the

<sup>2</sup> A discussion of wholesale pricing regulation is included in Chapter 6 herein, on interconnection and facilities leasing. See also J Hodge, Determination of Administered Prices in Telecommunications in South Africa, paper prepared for the National Treasury; H Intven (ed) Telecommunications Regulation Handbook, Module 4 - Price Regulation (2000); L Thornton, et al Telecommunications Legislation as Barriers to E-Commerce, Cyberlaw@SA II: The Law of the Internet in South Africa (R Buys ed) (Van Schaik Publishers 2004) 250 et seq.

<sup>3</sup> See Intven (note 2 above).

<sup>4</sup> See para 4.2 below.

<sup>5</sup> *M H Au* 'Why Regulate Price Cuts?' 21 November 2004, available at [http://www.ofta.gov.hk/en/dg\\_article/au\\_articles/20041121.html](http://www.ofta.gov.hk/en/dg_article/au_articles/20041121.html).

<sup>6</sup> Prescribe is defined to mean prescribed by regulation and regulation is defined to mean a regulation made under section 96 of the Telecommunications Act. Section 96 empowers Icasa to prescribe regulations, however, no regulation prescribed by Icasa is effective unless and until approved and published by the Minister of Communications in terms of section 96(6).



rate regime.

Evident from the wording of section 45(1), it is within Icasa's discretion whether to prescribe the manner for determining fees and charges for licensees. However, section 45(2) provides that Icasa must prescribe the manner for determining fees and charges in 'fields' where there is insufficient competition. Presumably, 'fields' refers to the various categories of services that may be licensed in terms of section 33 of the Telecommunications Act, for example, PSTS and MCTS. It is also within Icasa's discretion to determine whether there is insufficient competition.

There is a proviso in section 45(2) of the Telecommunications Act, which provided that the Minister had to determine the rate regime in respect of Telkom SA Limited (Telkom), which would be in force for three years from the date when Telkom's PSTS license was issued. The Telecommunications Amendment Act 64 of 2001 amended the three-year period because Icasa<sup>7</sup> had not yet prescribed the rate regime for Telkom despite the lapse of the three-year period.<sup>8</sup>

Section 45(3) of the Telecommunications Act states that as from a date determined by the Minister of Communications, all public schools<sup>9</sup> and public further education and training institutions<sup>10</sup> will be entitled to a 50 percent discount from PSTS providers on telecommunication calls to an Internet service provider (ISP) and to fees and charges levied by ISPs. As at July 2004, the Minister had not yet determined the date on which such discount would begin. No discounts have yet been offered by Telkom or by ISPs (which are licensed as value added network services (Vans) providers).

## 2.2 Accounts and Records to be kept by Licensees

Section 46(1) of the Telecommunications Act requires telecommunication services licensees to keep accounts and records relating to the provision of telecommunication services, as may be prescribed by Icasa.

Section 46(2) specifically relates to Telkom and stipulates that Telkom must keep accounts as may be prescribed by Icasa in respect of at least<sup>11</sup> the following:

- each telecommunication service provided, where another person provides that service in competition with Telkom Vans<sup>12</sup>
- each interconnection to its telecommunications system<sup>13</sup> or instance where telecommunication facilities are made available.<sup>14</sup>

In addition, section 97 of the Telecommunications Act provides that Icasa may direct any licensee to give to it, accounts, records and other documents or information relating to any matter in respect of which a duty or obligation is imposed on the licensee.

<sup>7</sup> And its predecessor, the South African Telecommunications Regulatory Authority (Satra).

<sup>8</sup> Telkom's exploitation of this apparent lacuna in the regulatory framework, to increase fees and charges above that allowed will be discussed below at para 3.3.

<sup>9</sup> Public schools are public schools as defined in the South African Schools Act 84 of 1996.

<sup>10</sup> Public further education and training institutions are those defined in the Further Education and Training Act 98 of 1998.

<sup>11</sup> Section 46(2)(c) provides that Icasa may prescribe other parts of Telkom's operations where separate accounts must be kept.

<sup>12</sup> Vans are regulated in terms of section 40 of the Telecommunications Act, inter alia.

<sup>13</sup> Interconnection is regulated in terms of section 43 of the Telecommunications Act, inter alia.

<sup>14</sup> The making of telecommunication facilities available is regulated in terms of section 44 of the Telecommunications Act, inter alia.

### 3. THE REGULATION OF PSTS RETAIL PRICING

#### 3.1 The Ministerial Rate Regime

The Minister of Communications<sup>15</sup> issued a determination of the rate regime in terms of the proviso in section 45(2) of the Telecommunications Act in May 1997.<sup>16</sup> The determination was only applicable to certain services listed, which were called ‘Basket Services’. Such services included<sup>17</sup> –

- Installation Services (for exchange lines)
  - residential customers
  - business customers
  - direct dialling inward/outward for business customers
  - ISDN services
  - Switched telematic services
- Rental services (provision and maintenance of exchange lines)
  - residential customers
  - business customers
  - direct dialling inward/outward for business customers
  - ISDN services
  - Switched telematic services
  - Point-to-point telecommunication circuits leased to customers (excluding Interconnection services)
- Call services (from customer premises equipment or payphone)
  - Local calls
  - Fixed to mobile calls
  - Long-distance calls
  - International calls
  - Switched telematic services
  - Directory information services
  - Telephone operator services

It excluded other services, including certain PSTS, namely interconnection services and emergency numbers.<sup>18</sup> It also allowed the elimination of services from the basket from time to time<sup>19</sup> Telkom could apply to the Minister of Communications to add or replace an element of the Basket Services but only if it was a substitution of an existing service or in the case of packaged offerings with regard to existing services.<sup>20</sup>

The initial rate regime was a classic price cap mechanism,<sup>21</sup> with the productivity factor set at 1.5 percent<sup>22</sup> and a maximum price movement of any service within the basket within the price control period of one year, of 20 percent.<sup>23</sup>

<sup>15</sup> Then known as the Minister for Posts, Telecommunications and Broadcasting.

<sup>16</sup> Notice 772 of 1997, Ministerial Determination on Fees and Charges for Telecommunication Services, published in Government Gazette 17984 dated 7 May 1997.

<sup>17</sup> See Schedule A of Notice 772 of 1997 (note 16 above).

<sup>18</sup> Non-PSTS that were specifically excluded were Vans, MCTS and customer premises equipment.

<sup>19</sup> See Schedule A of Notice 772 of 1997 (note 16 above).

<sup>20</sup> Para 3 of Notice 772 of 1997 (note 16 above).

<sup>21</sup> For a discussion of price cap regulation generally, see H Intven (ed) *Telecommunications Regulation Handbook*, Module 4 – Price Regulation (2000) paras 4.3–4.

<sup>22</sup> Notice 772 of 1997 (note 16 above) para 2 and Schedule b.

<sup>23</sup> Para 4(b) of Notice 772 of 1997 (note 16 above).

A price cap mechanism was probably chosen at the time because it was generally considered regulatory best practice where there is considerable scope for efficiency gains. In addition, it is unlikely that the government had adequate cost information or expertise to engage in other cost-based regulation.<sup>24</sup>

As the process leading to the publication of the initial rate regime was not a public process, it is difficult to say why a particularly conservative productivity factor was chosen. However, one can guess that some or all of the factors below may have played a role.

- The considerable debt held by Telkom at the time and the need to place Telkom on better financial footing;
- The desire to attract a strategic equity partner for Telkom;
- The universal service and access obligations imposed on Telkom in exchange for its exclusivity period; and
- The lack of regulatory accounts kept by Telkom limiting the ability of government to accurately set the price cap.<sup>25</sup>

Paragraph 7 of Telkom's PSTS license gave Telkom the right to call for a rate regime review after three years if it felt that the existing or future rate regime was 'reasonably likely to have a materially adverse impact on the Licensee or the Licensee's ability to fulfil its obligations under [the] license...'<sup>26</sup> Telkom never invoked this right.

Because Telkom did not call for a rate regime review, it should be assumed that the rate regime was not having a 'materially adverse impact' on it, reinforcing the perception that the initial productivity factor was too conservative. This fact, along with the fact that Telkom had decreased its debt, a private investor had been found, and a coming to the end of Telkom's universal service and access obligations set out in its license, should have suggested that the productivity factor would increase significantly after the exclusivity period. This, however, did not happen.

### 3.2 The First Icasa Rate Regime

In addition to publishing the first rate regime in May 1997, the Minister of Communications issued a policy direction in terms of section 5(4)(a) of the Telecommunications Act.<sup>27</sup> That policy direction, inter alia, stated that any review of the rate regime should not have a material adverse impact on Telkom or Telkom's ability to meet universal service and access obligations set out in its license.<sup>28</sup>

Icasa began a review of the rate regime in December 2000 with a notice indicating its intention to conduct an enquiry in terms of section 27 of the Telecommunications Act.<sup>29</sup> Icasa's Consultation Document included in the notice

<sup>24</sup> Hodge (note 2 above).

<sup>25</sup> Hodge (note 2 above).

<sup>26</sup> Licence Issued to Telkom SA Limited to Provide Telecommunication Services under s 36 of the Telecommunications Act, 1996, Notice 768 of 1997, Government Gazette 17984 dated 7 May 1997.

<sup>27</sup> A policy direction is a direction issued by the Minister, which must be consistent with the Telecommunications Act, directing Icasa to carry out its powers and functions in terms of a stated policy.

<sup>28</sup> Notice 773 of 1997 Ministerial Policy Direction on Fees and Charges for Telecommunication Services, published in Government Gazette 17984 dated 7 May 1997.

<sup>29</sup> Notice 4715 of 2000 published in Government Gazette 21925 dated 22 December 2000.

was quite comprehensive and asked many questions to elicit public comment. The findings of the section 27 enquiry were published in the Government Gazette on 23 April 2001.<sup>30</sup> Icasa also published a notice of its intention to make rate regime regulations in terms of section 96 of the Telecommunications Act.<sup>31</sup>

Some areas of concern emerged from the section 27 enquiry carried out by Icasa. First, the initial productivity factor was too low. Second, residential customers were extremely vulnerable to rate rebalancing and had to be protected. And third, abuses of the forecasted Consumer Price Index (CPI) had to be curbed.

In the proposed regulations, Icasa removed the potential for abuse of CPI forecasts by using the September-to-September increase in CPI where information would be available from Statistics South Africa,<sup>32</sup> instead of the January-to-January forecasted CPI, previously used. The forecasted method had served only Telkom's interests, with it overestimating the CPI increase by 1,0 percent in the 1997 filing and 0,9 percent in the 1999 filing, but only underestimating by 0,1 percent in the 1998 filing and 0,2 percent in the 2000 filing.<sup>33</sup>

Icasa proposed providing better protection for residential customers by introducing a residential sub-basket,<sup>34</sup> and limiting further the maximum increase for any single service.<sup>35</sup> However, it was probable that Telkom's rebalancing of rates had already been taken too far, which left residential customers subsidising Telkom's competitive Vans and other business services.<sup>36</sup>

Arguably, the most important aspect of the rate regime review — determining what the productivity factor should be — could not be answered effectively because Telkom had failed to produce regulatory accounts.<sup>37</sup> All that the interested parties could do was voice their opinions on high prices. Against this, Telkom argued that the productivity factor should be 0,0 percent because 'it had already achieved virtually all efficiency improvements possible',<sup>38</sup> and that 'its profitability has been considerably reduced' by its obligations for universal service and access set out in its license.<sup>39</sup>

Icasa was put in the difficult position of believing that a more liberal productivity factor was needed but lacking the regulatory accounting data from Telkom to determine exactly what factor would be reasonable. In the end, Icasa recommended a productivity factor of 5 percent,<sup>40</sup> which was at least consistent with productivity factors set in other comparable jurisdictions.<sup>41</sup>

Despite a lack of regulatory accounting data from Telkom, Icasa could have made greater use of the information in Telkom's annual reports to provide a sounder empirical basis for its recommendation, as demonstrated by William H Melody in his assessment of Telkom's price increase for 2003. Icasa could have built a stronger case by determining the soundness of Telkom's financial footing, Telkom's productivity improvements, and the real cost increases of

<sup>30</sup> Notice 886 of 2001 published in Government Gazette 22240 dated 23 April 2001.

<sup>31</sup> Notice 887 of 2001 published in Government Gazette 22241 dated 23 April 2001.

<sup>32</sup> Notice 887 (note 31 above) at 3(a).

<sup>33</sup> Hodge (note 2 above).

<sup>34</sup> Notice 887 (note 31 above) at 3(b).

<sup>35</sup> Notice 887 (note 31 above) at 6(b).

<sup>36</sup> Hodge (note 2 above).

<sup>37</sup> See paragraph 5.1 below.

<sup>38</sup> Notice 886 of 2001 (note 30 above) para 7.1.

<sup>39</sup> Notice 886 of 2001 (note 30 above) para 9.2.

<sup>40</sup> Notice 887 of 2001 (note 31 above) 3(a)).

<sup>41</sup> Hodge (note 2 above).

telecommunications equipment (as opposed to CPI). In fact, had ICASA made such determinations, it might have concluded that a 5 percent productivity factor was too low, considering labour productivity had improved by an average annual rate of 14,1 percent from 1997 to 2000.<sup>42</sup> If Icasas had erred on the side of consumers in setting a relatively high productivity factor, this may have served as an incentive for Telkom to produce regulatory accounts to justify a lower productivity factor.

After the period for comments on the proposed regulations, Icasas, it was reported, proposed a productivity factor of 3 percent.<sup>43</sup> It has been suggested that Icasas decided to set the productivity factor at 3 percent (rather than the 5 percent originally proposed) to try to avoid litigation initiated by Telkom.<sup>44</sup> Publicly Icasas stated that the weakening of the world economy had influenced its decision.<sup>45</sup>

In fact, Icasas's attempted compromise only weakened its position as regulator and guardian of the public interest. As with all regulations, Icasas submitted its regulations to the Minister of Communications for approval and publication. However, the Minister did not approve the regulations. The Minister sent them back for reconsideration, in particular over the issue of the productivity factor. It is understood that the Minister suggested to Icasas that the productivity factor should be 1,5 percent. Icasas had little choice; it could make regulations with a productivity factor of 1,5 percent or risk continued non-approval of its rate regime regulations. The Minister's proposed 1,5 percent was midway between the Telkom position and Icasas's regulations originally sent to the Minister (0 percent and 3 percent respectively) and significantly below the originally proposed 5 percent, which itself was probably too low.<sup>46</sup>

The Minister finally approved and published the rate regime regulations on 26 November 2001.<sup>47</sup> The rate regime regulations, like the previous rate regime set out by the Minister of Communications, set out a classic price cap mechanism. They were only applicable to basket services. The delineation of basket services did not change.<sup>48</sup> Furthermore, Telkom can still apply to Icasas to add or replace an element of the basket services but only if there is a substitution of an existing service or in the case of packaged offerings with regard to existing services.<sup>49</sup>

The new regulations differ from the initial rate regime in three respects. First, the original rules did not have a residential sub-basket, which the new regulations do have. The residential sub-basket consists of line rental, local, national and international calls and payphones.<sup>50</sup> Second, the original rules did not permit a carryover. The new regulations allow Telkom to carry over to the next year any unused increase in both the basket and residential sub-basket.<sup>51</sup> Third, the original rules enabled a 20 percent real movement in the price of any single service. The current regulations limit such movement to five percent.<sup>52</sup>

<sup>42</sup> See W H Melody Assessing Telkom's 2003 Price Increase Proposal: Price Cap Regulation as a Test of Progress in South African Telecom Reform, and E-economy Development (November 2002) paras 4-5 (available at [link.wits.ac.za/research/wm20021130.htm](http://link.wits.ac.za/research/wm20021130.htm)).

<sup>43</sup> L Stones "Icasas to curb Telkom's price hikes", *Business Day* (14 September 2001).

<sup>44</sup> Hodge (note 2 above).

<sup>45</sup> L Stones "Minister meddled in Icasas's proposals", *Business Day* (6 November 2001).

<sup>46</sup> Hodge (note 2 above).

<sup>47</sup> Government Notice No R 1248 Regulations: Fees and Charges in the Public Switched Telecommunications Sector, published in *Government Gazette* 22870 dated 26 November 2001.

<sup>48</sup> See Schedule A of No R 1248 (note 47 above).

<sup>49</sup> R 1248 (note 47 above) para 7.

<sup>50</sup> No R 1248 (note 47 above) para 4.

<sup>51</sup> No R 1248 (note 47 above) para 5.

<sup>52</sup> No R 1248 (note 47 above) para 8(2).

### 3.3 The Rate Regime Dispute

One could argue that Telkom abused its position as a partially state-owned entity to influence a situation that forced Icasa to set the productivity at such an unreasonably low percentage (1,5 percent). Worse to come, however, was Telkom's refusal to abide by Icasa's rate regime regulations once they were approved and published by the Minister of Communications.

When the Telecommunications Act was first promulgated, section 45(2) provided that Minister of Communications' determination of the rate regime in respect of Telkom would be in force for three years from the date when Telkom's PSTS licence was issued. Three years from the issuance of Telkom's licence was 7 May 2000.

By 7 May 2000, however, Icasa had not made and the Minister of Communications had not approved and published the new rate regime regulations. The Minister finally approved and published the rate regime regulations only on 26 November 2001.

Telkom, however, on 14 November 2001 filed its tariff increases to be implemented 1 January 2002. That tariff filing did not abide by the Ministerial rate regime, nor did it abide by the first Icasa rate regime regulations. It used a productivity factor of 0 percent. As a result, instead of a nominal increase of rates of 2.9 percent, Telkom increased rates 5.5 percent – 2.6 percent higher than the regulations allowed. Telkom also removed the 50–100 km band from the call structure, making all such calls long distance. This primarily affected Johannesburg – Pretoria traffic and significantly raised the price of what were previously local calls. Telkom had done a similar thing in the 1999 tariff filing, dropping the call category of 100–200 km.<sup>53</sup>

The rate regime put in place by the Minister of Communications in 1997 did not set out procedures for the filing of tariffs. However, Telkom's PSTS licence did include some procedures, including a provision indicating that tariff increases in terms of the rate regime had to be filed at least 30 business days prior to their planned implementation. So, if Telkom wanted to increase tariff rates on 1 January 2002, it was required to submit its tariff filing mid-November 2001. There was, however, no requirement that Telkom increase rates as of 1 January of any year.

Although the Telecommunications Act was amended to extend the life of the Ministerial rate regime until a new one was promulgated, the amendment was placed in the Telecommunications Amendment Act, 2001, which only came into force on 30 November 2001.<sup>54</sup>

Telkom exploited this set of events by filing its proposed tariff increases prior to the coming into force of the regulations. It filed in what it believed was a rate regime lacunae,<sup>55</sup> not following any set of rules.<sup>56</sup>

Understandably, Icasa objected to Telkom putting in place the rate increases in its November 2001 tariff filing because they did not abide by the rate regime

<sup>53</sup> Hodge (note 2 above).

<sup>54</sup> Telecommunications Amendment Act, 64 of 2001 published in Government Notice 1264 in Government Gazette 22889 dated 30 November 2001.

<sup>55</sup> Although the rate regime lacunae also existed in 2000/2001, there apparently was no dispute regarding the filing of the tariff rate increases that became effective 1 January 2001.

<sup>56</sup> Arguably, even if the new regulations did not apply, the previous Ministerial rate regime should have applied. See the unreported judgment of the High Court (Transvaal Provincial Division) in the matter of *Independent Communications Authority of South Africa v Telkom SA Limited and Another* (TPD, 31 December 2001, case no 33507/2001) 7.

regulations. Icasa sought an interdict against Telkom in the High Court in respect of implementing such increases.<sup>57</sup>

Telkom, on the other hand, insisted that it was not required to abide by such regulations for its January 2002 rate increases because the regulations had not yet been published by the Minister of Communications and challenged the validity of Icasa's first rate regime regulations. It later submitted an application to the High Court seeking a review of Icasa's regulations.<sup>58</sup>

Icasa's request for an urgent interdict was turned down on the basis, *inter alia*, that Telkom offered to reimburse consumers in the eventuality of a court finding that its tariff filing was invalid.<sup>59</sup> The court also was under the impression that Telkom had abided by the previous Ministerial rate regime regulations, although this was in fact, not true.<sup>60</sup>

The substance of the matters was not finally adjudicated because Icasa reached an out of court settlement with Telkom on 5 June 2002.<sup>61</sup> The settlement allowed Telkom to implement its tariff increases in spite of the fact that they were in violation of the rate regime regulations. However, Telkom is supposed to reimburse consumers R320,000,000 over the following two year period (2003/2004) by imposing increases below the maximum permissible by the rate regime regulations. Telkom is also supposed to, among other things, ensure local call increases do not exceed what they would have been over a three year period (2002/2003/2004) if the rate regime regulations had been abided by, and offer a special lifeline service to defaulting customers so that such customers could still receive incoming calls and make outgoing emergency calls. Icasa agreed to amend the rate regime regulations for clarity. The Minister finally approved and published the amended rate regime regulations on 24 October 2002.<sup>62</sup>

Despite Telkom's arguments, Telkom's 2002 Annual Report indicated delivering labour productivity improvements of 11 percent (after announcing the end of efficiency improvements a year earlier). Profit and operating revenue each increased eight percent, earnings per share 17 percent and cash flow from operations 16 percent.<sup>63</sup> Clearly, Telkom's arguments for a productivity factor of 0,0 percent were not supported by the facts, and its putting into place tariff increases in violation of the rate regime regulations was unconscionable.

### 3.4 The Filing of Tariffs

Those services providers who are subject to pricing regulation are required to file tariffs with Icasa. The purpose of the filings is for Icasa to determine whether the proposed rate increases (or decreases) conform to the rate regime regulations in force at the time.

Paragraph 6 of Icasa's 2002 rate regime regulations sets out the filing requirements for Telkom. It requires that Telkom file tariffs at least thirty business days before the proposed date on which the proposed rates are to become effective. The regulations also indicate that Icasa may specify the form in which the tariff

<sup>57</sup> Case number 33507/2001 (Transvaal Provincial Division).

<sup>58</sup> Case number 10716/2002.

<sup>59</sup> See *Icasa v Telkom* (note 55 above).

<sup>60</sup> *Icasa v Telkom* (note 55 above) 4 (the Court's discussion of Telkom's argument).

<sup>61</sup> Settlement Agreement entered into between the Independent Communications Authority of South Africa and the Chairperson of the Independent Communications Authority of South Africa and Telkom SA Limited.

filings are to be made.<sup>64</sup> Telkom is also required to file the standard terms and conditions under which it offers services.<sup>65</sup>

The regulations permit Icasa to ‘disapprove’ the proposed rates only if-

- the calculations contain mathematical errors, or
- the terms and conditions violate applicable laws, including without limitation, policy directions, regulations and the Rate Regime, in a material respect.<sup>66</sup>

Thus, Icasa does not approve Telkom’s rates as is sometimes assumed. It carries out an administrative function in determining whether the calculations are correct. It is also supposed to carry out an audit type process to determine whether the standard terms and conditions are consistent with all law.<sup>67</sup> In addition, if Icasa does not disapprove the tariff filing within fifteen business days of the proposed effective date, the tariff filing is deemed approved (whether the calculations are correct and whether the terms and conditions violate applicable law).<sup>68</sup>

## 4. THE REGULATION OF MCTS RETAIL PRICING

### 4.1 The Rate Regime

The initial rate regime for the MCTS licensees was provided for in the MCTS licences, in particular in paragraph 13.<sup>69</sup> Paragraph 13.5 of the original Vodacom and MTN licence provided that the licensees could increase tariff rates by no more than the percentage year on year increase in CPI, unless a greater increase was otherwise approved by the then Postmaster General. Paragraph 13.7 indicated that the base tariff rates were annexed to the licence. The provisions of Vodacom’s and MTN’s amended licences, in paragraph 13, are substantially similar.<sup>70</sup> Cell C’s licence does not include similar rate regime provisions. In issuing the licence, Icasa thus determined not to regulate Cell C’s rates.<sup>71</sup>

The rate regime for Vodacom and MTN is a price cap mechanism, not unlike the regime for Telkom. However, the productivity factor is set at 0 percent. It is also different from the regime applicable to Telkom in that the price cap applies to each tariff plan.<sup>72</sup> As a result, there is no need for the imposition of a maximum movement for individual plans. There is thus also no control on a basket of tariff plans that an MCTS licensee provides.<sup>73</sup>

<sup>64</sup> Government Notice No R 1333 Regulations: Manner of Determining Fees and Charges for Telecommunications Services in the Public Switched Telecommunications Services (PSTS) Sector published in Government Gazette 23986 dated 24 October 2002.

<sup>65</sup> Melody (note 42 above) para 4.

<sup>66</sup> No R 1333 (note 62 above) para 6(2).

<sup>67</sup> No R 1333 (note 62 above) para 6(1).

<sup>68</sup> No R 1333 (note 62 above) para 6(4).

<sup>69</sup> It is not clear whether Icasa does in fact carry out this audit type function regarding the standard terms and conditions proposed by Telkom. It is also not clear whether the time allowed (15 business days) is enough to carry out this function effectively.

<sup>70</sup> No R 1333 (note 62 above) para 6(3).

<sup>71</sup> Notice 1078 of 1993 published in Government Gazette 15232 dated 29 October 1993.

<sup>72</sup> Notices 1483 and 1484 of 2002 published in Government Gazette 23760 dated 19 August 2002, Vodacom’s and MTN’s licences respectively.

<sup>73</sup> Notice 1601 of 2001 published in Government Gazette 22429 dated 29 June 2001. But see para 12 regarding Cell C’s tariff filing requirements.

<sup>74</sup> Notices 1483 and 1484 (note 70 above) para 13.5.

<sup>75</sup> See Hodge (note 2 above).



Community Service Telephones<sup>74</sup> (CSTs) by all MCTS licensees are regulated differently from the regulation of commercial rates. Any increase in tariff rates for CSTs must be approved by Icasa.<sup>75</sup> Vodacom and MTN are also required to decrease tariff rates for CSTs if interconnection charges and other fees payable by the Licensee to Telkom are less than that provided for at the time.<sup>76</sup>

The establishment of an initial rate regime for MCTS licensees was conducted in absence of much information on which to base determinations such as the determination of an appropriate productivity factor. MCTS was a new market segment in South Africa, so there were no costs or operational history. The initial productivity factor of 0 percent seems relatively lenient but not unreasonable for an initial period where the licensees would have to roll out a new network to cover a significant geographic area and percentage of population. There may also have been less concern about getting the productivity factor correct, given the existence of some competition in the market segment.<sup>77</sup>

## 4.2 Rate Regime Reviews

Icasa began a review of the MCTS rate regime in June 1999 with a notice indicating its intent to make regulations regarding the manner of determining fees and charges.<sup>78</sup> The regulations proposed a price cap mechanism, with the productivity factor set at 1.5 percent for each basket and each service within the basket.<sup>79</sup> The regulation proposed the following baskets –<sup>80</sup>

- Basic Basket
  - Local calls
  - National calls
  - Mobile to mobile calls
  - Calls to 0800 numbers
  - Calls to 089 numbers
  - Directory calls
  - Call forwarding: local calls and national calls
  - Voice mail
  - Monthly subscription (which includes free minutes where applicable)
- International Voice Basket
- Data and Fax Basket
- Faxmail Basket

<sup>74</sup> Community Service Telephone was defined in the original Vodacom and MTN licence as Terminal Equipment which is registered as such by a Licensee in its own records; and is made available to the general public for the provision of the Service, and to this end is freely accessible; and is located in an Under-served Area or in a Community Centre; and is provided at tariffs which include a Community Service Telephone Tariff in terms of the licence. Notice 1078 of 1993 (note 69 above). The definition in Vodacom's and MTN's amended licences is the same. Notices 1483 and 1484 of 2002 (note 70 above). The definition in Cell C's licence is slightly different. Notice 1601 of 2001 (note 71 above).

<sup>75</sup> Notice 1078 of 1993 (note 69 above) para 13.6 (Vodacom's and MTN's original licence); Notices 1483 and 1484 of 2002 (note 70 above) para 13.6 (Vodacom's and MTN's amended licences, respectively); Notice 1601 of 2001 (note 71 above) 12.5 (Cell C's licence).

<sup>76</sup> Notice 1078 of 1993 (note 69 above) para 13.10 (Vodacom's and MTN's original licence); Notices 1483 and 1484 of 2002 (note 70 above) para 13.10 (Vodacom's and MTN's amended licences, respectively). There is no similar provision in Cell C's licence.

<sup>77</sup> Hodge (note 2 above).

<sup>78</sup> Notice 1320 of 1999 published in Government Gazette 20205 dated 11 June 1999.

<sup>79</sup> Notice 1320 of 1999 (note 78 above) para 3.

<sup>80</sup> Notice 1320 of 1999 (note 78 above) definition of Basket of Services.

The proposed regulation allowed the licensees to eliminate services from the basket from time to time.<sup>81</sup>

The rate regime regulations for MCTS have, as at July 2004, not been promulgated. There may be a number of reasons for this. First, there is some degree of competition in the market segment. Second, there are huge resource constraints at Icasa and other issues, such as the licensing of the third MCTS licensee (Cell C) and the SNO, have taken priority.<sup>82</sup>

If the primary reason that the rate regime regulations for MCTS have not been promulgated is resource constraints at Icasa, that is somewhat understandable. However, the existence of two or even three competitors in the MCTS market segment does not equal competition sufficient to forbear regulating prices. The MCTS market segment is one in which there are huge entry barriers, the most significant of which is regulatory — the need to obtain services and frequency use licences. Further, studies in other markets have suggested collusion is more likely than competition. And while a finding of collusive behaviour in other markets does not necessarily indicate collusion in the South African market, it does establish that there is a high probability of collusion in this market segment.<sup>83</sup>

Given persistently high MCTS rates, there would appear to be enough evidence to suspect that there might be some collusion in the MCTS market segment, suggesting an investigation would be a useful exercise. Of course, at this point the concern is not that collusion happened in the past, but rather that it continues to occur.<sup>84</sup>

### 4.3 The Filing of Tariffs

The MCTS licences set out the tariff filing requirements.<sup>85</sup> The MCTS licensees must file tariffs at least seven days before the tariff rate is to come into effect and the form of tariff filings must be approved by Icasa and filings must include a description of the service and details of the nature and amounts payable for the service.<sup>86</sup> If the charges vary in amount or nature, details must be provided.<sup>87</sup> In addition, tariff filings must be precise and detailed enough to be used to work out the nature and amounts payable for each service.<sup>88</sup>

## 5. REGULATORY ACCOUNTS

Regulatory accounts house the most important information required for effective pricing regulation. They provide the detailed cost information that makes effective price regulation possible.

Sections 46 and 97 of the Telecommunications Act concern the accounts and records to be kept and produced by a licensee. The sections provide that licensees must keep accounts as prescribed<sup>89</sup> and produce accounts as directed by Icasa.<sup>90</sup>

<sup>81</sup> Notice 1320 of 1999 (note 78 above) para 5.

<sup>82</sup> Hodge (note 2 above).

<sup>83</sup> Hodge (note 2 above).

<sup>84</sup> Hodge (note 2 above).

<sup>85</sup> Notices 1483 and 1484 of 2002 (note 70 above) paras 13.1–13.4 (Vodacom's and MTN's amended licences, respectively); Notice 1601 of 2001 (note 71 above) paras 12.1–12.4 (Cell C's licence).

<sup>86</sup> Notices 1483 and 1484 (note 70 above) para 13.2; Notice 1601 of 2001 (note 71 above) para 12.2.

<sup>87</sup> Notices 1483 and 1484 (note 70 above) para 13.3; Notice 1601 of 2001 (note 71 above) para 12.3.

<sup>88</sup> Notices 1483 and 1484 (note 70 above) para 13.4; Notice 1601 of 2001 (note 71 above) para 12.4.

<sup>89</sup> S 46 of the Telecommunications Act.

<sup>90</sup> Section 97 of the Telecommunications Act.

The content and format in which the licensees must submit their regulatory accounts to Icasa are prescribed in the Chart of Accounts and Cost Allocation Manual (COA/CAM). Three different sets of COA/CAM are currently applicable. Volume 1 sets out high level principles on regulatory accounting. Volume 2 sets out requirements for MCTS licensees. Volume 3 sets out requirements for PSTS licensees. COA/CAM are supplemented by Procedures Manuals, which include more detail than COA/CAM. Procedures Manuals are developed by each licensee and approved by Icasa.<sup>91</sup>

Icasa has exempted new licensees from having to comply with COA/CAM. Cell C (Pty) Ltd, Sentech (Pty) Ltd, the Second National Operator, under-served area licensees and local access telecommunications and public pay telephone services licensees have been exempted completely. Vodacom (Pty) Ltd and Mobile Telephone Networks (Pty) Ltd were exempted from compliance with Volume 1 until Volume 2 had been updated.<sup>92</sup> The updated Volume 2 was published on 5 July 2004.<sup>93</sup>

## 5.1 PSTS Regulatory Accounts

Before the promulgation of COA/CAM by Icasa in 2002 for PSTS licensees and in 2004 for MCTS licensees, certain provisions in the PSTS and MCTS licensees were applicable to regulatory accounts.

Paragraph 8 of Telkom's PSTS licence concerns the preparation of regulatory accounts. In accordance with that paragraph, Telkom is required to establish regulatory accounts in accordance with COA/CAM.<sup>94</sup> Regulatory accounts are defined in paragraph 8.1 as accounts on an historic and a current cost basis in respect of retail activities and wholesale activities separately. Paragraph 8.3 requires Telkom to prepare sufficient accounting and reporting arrangements to comply with paragraph 8.

Paragraph 8.5 allows Icasa to request an audit report in respect of each of the regulatory accounts. The audit report must state whether in the opinion of the auditors, the regulatory accounts comply with COA/CAM and accurately represents the assets, liabilities, revenues, and expenses.<sup>95</sup>

Paragraphs 8.4 and 8.7 of Telkom's license provide Telkom with generous time in which to comply with the requirement to produce regulatory accounts. Paragraph 8.4 states that Telkom does not have to prepare regulatory accounts until it has put in place the necessary accounting and management information systems that will enable it to do so. The paragraph, however, does indicate that such systems must be in place by no later than five years after the issuance of the licence (which was 7 May 2002).<sup>96</sup> The paragraph also indicates that Telkom is not required to do anything that would impose an 'undue burden' on it, 'having regard to its obligations' in terms of the licence.<sup>97</sup>

<sup>91</sup> See para 1.6 of COA/CAM published on 19 July 2002, Notice 1282 of 2002 published in Government Gazette 23632 dated 19 July 2002, for a discussion of the COA/CAM structure.

<sup>92</sup> Notice 278 of 2002 published in Government Gazette 23166 dated 28 February 2002.

<sup>93</sup> Notice 1302 of 2004 published in Government Gazette 26520 dated 5 July 2004.

<sup>94</sup> Notice 768 of 1997 (note 26 above) para 8.2.

<sup>95</sup> Notice 768 of 1997 (note 26 above) para 8.5.

<sup>96</sup> Notice 768 of 1997 (note 26 above) para 8.4.

<sup>97</sup> It is difficult to imagine what undue burden with regard to Telkom's obligations could possibly be imposed by the basic and critical requirement for pricing regulation, to produce regulatory accounts.

Paragraph 8.7 states that until such time that COA/CAM is promulgated by Icasa, Telkom must produce audited annual financial statements in accordance with generally accepted accounting principles. It also states that the COA/CAM may be changed from time to time and that if it is changed, Telkom is entitled to a reasonable time to comply with any new COA/CAM promulgated.

Icasa initiated the regulatory process for the development of COA/CAM in 2001. Icasa requested tenders for the development of COA/CAM for the PSTS market segment in June 2001.<sup>98</sup> On 28 February 2002, it provided notice of its intention to prescribe Volumes 1 and 3.<sup>99</sup> Finally, on 19 July 2002, the Minister of Communications approved and published Volumes 1 and 3 of COA/CAM.<sup>100</sup>

Volume 1 of COA/CAM states that Telkom must submit its first regulatory accounts within six months of the first financial year end after the COA/CAM regulations came into force (which was September 2003, 16 months after Telkom was to have submitted regulatory accounts if Icasa had made the COA/CAM regulations on time).<sup>101</sup>

According to Telkom's license, Telkom was supposed to have produced its regulatory accounts by no later than 7 May 2002 in accordance with the COA/CAM. However, because the COA/CAM applicable to Telkom was not in place until 19 July 2002, it did not do so. In terms of the COA/CAM regulations, Telkom was required finally to produce regulatory accounts by September 2003. As at July 2004, Telkom, however, has not provided to Icasa regulatory accounts. Despite Icasa's indication that it would punish this violation,<sup>102</sup> it has apparently not done so. Telkom's continued disregard for the law makes it impossible for Icasa to effectively regulate Telkom's rates.

## 5.2 MCTS Regulatory Accounts

Vodacom and MTN were supposed to produce accounts in accordance with COA/CAM determined at the time by the Postmaster General in terms of their original licence.<sup>103</sup> Vodacom and MTN produced accounts in accordance with the COA/CAM that had been determined by the then Postmaster General, up to the year 2002.

Vodacom's and MTN's amended licences, issued in August 2002, provided that Vodacom and MTN are supposed to produce accounts in accordance with the COA/CAM determined by Icasa. However, the licence went on to provide that until Icasa promulgated the COA/CAM for MCTS licensees, the licensees were required only to keep and produce records in accordance with generally accepted accounting principles.<sup>104</sup>

Icasa requested tenders for the review of Volume 2 of the COA/CAM for the MCTS market segment in August 2002.<sup>105</sup> On 17 June 2003, it provided notice of its intention to prescribe Volume 2.<sup>106</sup> Finally, on 5 July 2004, the Minister of

<sup>98</sup> Notice 1561 of 2001 published in Government Gazette 22400 dated 22 June 2001.

<sup>99</sup> Notice 279 of 2002 published in Government Gazette 23167 dated 28 February 2002.

<sup>100</sup> Notice 1282 of 2002 published in Government Gazette 23632 dated 19 July 2002.

<sup>101</sup> Notice 1282 of 2002 (note 100 above) para 1.3.

<sup>102</sup> Langa, M 'Four Year Icasa Anniversary and Ten Years of Communications Regulation: Keynote Address for Stakeholders Evening (30 June 2004) 7-8.

<sup>103</sup> Notice 1078 of 1993 (note 69 above) para 12.1.

<sup>104</sup> Notices 1483 and 1484 of 2002 (note 70 above) para 12A.

<sup>105</sup> Notice 1447 of 2002 published in Government Gazette 23758 dated 16 August 2002.

<sup>106</sup> Notice 1742 of 2003 published in Government Gazette 25105 dated 17 June 2003.

Communications approved and published Volume 2 of the COA/CAM.<sup>107</sup>

In terms of the regulations exempting Vodacom and MTN from the requirements of Volume 1, Volume 1 becomes applicable with the publication of Volume 2.<sup>108</sup>

Unlike Telkom, which was supposed to have submitted regulatory accounts within six months of its year-end following the promulgation of Volumes 1 and 3, Vodacom and MTN are required to work out a schedule for implementation with Icasa in terms of paragraph 1.8 of Volume 2. Once that is done, they are to submit regulatory accounts within six months.<sup>109</sup>

## Conclusion

Retail pricing regulation is one of the most important elements of an effective telecommunications regulatory regime. It is critical where the market fails to produce competitive prices, such as in South Africa.

Retail pricing regulation, however, is an area that requires sufficient and sufficiently detailed information from regulated entities. It requires cooperation from those entities. It also requires a great deal of skill and expertise from those doing the regulating. Apart from politicians getting the policy and legislative framework correct, considerable economic, financial, technical and legal skills are required in the implementation of effective pricing regulation. This is a huge challenge for South Africa, giving that it began regulating the industry less than ten years ago and given that policy and the legislative framework have changed within that time frame.

Some improvements in the regulatory framework and the implementation thereof can be achieved. Some of the areas that require improvement were identified in Chapter 1 herein.

- Enforcement of the regulatory framework requirement on Telkom to produce regulatory accounts;
- Review of the rate regime; and
- Changing the rate review process to allow public participation.

Others include the following.

- Providing more human and financial resources for Icasa;
- Changing the Telecommunications Act to allow Icasa to publish its own regulations;
- Concluding studies regarding the rates for PSTS and MCTS, with a view to establishing whether rates are too high; and
- Investigating alternative mechanisms to effectively regulate retail pricing.

<sup>107</sup> Notice 1302 of 2004 published in Government Gazette 26520 dated 5 July 2004.

<sup>108</sup> Notice 278 of 2002 (note 92 above).

<sup>109</sup> Notice 1302 of 2004 (note 107 - above) para 1.8.





# **Universal Service and Universal Access**

Mandla Msimang





# Introduction

This chapter maps the development of universal service and universal access policy and legislation and evaluates the success of such policies and legislation in achieving universal service and universal access in South Africa. The chapter draws on the Telecommunications Act,<sup>1</sup> as well as the relevant regulations and licence conditions found in certain South African telecommunication service providers' licences. In addition, it draws on the White Paper on Telecommunications Policy, 1996.<sup>2</sup>

In evaluating the success of South Africa's universal service and universal access policies and legislation, this chapter first defines the global concepts of universal service and universal access and explains their relevance in a South African context. It then goes on to describe the legal, policy and institutional framework for universal service and universal access. Finally, it describes key policy approaches followed in South Africa and compares such approaches to those pursued in certain countries in Latin America, Asia and Africa. Countries selected for comparative analysis are middle income countries at similar levels of socio-economic development; they are all emerging market economies characterised by the fact that they have embarked on economic and telecommunications development and reform programmes, and have begun to liberalise their telecommunications markets and build accountability into their social, political and economic systems. Furthermore, they have been selected because they have adopted a macro-policy approach similar to that adopted in South Africa, although there are both similarities and differences in terms of implementation at a micro-level.

## 1. WHAT IS UNIVERSAL SERVICE AND UNIVERSAL ACCESS AND WHY REGULATE FOR IT?

Although often used interchangeably, the terms universal service and universal access have different meanings. The International Telecommunication Union (ITU) broadly defines universal service as referring to a telephone for every household,<sup>3</sup> whereas universal access refers to a publicly available telephone (not necessarily in one's home), which might be provided through payphones, telecentres, multi-purpose community centres or other community-based centres.<sup>4</sup>

Understanding the difference between the terms is important, yet the objectives underlying both are similar — to make available, expand and maintain affordable telecommunication services to the public. In particular, the focus of such policies is to ensure the provision of services to rural, remote, and lower-income users who would not, in the absence of such policies, be served.<sup>5</sup> Further, universal service and universal access are regulated in order to permit full access to modern technologies, to promote economic development, and to eliminate disparities between rural and urban areas<sup>6</sup> and, in South Africa, to eliminate disparities between racial groups.

<sup>1</sup> Telecommunications Act, 103 of 1996.

<sup>2</sup> The White Paper on Telecommunications Policy, GN 291/1996, GG 16995 dated 13 March 1996.

<sup>3</sup> H Intven 'Module 6: Universal Service' in Intven H and McCarthy Tetrault (eds) *Telecommunications Regulation Handbook* (McCarthy Tetrault LLP, World Bank, 2000) 6-1.

<sup>4</sup> Intven (note 3 above) 6-1.

<sup>5</sup> Intven (note 3 above) 6-1.

<sup>6</sup> Intven (note 3 above) 6-3.

## 2. THE UNIVERSAL SERVICE AND UNIVERSAL ACCESS LANDSCAPE

As the development of universal service and universal access is ‘primarily a function of politics, economics, and social values,’<sup>7</sup> it is not surprising that universal service, as a policy in South Africa, is relatively new. The South African experience is not born out of decades of telecommunications regulation in the public interest, as is the case in many other jurisdictions. Rather, current regulation emerges from an attempt to reverse the damage caused by decades of policies that promoted racial discrimination and denied certain individuals access to telecommunication services. The philosophy that informed apartheid and the ideology behind the promotion of universal service and universal access are mutually exclusive.<sup>8</sup>

Internationally, several methods of achieving universal service and universal access have been identified. These include, but are not limited to:

- universal service funds;
- exclusivity periods for incumbent services providers;
- mandatory service obligations imposed on licensees, such as community services obligations (CSOs); and
- regional or sub-regional licences.

In South Africa, similar methods have been used. The South African methods will be identified and analysed in this chapter.

### 2.1 ITU: ‘The Missing Link’

In December 1984, the Independent Commission for World-Wide Telecommunications Development released ‘The Missing Link’, also known as the Maitland Report.<sup>9</sup> This Report highlighted the inequalities in telecommunications resources between developed and developing countries. It also established that there is a direct correlation between the availability of and access to telecommunications infrastructure and a country’s economic condition and growth. Thus, the ‘missing link’ is the lack of telecommunications infrastructure in developing countries. The effects of this ‘missing link’ are found to be an impediment to economic growth.

Extrapolating from Maitland’s ‘missing link’ theory, within South Africa the ‘missing link’ exists not only along national lines, but also along race and class lines. In 1994, the new government inherited the highest average teledensity in Africa, which in 1996 was 10,05 per 100 people.<sup>10</sup> But, in addition to being low by middle-

<sup>7</sup> S Harmet ‘Universal Service: Prosaic Motives and Great Ideals’ (1994) *Journal of Broadcasting and Electronic Media*, 38(4) 375-95.

<sup>8</sup> M Langa ‘Regulating Universal Service: The South African Experience’ International Institute of Communications (IIC) Conference (Tampa, Florida, 2002). Available at Icasa.

<sup>9</sup> The Plenipotentiary Conference of the ITU (Nairobi, 1982) established the Independent Commission for World-Wide Telecommunications Development, chaired by Sir Donald Maitland in May 1983 since the United Nations General Assembly had proclaimed 1983 as ‘World Communications Year’ to provide the opportunity for all countries to undertake a comprehensive review and analysis of their policies on communications development. The Independent Commission’s mandate was to identify the obstacles hindering communications infrastructure development and to recommend ways in which the expansion of telecommunications across the world could be stimulated. In January 1985, the Independent Commission submitted its report known as *The Missing Link* to the Secretary-General of the ITU.

<sup>10</sup> A Gillwald ‘Experimenting with Institutional Arrangements for Communications Policy and Regulation: The Case of Telecommunications and Broadcasting in South Africa’ (2002) vol 2 no 1 *Southern African Journal of Information and Communication*. See <http://link.wits.ac.za/journal/journal2.html>.

income country standards, the teledensity was also very racially skewed. Eighty-nine percent of white households, 77 percent of Asian households, 43 percent of Coloured and 11 percent of Black households had a telephone.<sup>11</sup> Five years later, penetration is still skewed and teledensity is at 10,6 percent based on the 2001 South African Census ('the 2001 census'). The 2001 census was far more refined in its approach to discovering the levels of universal access and service, and requested information from respondents on not only whether or not people had phones, as did the previous national census in 1996, but whether they had a phone in their dwelling and whether the respondent had a cell phone in his or her household. It went further and requested information on universal access through enquiring whether the respondent had access to a phone through a neighbour, a public telephone, or another location nearby; or alternatively at another location not nearby. Finally, it asked whether the respondent had access to a telephone at all. An analysis of the responses led to the finding that 2,5 percent and 4,5 percent of the households surveyed had a telephone in their dwelling only and a cell phone respectively, 3,6 percent of the households had both a cell phone and a telephone in their dwelling. Thus, it can be estimated that universal service, measured by personal access to telephone (and cellular) services, was at approximately 10,6 percent in 2001.

An analysis based on race revealed that as of the 2001 Census, 7,57 percent of Black households, 12,11 percent of Coloured households, 22,1 percent of Asian households, and 31,3 percent of White households had access to a telephone only, a cell phone only or a telephone in their dwelling and a cell phone.<sup>12</sup> These figures cannot be compared directly to the results of the previous census due to a difference in the questions posed and therefore the approach and the information gathered. However, what remains relevant is the finding that the skewed racial distribution of telecommunications service and access still exists.

## 2.2 WTO: South Africa's International Commitments

South Africa is a party to the World Trade Organisation (WTO) Agreement including the General Agreement on Tariffs and Trade (Gatt) and the General Agreement on Trade in Services (Gats). The Fourth Protocol of the Gats, which came into effect in February 1998, specifies the terms of market access for basic telecommunication services.<sup>13</sup> South Africa also made commitments contained in the Reference Paper, which forms part of South Africa's Schedule of Specific Commitments to adhere to certain basic regulatory principles. The Reference Paper addresses areas such as licensing, interconnection, anti-competitive behaviour and transparency, which are all critical to telecommunications reform and which in turn will facilitate the implementation of universal service and universal access policies.

The Reference Paper also deals specifically with universal service and makes provision for each country to define its own objectives for universal service:<sup>14</sup>

<sup>11</sup> Gillwald (note 10 above) 41.

<sup>12</sup> <http://www.statssa.gov.za/SpecialProjects/Census2001/Census2001.htm>.

<sup>13</sup> The Fourth Protocol to the Gats contains a Reference Paper to which some 65 signatories have made commitments. South Africa, Schedule of Specific Commitments, Supplement 2 GATS/SC/78/Suppl.2, 11 April 1997. See also chapter 1 herein.

<sup>14</sup> Reference Paper para 3.

Any Member has the right to define the kind of universal service obligation it wishes to maintain. Such obligations will not be regarded as anti-competitive per se, provided they are administered in a transparent, non-discriminatory and competitively neutral manner and are not more burdensome than necessary for the kind of universal service defined by the Member.

Thus, in determining its universal service and universal access policies and law in regard thereto, South Africa must have due regard to its international obligations as set out in the Reference Paper. In particular, there is a responsibility to achieve universal service and universal access in a transparent manner and without hampering competition or discriminating against any class of operators. Furthermore, such obligations should not be unduly burdensome.

### **2.3 From the White Paper to the Telecommunications Act**

In line with policies that have been pursued by other developing countries undergoing telecommunications regulatory and sector reform, such as Chile, Peru, Malaysia and Uganda, the White Paper states that:

The state recognises the central importance of access to telecommunications to the achievement of its economic and social goals. Affordable communications for all, citizens and businesses alike, throughout South Africa, is at the core of its vision and is the goal of its policy. The challenge is to articulate a vision that balances the provision of basic universal service to disadvantaged rural and urban communities with the delivery of high-level services capable of meeting the needs of a growing South African economy. The vision must therefore reconcile these two seeming opposites within an integrating framework, which also allows for a dynamic definition of universal service and facilitates the co-ordination of all available infrastructure behind its goal.<sup>15</sup>

The Telecommunications Act enshrines the principles of universal service and universal access and has as one of its objectives the promotion of the universal and affordable provision of telecommunication services. Further objectives of the Telecommunications Act supporting universal service and universal access are:

- promoting the provision of a wide range of telecommunication services in the interests of economic growth and development;<sup>16</sup>
- making progress towards the universal provision of telecommunication services;<sup>17</sup>
- promoting the development of telecommunication services that are responsive to the needs of users and consumers;<sup>18</sup>
- ensuring that the needs of the local communities and areas are duly taken into account;<sup>19</sup> and
- ensuring that the needs of disabled persons are taken into account in the

<sup>15</sup> White Paper (note 2 above) 1.1, 1.2, 1.3.

<sup>16</sup> s 2(b) of the Telecommunications Act.

<sup>17</sup> s 2(c) of the Telecommunications Act.

<sup>18</sup> s 2(f) of the Telecommunications Act.

<sup>19</sup> s 2(g) of the Telecommunications Act.

<sup>20</sup> s 2(h) of the Telecommunications Act.

provision of telecommunication services.<sup>20</sup>

The Telecommunications Act established two bodies: the sector-specific regulatory authority, the South African Telecommunications Regulatory Authority (Satra),<sup>21</sup> which has been superseded by the Independent Communications Authority of South Africa (Icasa),<sup>22</sup> and the specialised Universal Service Agency (USA),<sup>23</sup> to ensure that institutional arrangements were in place to address universal service and universal access.

### 3. ROLE AND RELEVANCE OF THE USA

#### 3.1 Establishment and Functions

The USA was established in terms of section 58 of the Telecommunications Act. Its operations are financed from money appropriated by Parliament.<sup>24</sup> It is responsible for, *inter alia*:

- striving to promote the goal of universal service;<sup>25</sup>
- encouraging, facilitating and offering guidance in respect of schemes to provide universal access or service, or telecommunication services as part of the reconstruction and development (RDP) projects and programmes;<sup>26</sup>
- fostering the adoption and use of new methods of attaining universal access and service;<sup>27</sup> and
- stimulating public awareness of the benefits of telecommunication services.<sup>28</sup>

In terms of section 59(2)(a) of the Telecommunications Act, the USA has a responsibility periodically to make recommendations to the Minister of Communications on what will constitute universal service and what will be considered universal access. The Telecommunications Act recognises that due, for example, to changing socio-economic and technological factors, the definitions of 'universal service' and 'universal access' will evolve and will need to be amended from time to time. Section 59(2)(b) provides for amendment or substitution by the Minister of the determination that he or she makes on the definitions based on the recommendations of the USA.

In addition to the specific functions of developing recommendations on what will constitute universal access and universal service, the USA has the power to conduct other investigations with respect to universal access and universal service as it considers necessary.<sup>29</sup> As such, it is a research body and is responsible for determining to what extent South Africa's universal service and universal access targets have been met.<sup>30</sup> The USA also plays an advisory role to Icasa and may, and must when requested by Icasa to do so, advise it on any matter with respect to universal service,

<sup>21</sup> s 5 of the Telecommunications Act.

<sup>22</sup> s 3(1) of the Independent Communications Authority of South Africa Act, 13 of 2000 (Icasa Act), GN 462/2002 GG 21154 dated 5 May 2002.

<sup>23</sup> s 58(1) of the Telecommunications Act.

<sup>24</sup> s 61(1) of the Telecommunications Act.

<sup>25</sup> s 59(1)(a) of the Telecommunications Act.

<sup>26</sup> s 59(1)(b) of the Telecommunications Act.

<sup>27</sup> s 59(1)(c) of the Telecommunications Act.

<sup>28</sup> s 59(1)(d) of the Telecommunications Act.

<sup>29</sup> s 59(3)(a) of the Telecommunications Act.

<sup>30</sup> s 59(3)(g) of the Telecommunications Act.

<sup>31</sup> s 59(3)(e) and (f) of the Telecommunications Act.

universal access or the community service obligations of telecommunications service providers.<sup>31</sup>

## 3.2 Key Policy Projects of the USA

### *3.2.1 Developing definitions of universal service and universal access*

In order to be effective, universal service and universal access policies must be sufficiently flexible to adapt to the changing needs of the country in which they are to be applied. A generic definition of universal service or universal access set by an intergovernmental organisation such as the ITU or WTO would not sufficiently cover all of the aspects unique to a particular country as there is a direct correlation between a country's local social, economic and political conditions and its universal service and universal access definitions and policies, including the specific targets for service levels to be achieved and dates by which such targets should be met.

In developing a universal service policy, South Africa had to define the important concepts of 'universal service' and 'universal access' from a local perspective. This task was given to the USA in terms of section 59(2) of the Telecommunications Act, which gives the USA responsibility for promoting universal service and universal access by making recommendations to the Minister to determine what should constitute universal service and universal access.<sup>32</sup>

In line with the requirements of section 59(2)(a), in 1998 steps were taken by the USA, in collaboration with Satra, to define universal service and universal access, and the criteria to be used in South Africa to measure success in attaining these goals. A consultation paper was published to initiate public discussion of the definitions. However, to date no such definitions have been adopted.<sup>33</sup> The lack of definitions for universal service and universal access makes it difficult to implement targeted policies to address universal service and universal access gaps. These two definitions should, inter alia, articulate targets for the country, measured by a target number of people having phones in their homes in the case of universal service, and by the number of people with access to publicly available phones within a certain distance in the case of universal access.

### *3.2.2 Definition of 'needy people'*

In terms of the Telecommunications Act, the Minister may define the categories of 'needy' persons to whom assistance, in the form of subsidies, should be given.<sup>34</sup> The USA began research that would influence the categories of 'needy' people and a discussion paper on the Definition of Universal Service and Universal Access in Telecommunications in South Africa was distributed on 22 October 1998. However, there has been little development in either the determination of the categories. In the absence of clarity on the categories of needy persons, it cannot be determined very easily to whom subsidies should be provided.

<sup>32</sup> s 59(2)(a)(i) and (ii) of the Telecommunications Act.

<sup>33</sup> Discussion paper on 'Definition of Universal Service and Universal Access in Telecommunications in South Africa' GG vol 400 no 19397 dated 22 October 1998; available at <http://www.polity.org.za/html/govdocs/discuss/usa.html>.

<sup>34</sup> s 66(4)(a) of the Telecommunications Act.

### 3.2.3 Affordability

A key goal of universal access is to provide telephony at reasonable rates. It is therefore important for policy-makers and regulators to make determinations on what is in fact affordable in their respective jurisdictions. Defining 'affordability' is truly a challenge, the main difficulty being that two key variables — namely the cost of services and the income of subscribers — differ considerably from one region to another within one country.

Quantitative measures of the relative concept of affordability involve estimating the percentage of income that households might be forced to spend for service at various income levels and rate levels. Qualitative measures include what people consider 'too expensive' or 'too much' to pay for a telephone service.<sup>35</sup> In South Africa, although a study was commenced in 1998 to determine affordability,<sup>36</sup> the results have not been finalised. A benchmark for 'affordability' in South Africa has thus not been established. In terms of section 59(3)(e), it is part of the mandate of the USA to recommend same to the Minister, but such recommendation has, as at July 2004, not been made.

The White Paper recognised that:

The adequate attainment of universal access and service goals is largely dependent upon meeting the requirements of affordability. Indeed, the manner in which the cost of services is regulated or determined is fundamental to the implementation of Government policy. The key requirement is to create a balance between affordability and the needs of the operator to expand and upgrade its network.<sup>37</sup>

In recognition of this, in addition to the USA being given the task of defining affordability, the Authority was given the task, on the one hand, of encouraging low tariffs and, on the other, of facilitating the rebalancing of Telkom's tariffs to make Telkom more efficient.<sup>38</sup> Section 45 of the Telecommunications Act addresses the obligation of the Authority to prescribe the manner of determining fees and charges (Rate Regime) in areas where there is insufficient competition. The Authority issued Rate Regime regulations in 2001, which regulations are discussed in further detail in chapter 7.<sup>39</sup> Following Telkom's challenge to the 2001 Rate Regime regulations,<sup>40</sup> Icasa and Telkom entered into an out-of-court settlement agreement which was made an order of court and included amongst its provisions the refunding of R325 million that had been overcharged to consumers by Telkom, the introduction of Internet packages and the introduction of a 'Lifeline' service that would allow subscribers who had defaulted on their payments for fees and charges, but who had paid their line rental charge, to continue to receive calls and be able to make emergency calls.<sup>41</sup> In 2002 the Authority made new Rate Regime regulations<sup>42</sup> which are currently in effect and continue to utilise a price cap methodology to control the level of increases by dominant public switched

<sup>35</sup> <http://www.benton.org/Library/Prospects/goals.html>.

<sup>36</sup> Note 33 above

<sup>37</sup> White Paper (note 2 above) 6.1.

<sup>38</sup> White Paper (note 2 above) 6.2, 6.3.

<sup>39</sup> Regulations on Fees and Charges in the PSTS Sector GN 1248/2001 GG 22870 dated 26 November 2001.

<sup>40</sup> Icasa instituted an application in the High Court (Transvaal Provincial Division) against Telkom and the Minister under case no 33507/2001 as amended on 19 March 2001. Telkom instituted an application in the High Court: Telkom SA Ltd v ICASA Chairperson, ICASA, Minister of Communications TPD, case no 07161/2002, unreported.

<sup>41</sup> Settlement Agreement entered into between Chairperson, Icasa and Telkom clause 2.1.

<sup>42</sup> Regulations on Fees and Charges in the PSTS Sector GN 1333/2002 GG 23986 dated 24 October 2002.

telecommunications services (PSTS) operators. Notwithstanding the 2002 Rate Regime regulations and their impact on the increase of retail PSTS prices, in the absence of the USA's recommendations on what constitutes affordability, such prices are still effected in a policy vacuum as far as the definition of affordability is concerned.

As at July 2004, the USA had not managed to produce any of the three major policy recommendations that it has been mandated to deliver. It has not delivered definitions of universal service and universal access, needy people, or affordability. These are, however, cornerstones of the development of an effective universal service and universal access policy as they frame the national targets and assist in defining the needs in the country.

## **4. ROLE AND RELEVANCE OF USF**

Another function of the USA is the management of the Universal Service Fund (USF), which has been established in terms of section 67 of the Telecommunications Act.

The concept of a 'universal service fund' is not unique to South Africa. Universal service and universal access funds<sup>43</sup> have been developed in many jurisdictions as a means of financing the implementation of universal service and universal access projects, and in particular, the delivery of telecommunications services to uneconomic areas and persons. Universal service funds receive finance from various sources and provide targeted subsidies to encourage the provision of telecommunications services by operators to otherwise uneconomic areas and persons. This section looks at the South African USF and compares it to other universal service funds in certain Asian, Latin American and other African countries.

### **4.1 Administration of the USF**

The USF was established in terms of section 65(1) of the Telecommunications Act. All money received is paid into the National Revenue Fund (NRF) established by section 185 of the final Constitution.<sup>44</sup> While section 65(3) indicates that subsidies paid from the USF under section 66 shall be financed from money appropriated by Parliament for that purpose, section 65(4) goes further to state that the USF is administered by the USA subject to the control and in accordance with the instructions of the Minister. In practice, monies collected by the Authority are placed in the NRF.<sup>45</sup> They are then apportioned from the NRF to the USF. The USA has access to the monies in the USF through an appropriation by Parliament for that purpose.<sup>46</sup> Section 66 of the Telecommunications Act states that the money in the USF shall be used exclusively for the payment of subsidies for the stated purposes.

The tool used to audit the spending of monies in the USF is set out in section

<sup>43</sup> Although terminology differs across jurisdictions, for the purposes of this discussion the term 'universal service fund' will be used to refer to both a universal service fund and a universal access fund.

<sup>44</sup> s 65(2) of the Telecommunications Act.

<sup>45</sup> s 65(2) of the Telecommunications Act.

<sup>46</sup> s 65(3) of the Telecommunications Act.



68, which enjoins the USA to keep audited records of the accounts of the USE. The USA is further required to provide the Minister and Parliament with annual reports that include information on progress made towards achieving the goal of universal service and universal access.<sup>47</sup>

#### **4.1.1 International comparison on administration of USFs**

Countries adopt different approaches to the management of universal service funds. In some jurisdictions, such as Colombia, a government ministry administers the USE.<sup>48</sup> In others, for example Chile, India, Malaysia, Peru and Uganda, the regulatory authority is responsible for the administration of the USE.<sup>49</sup> In the case of Uganda, the regulator, the Uganda Communications Commission (UCC) set up a Rural Communications Development Fund (RCDF) Board to oversee the management of the fund. The RCDF Board, however, functions as a committee of the UCC and reports to it.<sup>50</sup> In a similar vein, in Malaysia, the monies in the fund are disbursed subject to the approval of a committee of the regulator, which includes at least one licensee; however, overall responsibility for the fund and its accounts lies with the regulator.<sup>51</sup> South Africa is therefore unique among developing countries in its establishment of a specialised universal service agency to deal with the administration of USFs. It is similar, however, to Colombia in terms of the role the Minister plays in the disbursement of the funds. International best practice is to have funds administered by separate independent agencies or regulators to avoid government or political interests influencing funding allocations.<sup>52</sup>

## **4.2 Contributions to the USF**

In terms of section 67(1) of the Telecommunications Act, every holder of a licence granted or deemed to have been granted in terms of chapter V of the Telecommunications Act must pay a prescribed annual contribution to the USE. In 1997, pursuant to section 5(4)(a) of the Telecommunications Act, the Minister issued a policy direction applicable to contributions to the USF payable in terms of section 67 of the Telecommunications Act.<sup>53</sup> In terms of the policy direction, contributions by licensees to the USF were capped at a maximum level of R20 million per annum, with such amount to be adjusted annually for inflation. It was further stated that Telkom South Africa Limited (Telkom), the monopoly PSTS operator, would be responsible for contributing no more than half of the total amount of the USF (ie ZAR 10 million).

The regulations on contributions to the USF made by the Authority in 1999 in

<sup>47</sup> s 63 of the Telecommunications Amendment Act, 64 of 2001 (Telecommunications Amendment Act).

<sup>48</sup> Colombia's universal service fund is administered by the Ministry of Communications. Intelcon Research, November 2001; available at <http://www.inteleconresearch.com/pages/forum4-colombia.html>.

<sup>49</sup> Peru's universal service fund is administered by Organismo Supervisor de la Inversion Privada en Telecomunicaciones (Osiptel). In Chile the universal service fund is administered by the Subsecretaria de Telecomunicaciones de Chile (Subtel). In India, the Telecommunications Regulatory Agency of India (TRAI) is responsible for universal service fund administration. The Malaysian universal service fund is administered by the Malaysian Communications and Multimedia Commission (CMC) Source: CMC Commission Determination on Universal Service Provision, Determination no 2 of 2001. The Uganda Rural Communications Development Fund (RCDF) is administered by the Uganda Communications Commission, which is the telecommunications regulator. Source: Rural Communications Development Policy of Uganda (2001), 3.3. See <http://www.ucc.co.ug/rcdf/rcdfPolicy.pdf>.

<sup>50</sup> Rural Communications Development Policy of Uganda (2001), 3.4.1. See <http://www.ucc.co.ug/rcdf/rcdfPolicy.pdf>.

<sup>51</sup> CMC Commission Determination on Universal Service Provision, Determination no 2 of 2001, clause 23.

<sup>52</sup> Intelcon Research, November 2001. Universal Access Funds. See <http://www.inteleconresearch.com/pdf/UA Funds.pdf>.

<sup>53</sup> Ministerial Policy Direction no 3 on Contributions to Universal Service Fund GN 775/1997 GG 17984 dated 6 May 1997.

terms of section 67(2) of the Telecommunications Act were designed around the constraints contained in the policy direction. The regulations ensured that the amounts to be paid into the USF by all licensees other than Telkom did not exceed half of the USF or the R10 million, plus inflation, to be paid by Telkom.<sup>54</sup> In terms of the Authority's regulations PSTS, Mobile Cellular Telecommunications Services (MCTS) and certain other deemed licensees had to contribute 0,16 percent of their annual turnover derived from the provision of the telecommunication service that they were licensed to provide. Value-added network service (Vans) providers and private telecommunications network (PTN) operators were levied a fixed fee of ZAR 1 500 and ZAR 1 000 per annum respectively.<sup>55</sup>

Given that the USF was capped in accordance with the Minister's policy direction, the regulations further made provision for refunds to licensees in the event that it was found that licensees had overpaid. This overpayment was made possible because the contributors' annual turnover was somewhat unpredictable and the percentage-based USF contribution could not be guaranteed to fall below the thresholds set by the Minister.<sup>56</sup>

In 2001, section 67(2)(a) of the Telecommunications Act was amended.<sup>57</sup> The regulator maintained its powers to prescribe the basis and manner of contributions to the USF; however, the cap on the USF no longer limits such contributions. Instead, there is a limitation that contributions cannot exceed 0,5 percent of a licensee's annual turnover. After following a regulation-making process in terms of section 96, the Authority in 2003 made regulations, which repeal the 1999 regulations. In the 2003 regulations, the Authority set a levy of 0,2 percent of revenues, which is charged to all chapter V licensees.<sup>58</sup> Under-served Area Licensees (USALs) and PTN operators are required to pay a fixed amount of ZAR 1,00 (one rand) per annum.<sup>59</sup> This nominal amount can be seen to take into account the fact that USALs may be primary beneficiaries of the USF and that already, by their very nature, they contribute to the provision of universal service and universal access, and as such should not have to make payments into the fund; and, in addition, that PTNs do not run public networks and as such do not offer telecommunications services on a commercial or for-profit basis.

For various reasons, the Authority did not, in the 2003 regulations, propose that the full 0,5 percent that is allowable in terms of the Telecommunications Act be used. Amongst the reasons for this is the fact that an increase to 0,5 percent of annual turnover from the previous contribution would have resulted in a 960 percent increase in the total amount of money in the fund, from the existing capped R20 million. Furthermore, it would have been further difficult for the Authority to justify such a policy move, given that certain determinations, such as setting the definitions of affordability and universal service and universal access, setting the formula for disbursements from the USF and determining categories of needy persons, had not yet been made — yet these were critical to determining the total level of contributions required.

<sup>54</sup> Regulations relating to the contributions to the USF and the Apportionment thereof (1999 USF Regulations) GN 730/1999 GG 20162 dated 4 June 1999.

<sup>55</sup> 1999 USF Regulations (note 54 above) regulation 2(1)(a).

<sup>56</sup> 1999 USF Regulations (note 54 above), regulation 3(3) and 3(4).

<sup>57</sup> s 67(2)(a) was substituted by s 27 of the Telecommunications Amendment Act.

<sup>58</sup> Regulations in Respect of the Annual Contributions to the Universal Service Fund by Holders of Telecommunication Service Licences (2003 USF Regulations) GN 1241/2003 GG 25408 dated 29 August 2003 regulation 2(1).

<sup>59</sup> 2003 USF Regulations (note 58 above) regulation 2(2).

#### 4.2.1 Comparison of international strategies for determining contributions to USFs

The sources of financing for universal service funds differ from country to country. Financing for universal service projects is obtained in some instances from national revenues from governments, and in others through levies placed on operator revenues and set fees. This is the case in South Africa through section 67.<sup>60</sup>

Countries that have adopted a similar approach to that followed in South Africa, namely of sourcing the monies in the fund through levies imposed on operators based on their revenues, include Uganda, Peru, Nepal and Colombia.<sup>61</sup> In comparison with the amounts levied in those jurisdictions, the South African operator contribution, as a percentage of revenues, at 0,2 percent of the operators' revenues is relatively low. In Colombia, for example, the PSTS and other long-distance operators pay five percent of their revenues to the Compartel Program,<sup>62</sup> and revenues generated from licence fees are placed in the USF. There is a two percent levy for similar operators in Nepal, and a one percent levy in Uganda and Peru.<sup>63</sup> Further, the capping of the USF in South Africa has not been replicated in any other jurisdiction, nor has the limitation on the monopoly PSTS operator to provide only 50 percent of the total contributions to the USF.

The USF in Chile, Fondo de Desarrollo de Telecomunicaciones (Telecommunications Development Fund (FDT)), differs further from the USF and the other USFs mentioned earlier in its approach to sourcing finance. FDT was created in 1994 through an amendment to Chile's 1982 telecommunications law and is financed from the Chilean national government budget.<sup>64</sup>

#### 4.3 Application of USF money

In terms of section 66(2) of the Telecommunications Act, the Authority prescribed that the money in the USF is to be apportioned for the separate purposes of section 66(1)(a) and (b) to the value of 99 percent and one percent respectively.<sup>65</sup> Section 66(1)(a) of the Telecommunications Act deals with the provision of subsidies for assisting towards the cost of the provision to or the use by 'needy persons' of telecommunication services. Section 66(1)(b) deals with the provision of subsidies to Telkom or other chapter V licensees for financing the extension of their telecommunication services to areas and communities that are not adequately served by telecommunication services. Thus, the focus in South African regulations has been on the use of the USF almost wholly for the assistance of 'needy persons'.

In terms of section 66(2) of the Telecommunications Act, the Minister is now responsible for determining the apportionment of monies in the USF, although the Minister has to date not made such determination. In terms of the Telecommunications Act, other uses of the USF monies as stipulated in section 66 could include:

- supporting public schools with the procurement of Internet services and

<sup>60</sup> Intven (note 3 above) 6-1.

<sup>61</sup> Intelcon Research (note 52 above).

<sup>62</sup> Compartel Program is the name of the Colombian USF. See [www.compartel.gov.co](http://www.compartel.gov.co).

<sup>63</sup> Intelcon Research (note 52 above).

<sup>64</sup> Ley General de Telecomunicaciones (no 18.168 of October, Titulo IV, as amended by law 19.302 of March 1994).

<sup>65</sup> 1999 USF Regulations (note 54 above).

- equipment necessary to access the Internet;<sup>66</sup>
- establishing telecentres and multi-purpose community centres;<sup>67</sup>
- setting up public information terminals;<sup>68</sup>
- providing assistance to small businesses and co-operatives to acquire and construct infrastructure in order to bring telecommunication services to under-serviced areas;<sup>69</sup> and
- facilitating the provision of multimedia services.<sup>70</sup>

Many of the possible applications of monies in the USF that are listed in section 66 of the Telecommunications Act, have not been implemented yet. However, the use of the monies for the rollout of telecentres and multipurpose community centres (MPCC), both places where users have shared access to telecommunications services, as per section 66(1)(d) is an approach that was adopted by the USA early on. Telecentres have been identified as a development option to address the lack of access to telecommunications services in many countries, particularly developing countries. They, like public payphones, offer an alternative model for access in areas traditionally lacking telecommunications infrastructure, such as rural areas. Telecentres, providing basic telecommunications access, and their counterparts, MPCCs (Multi-purpose Community Centres), which provide an array of information, communication and technology (ICT) services, training and resources needed for community development, have been rolled out in several countries. In South Africa, many MPCCs have been provided by the Government Communications and Information Services (GCIS) in conjunction with the USA upon instruction of Cabinet through the final report of the communications task group (Comtask Report). The 1996 Comtask Report, and specifically recommendation 65 thereof, deals with the provision of communication and information to the public as guided by section 31(a) and (b) of the Constitution, to ensure that they improve the public's lives.<sup>71</sup> MPCCs and telecentres seek to address this need.

The USA has historically seen its main role as being the establishment of telecentres. In its 2003 Business Plan, the USA states:

The past two years of the Universal Service Agency 2001/2002 and 2002/2003 have been spent mostly on evaluating the existing 21 school cyber labs and 68 telecentres (rolled out by the USA). Based on the Evaluation Report, the Agency took a decision to first consolidate the existing facilities and improve their performance before rolling out the new facilities. All 21 cyber labs have been found to be functioning well and the Agency is now ready to roll out another 1 000 in the next coming three years. 25 of the 68 telecentres were found to be not functioning well, and had to be relocated to the MPCCs. Some of the functioning 45 telecentres still require subsidies for continued operation.<sup>72</sup>

Furthermore, the rollout of telecentres is included amongst the six core

<sup>66</sup> s 66(1)(c) of the Telecommunications Act.

<sup>67</sup> s 66(1)(d) of the Telecommunications Act.

<sup>68</sup> s 66(1)(e) of the Telecommunications Act.

<sup>69</sup> s 66(1)(f) of the Telecommunications Act.

<sup>70</sup> s 66(1)(g) of the Telecommunications Act.

<sup>71</sup> Government Development Communications Initiative: Towards a Better Life Through Integrated Service and Information Delivery. See [www.gcisa.gov.za/mpcc/initiative/documents/policy/index.html](http://www.gcisa.gov.za/mpcc/initiative/documents/policy/index.html).

<sup>72</sup> USA/USF Business Plan, July 2003 para 1: Executive Summary.

programmes of the USA and the USF, as stated in the USA/USF Business Plan.<sup>73</sup> The other core programmes are:

- deployment of e-school cyberlabs;
- capacity-building for ICT services and universal access in the under-served areas through the Telecentre Association of South Africa in partnership with SMMEs and co-operatives;
- research into the provision of universal service and universal access in South Africa;
- the development and deployment of ICT infrastructure in the under-served areas;
- the marketing of the USA's ICT facilities and improvement of the corporate image of the USA.

Finally, the USA's three-year budget includes monies to be used for the purchase of computers, air conditioners, printers, blinds, insurance, Integrated Services Digital Network (ISDN), and photocopiers — all items integral to the running of a telecentre, this confirming the USA's intention to continue rolling out telecentres. Despite their potential, telecentres are most likely to function and be successful within a specific policy environment, one which develops and promotes the necessary support systems and the appropriate policies to allow for sustainable centres (eg ensure the involvement of women and gender equity in the development and implementation, promote sustainable and affordable pricing policy, and create financial incentives that promote investment).

The USA's rollout of telecentres has not necessarily been located in that type of policy environment. In fact, commentators argue that the USA's mandate was to facilitate the creation of such a policy environment instead of rolling out telecentres.<sup>74</sup> It is important to note that the spending of money on telecentres is only one of the USA's functions in terms of the Telecommunications Act and only one means of fulfilling the aims of the Telecommunications Act, inter alia, supplying low-cost, local communication services to under-served areas. It is not stipulated in the Telecommunications Act that this task must be carried out by the USA itself, and in practice, in order to ensure sustainability, it would be preferable that it not be carried out by the USA, but by commercial or community entities.

The 2001 Telecommunications Amendment Act allowed the USA to use monies in the USF for subsidies for universal access projects awarded by public competitive bid.<sup>75</sup> Such a subsidy has not been provided to date, but should such funds be awarded, the USA would be responsible for supervising the execution of any projects awarded in terms of a competitive bid.<sup>76</sup> Independent entities would then be in a position to use the funds to roll out such projects.

#### ***4.3.1 Comparison of the application of USF monies internationally***

Universal service funds differ across jurisdictions in terms of the way in which the monies in the funds are used and the types of services they support. In Chile, the USF was initially designed to support access to basic telecommunications services

<sup>73</sup> Although it is not legally binding, it should be noted that the business plan is an articulation of the USA's understanding of its mandate.

<sup>74</sup> The South African Telecentre Development Project. See [www.wed.idrc.ca/en/ev-8096-201-D-1-DO\\_TOPIC.html](http://www.wed.idrc.ca/en/ev-8096-201-D-1-DO_TOPIC.html).

<sup>75</sup> s 67A(3) of the Telecommunications Amendment Act.

<sup>76</sup> s 67A(4) of the Telecommunications Amendment Act.

in people's homes and has since been expanded to include telecentre projects. The focus on telecentres in Chile was developed only after basic access targets had been achieved. This is the reverse of the South African approach where, from the outset, telecentres have been seen as a priority project of the USA.<sup>77</sup>

Section 67A(3) of the Telecommunications Act makes provision for the disbursement of the funds through competitive bidding processes in which the subsidy is awarded to the bidder with the requisite technical experience with the lowest subsidy request.<sup>78</sup> This approach to applying the monies in the USF is in line with the approaches adopted in Chile,<sup>79</sup> Peru<sup>80</sup> and Uganda,<sup>81</sup> where competitive tenders have been issued.

## 5. RESTRUCTURING OF THE USA

Since its inception in 1997, the Act provided that the USA would be dissolved after a period of at least five years by the President of South Africa (the President), and its functions transferred to Icasa.<sup>82</sup> This five-year lifespan was a result of the recognition of the fact that a specialised body to deal with universal service and universal access would be a short-term measure to deal with the issues.

The Telecommunications Act was amended in 2001. At that time, the issue of universal access was debated in Parliament along with other issues. The question was posed: is there a need for a separate USA to perform the functions of the USA? Or can the sector-specific regulator perform such functions? In making an assessment, it was necessary to examine the original motivation for the establishment of the USA:

In designing the universal service agency, and incorporating it into the Telecommunications Act, it will be important to keep in mind the concern expressed by the Minister and reflected in many submissions to the Green Paper, that classic approaches to managing the implementation of telecommunications policy would not be sufficient to keep the focus on the goal of universal service long enough to redress the existing imbalances. The apartheid system left the vast majority of black South Africans, particularly in rural communities, without access to basic communications services. Liberalisation trends associated with the spread of the global information highway and the legitimate needs of South African business and urban areas for advanced services could easily combine to draw interest and resources away from the delivery of service to rural and disadvantaged areas. The potential development impact of telecommunications would be limited; the opportunity would be lost for South Africa to leapfrog traditional stages of development through the use of telecommunications to foster the application of new information technologies. Telecommunications infrastructure would not be applied as effectively and as quickly as it might to redress historic imbalances not only, perhaps not even primarily, with respect to access to basic communications but also with respect to many development sectors including health, education, employment and income generation.

<sup>77</sup> USA/USF Business Plan July 2003

<sup>78</sup> Intelecon Research (note 52 above).

<sup>79</sup> B Wellenius 'Closing the Rural Communication Access Gap: Chile 1995-2002' World Bank, Infodev, Washington, DC, November 2001. See [http://www.infodev.org/library/chile\\_rural/Chile%20-%20final%2017%20december%2001%20-%20revised.pdf](http://www.infodev.org/library/chile_rural/Chile%20-%20final%2017%20december%2001%20-%20revised.pdf).

<sup>80</sup> Rural Telecommunications and Universal Access in Peru: Fund for Investment in Telecommunications (FITEL). Osiptel Publication. 2001.

<sup>81</sup> Rural Communications Development Policy in July 2001. <http://www.ucc.co.ug/rcdf/about.html>.

<sup>82</sup> s 64 of the Telecommunications Act.

While universal service is a global concern, it is located within a unique context in South Africa. Nowhere else does such disparity of access exist side by side with a developed communications technology sector. Nowhere else are both access and ownership concentrated so heavily in one population group. These imbalances, which are the legacy of apartheid, must be urgently redressed. Members of historically disadvantaged communities, and particularly those in rural areas, must be the immediate targets for the delivery of universal service. The universal service agency is a South African response to this very particular South African social, economic and political environment.<sup>83</sup>

The USA was identified in the White Paper as a South African response to a unique South African social, economic and political environment. Given South Africa's unique history, it was recognised that traditional approaches to managing the implementation of telecommunications policy would not be sufficient to keep the focus on the goal of universal service and universal access long enough to redress the existing imbalances, and thus the specialised USA was necessary. After a re-examination of the relevance and role of the USA in 2001 by Parliament, it was decided that there is still a role for a specialised USA to play, but that such USA would have to be restructured to become more effective.

The process of restructuring the USA got underway and in 2002 a new board was appointed by the Minister in terms of section 58(2) to oversee its functions.<sup>84</sup> The USA board members have been appointed for a period of three years, unless the Minister determines otherwise, the board is chaired by the current Director-General of the Department of Communications, and has seven members drawn from industry and the public sector.<sup>85</sup> The USA board is supported by the head of the USA, who is also appointed by the Minister and is responsible for staffing the organisation and its day-to-day management.<sup>86</sup>

Notwithstanding the fact that during the recent 2001 amendment process the provisions of section 64 of the Telecommunications Act were not triggered, it is still possible for the President to proclaim that the USA be dissolved and that its functions be carried out by Icasa. Such a decree would necessarily invoke the lapsing of all sections in the Telecommunications Act that deal with the establishment of the USA.<sup>87</sup>

## 6. TELKOM'S EXCLUSIVITY AND UNIVERSAL SERVICE

### 6.1 Background

The 1996 White Paper stated as policy Telkom's five-year exclusivity right. This right was further entrenched in the Telecommunications Act and in Telkom's service licence. Telkom was authorised to provide, on an exclusive basis, national long-distance, international and local-access telecommunication services, and public payphone services, telecommunication facilities for the provision of Vans and PTNs,<sup>88</sup> and telecommunications facilities comprising fixed lines for the

<sup>83</sup> White Paper (note 2 above) 1.13 and 1.14.

<sup>84</sup> Appointment of the Board of the Universal Service Agency GN 1358/2002 GG 23536 dated 5 August 2002.

<sup>85</sup> USA Board Appointment regulations (see note 84 above).

<sup>86</sup> s 60 of the Telecommunications Act.

<sup>87</sup> s 64(a) and (b) of the Telecommunications Act.

<sup>88</sup> Except PTNs referred to in s 41(2)(b) of the Act.

<sup>89</sup> Telkom PSTS Licence GN 768/1997 GG 17984 dated 7 May 1997, condition 3.1(a)-(g).

provision of MCTS.<sup>89</sup>

The approach of providing exclusivity was identified as a means of promoting certain goals for the sector, including the expansion of the telecommunications infrastructure and the attainment of universal service.<sup>90</sup> The timing of the exclusivity period was made flexible. Telkom was given five-year exclusivity,<sup>91</sup> with a possible extension to six years of one or more of the elements of PSTS, at Telkom's written request, based on satisfying licence conditions relating to universal service obligations by May 2002.<sup>92</sup> Telkom did not request such an extension.

During the period of exclusivity, Telkom was assigned a critical role as the primary provider of universal service and universal access. Telkom's universal service and universal access obligations in terms of its PSTS licence included basic service provision,<sup>93</sup> the provision and maintenance of public payphone services,<sup>94</sup> the provision of emergency services,<sup>95</sup> arrangements for services for users with special needs<sup>96</sup> and the promotion of affordability.<sup>97</sup> Telkom was further required to file rates with the Authority pursuant to the Rate Regime determined pursuant to section 45(2) of the Telecommunications Act, which Rate Regime could be modified three years after the effective date of the licence.<sup>98</sup> The revised Rate Regime, according to Telkom's PSTS Licence, would have to reflect a reasonable balancing of interests of the customers and those of Telkom itself, and take into account its universal service obligations.<sup>99</sup>

6.2 Rollout Obligations

Telkom's rollout targets were divided into rollout targets and new line rollout targets, which were to be measured annually. Telkom's cumulative targets are reflected in Table 1.

Table 1: Telkom's cumulative rollout figures<sup>100</sup>

Category	Description	Total 1997-2002 (Year 1-5) target	Total Variance actual
Total line target	Total number of new access lines brought into service (excluding public payphone lines)	2 690 000	2 673 522 (16 448)

<sup>90</sup> White Paper (note 2 above) 2.6  
<sup>91</sup> Telkom Licence (note 89 above) 3 and s 32(1) of the Telecommunications Act.  
<sup>92</sup> Telkom Licence (note 89 above) A.2, in terms of which Telkom could if by the fourth anniversary of its effective date it had exceeded 90 percent of the cumulative five-year total line target and 80 percent of the cumulative under-serviced area licence target, request in writing an extension of the exclusivity period for a further and final year. However, this would be done on condition that Telkom's total line target would be increased to a total of three million lines and the under-serviced area line target would be increased in the same proportion.  
<sup>93</sup> Telkom Licence (note 89 above) 4.1.  
<sup>94</sup> Telkom Licence (note 89 above) 4.2.  
<sup>95</sup> Telkom Licence (note 89 above) condition 4.3.  
<sup>96</sup> Telkom Licence (note 89 above) 4.4.  
<sup>97</sup> Telkom Licence (note 89 above) 4.5 and Schedule C.  
<sup>98</sup> Telkom Licence (note 89 above) 7.1.  
<sup>99</sup> Telkom Licence (note 89 above) 7.2.  
<sup>100</sup> Telkom Licence (note 89 above) Schedule A and Telkom Report of Licence Obligations (2002).



Category	Description	Total 1997-2002 (Year 1-5) target	Total actual	Variance
Under-serviced <sup>101</sup> line target	Number of new access lines in defined under-serviced areas (included in Total line target)	1 676 000	1 787 968	110 968
Priority Customer <sup>102</sup> target	Number of new access lines for Priority Customers, as defined	20 246	25 577	5 331
Village <sup>103</sup> target	Number of villages served in under-serviced areas (included in Total line target and Under-serviced line target)	3 204	2 699	(505)
Public Payphone target	Total number of public payphones (not included in Total Line target and Under-serviced line Target)	120 000	132 990	12 990
Replacement line target <sup>104</sup>	Number of replacement lines (not included in Total line target)	1 252 000	1 159 668	(92 332)

Using Telkom's 2002 figures, South Africa had a fixed-line teledensity of 11,4 percent, representing an increase over the 1997 figure of 9,6 percent.<sup>105</sup> As of 2002, Telkom had rolled out approximately 2,6 million additional lines, bringing the total number of fixed lines (excluding payphones) to 4,9 million. Telkom elected not to roll out lines in its last year of exclusivity where it was not economical to do so.<sup>106</sup> In so doing, of all of the targets stipulated, Telkom missed the total line and village targets, as reflected in Table 1, and paid a penalty of R10 183 285 to Icasa.<sup>107</sup>

Owing to significantly high levels of churn, or a high number of subscribers falling off the network, the net line growth was only 665 819 main telephone lines, and 195 399 payphones in South Africa. Thus, while Telkom substantially met its rollout objectives, save for the total line target and the village target, there are still

<sup>101</sup> In terms of the Telkom Licence (note 89 above), an under-serviced area 'means (a) any township; (b) any local exchange area listed in Schedule F and represented in the accompanying maps, where as of June 1996 the number of residential exchange lines as a percentage of households was less than or equal to fifty percent; and (c) any local exchange area created after June 1996 where the number of residential exchange lines as a percentage of households was less than or equal to fifty percent as of June 1996, provided, however, the Authority may, subject to condition 13.5, reasonably object in writing to the classification of any such local exchange area within 30 days after receiving written notification from the licensee of the creation of any such local exchange area.'

<sup>102</sup> In terms of the Telkom Licence (note 89 above), a priority customer 'means a hospital, library, local authority or school'.

<sup>103</sup> In terms of the Telkom Licence (note 89 above), a village 'means a community located in an under-serviced area with between 100 and 1,999 inhabitants which is without an exchange line from the effective date (7 May 2002)'.

<sup>104</sup> In terms of the Telkom Licence (note 89 above), the replacement line target refers to 'the total number of new digitalised exchange lines to be brought into service in order to replace existing non-digitalised exchange lines as specified for the relevant financial year in Schedule A'.

<sup>105</sup> ITU World Telecommunications Development Report (note 12 above) A-79. Although the 2001 census data is relevant, it is not useful for comparative purposes because it is not compiled as frequently as the ITU data, which is compiled annually and thus provides an annual comparison. As such, for the purposes of this discussion, the ITU data, which uses consistent criteria across surveys, is a better reference point to demonstrate the increase in fixed-line teledensity.

<sup>106</sup> Telkom Prospectus (30 January 2001) 134.

<sup>107</sup> Telkom Report on Licence Obligations (2002) 14.2.

issues outstanding in the regulatory framework which make it difficult to state that Telkom has gone as far as was required in addressing universal service. No audit has been conducted by the regulator of Telkom's rollout during the exclusivity period.

A key issue, by Telkom's own admission, which has affected its ability to deliver on its obligations is that of discontinuation of services).<sup>108</sup> In some of the rural areas where Telkom installed new lines, the rates of discontinuation have been as high as between 50 percent and 70 percent. Most lines were disconnected within a few months of activation due to economic (and not technical) reasons.<sup>109</sup> The effect of Telkom's exclusivity has been the installation of lines in the under-serviced areas, but not necessarily the maintenance of those lines.

Telkom had further service-related targets with respect to the reduction of the waiting list from 600 customer fault reports per 1 000 residential lines in 1997/1998 to 390 in 2001/2002. The figure with respect to business lines was a reduction from 580 per 1 000 to 370 in the same period.<sup>110</sup> Further waiting list targets were set out which dealt with the serviceability of payphones, the percentage of orders met within a specified number of days and the percentage reduction of the existing waiting list at the time by 100 percent by October 1998 for business customers and payphone renters, and by October 1999 for residential customers.<sup>111</sup> The only area in which Telkom failed, based on its own evaluation, with respect to the quality of service targets, is in the category of 'fault rate per 1 000 lines for residential customers'. Telkom's target fault rate was 390, whereas 547 residential faults were reported. For this shortfall, Telkom paid a penalty of R383 199 to Icasa.<sup>112</sup> At July 2004, Telkom's ability to meet the targets set out in its licence had not been audited independently by the regulator.

## **7. MOBILE CELLULAR TELECOMMUNICATIONS SERVICE OPERATORS' ROLE IN PROVIDING UNIVERSAL SERVICE AND UNIVERSAL ACCESS**

South Africa has not relied solely on Telkom to achieve its universal service and universal access goals and has, in addition, made deliberate regulatory interventions with other service providers. In the White Paper it was foreseen that other existing network operators, such as the MCTS operators, would work towards the attainment of universal access in particular through CSOs (Community Service Obligations) and joint economic development (JED) obligations stipulated under their licences.<sup>113</sup> At the time, the success of mobile outside of these obligations, and in particular mobile prepaid, in achieving the sector objectives with respect to universal service and universal access was not anticipated.

### **7.1 MTN and Vodacom Community Service Obligations**

Given the rapid growth in the MCTS sector, and the advantages of wireless technology for rural rollout, great reliance has been placed on the MCTS providers

<sup>108</sup> Telkom Annual Report (2002) 24.

<sup>109</sup> P Benjamin and M Dahms 'Background Paper on Universal Service and Universal Access Issues', Telia Telecommunications in Society Seminar, Sweden, June 1999.

<sup>110</sup> Telkom Licence (note 89 above) Annexure B, Table II.

<sup>111</sup> Telkom Licence (note 89 above) Annexure B, conditions K-M.

<sup>112</sup> Telkom Annual Report (note 108 above) table XV.

<sup>113</sup> White Paper (note 2 above) 2.9.

to assist in the attainment of key universal service and universal access goals through their commercial rollout and mandatory obligations. Mandatory obligations were placed upon Mobile Telephony Networks (Pty) Ltd (MTN) and Vodacom (Pty) Ltd (Vodacom) when they were granted licences in 1993 - three years before the promulgation of the Telecommunications Act and the establishment of a telecommunications regulator.<sup>114</sup>

In 1993, Vodacom was given a CSO of 22 000 phones<sup>115</sup> and MTN 7 500<sup>116</sup>. The operators were required to install these phones in under-served areas within a period of five years and to provide the service at a specially regulated, non-competitive tariff. The issue of affordability is addressed through the regulation of CSO tariffs.<sup>117</sup> No coordinating mechanism was used by the operators and the regulator to determine where to roll out these obligations — thus, the mobile operators installed CSOs in under-served areas (as defined by the operators themselves within geographic limits stipulated in an annexure to their licences), and sometimes, right next to each other inadvertently creating competition in such areas which was not the intention of the policy-makers.<sup>118</sup> However, although the broad areas in which they could do their CSO rollout were designated in the operators' licences, they proceeded without a workable definition of under-served areas to determine whether the areas where they have installed CSTs are truly under-served. Furthermore, although both MTN and Vodacom claim to have met their targets, an audit of the MCTS operators' rollout, their compliance with CSOs, and the actual impact of same, has not been independently confirmed.<sup>119</sup>

## 7.2 Cell C (New Entrant) CSOs

Cell C (Pty) Ltd ('Cell C'), the third mobile cellular operator, was issued a licence in 2001. It is required to provide 52 000 community service telephones over seven years, which means that the third MCTS operator's CSOs are nearly double those of the incumbents combined. However, that figure is what Cell C promised in its licence application, and universal service strategy was an important criterion in the evaluation of the applications received.<sup>120</sup>

It appears that the regulator learned from the difficulties it experienced in monitoring the implementation of MTN's and Vodacom's CSOs. With regard to its CSOs, in order to ensure that the areas being served by CSTs are truly under-served, and in order to ensure some level of coordination with respect to their rollout, Cell C, in terms of its licence, must submit a rollout plan to the regulator

<sup>114</sup> Issue of Licences to Provide National Cellular Telecommunications Services GN 1078/1993 GG. 15232 dated 29 October 1993, as amended by Issue of Licence in terms of section 37(1) of the Act to provide National MCTS GN 1483/2002 GG 23760 (Vodacom Licence) and GN 1484/2002 GG 23760 (MTN Licence). The licences were amended to bring them in line with the new legislative framework; however, no substantive amendments were effected and as such no universal service obligations were changed.

<sup>115</sup> Vodacom Licence (note 115 above) 4.1 and Schedule 2A.

<sup>116</sup> MTN Licence (note 115 above) Schedule 2B.

<sup>117</sup> MTN and Vodacom Licences (note 115 above) 13.6.

<sup>118</sup> MTN and Vodacom Licences (note 115 above) 4.2 in which it is stated that the implementation of the CSOs could be co-ordinated between the licensees and Telkom under the chairpersonship of the then Postmaster General.

<sup>119</sup> Vodacom Licence (note 115 above) Schedule 2A; MTN Licence (note 115 above) Schedule 2B, in the first three months after the fifth anniversary, when MTN and Vodacom's CSO targets should be met, the number of Community Service Telephones (CSTs) installed and operated by the licensees will be reviewed by the Authority in conjunction with the licensees.

<sup>120</sup> Recommendation in terms of section 35(2)(b)(i) of the Telecommunications Act, 103 of 1996 for the Third MCTS Licence (4 July 2000) Icasa, 92.52, 207 states that 'Cell C's universal service proposal was significantly better than that of all the other applicants'. Paragraph 93 states that 'the empowerment and universal service aspects of Cell C's application were superior to those of other applicants. These features of Cell C's application gave it an advantage over the other applicants.'

for approval before it installs CSTs.<sup>121</sup> This is different from the obligation placed on the MCTS incumbents, who had an implementation table which listed the broad areas in which CSOs could be placed and gave the right to roll out in any of those prescribed areas. It is this method that made it difficult for the regulator to monitor where the CSOs were being installed, and it did not take into account the changes in the socio-economic development of such areas, or the change in teledensity in these areas over time.

Again different from the obligations placed upon the incumbents, before it rolls out its CSOs, Cell C must agree upon performance indicators with the regulator. These performance indicators set standards with regard to universality, accessibility, the extent to which the CSTs are usable, maintained and meet the needs of historically disadvantaged persons.<sup>122</sup>

Similarly to Vodacom's and MTN's CSOs, the implementation of Cell C's CSOs may be coordinated among themselves, other MCTS operators, PSTS operators and the USA under the supervision of the Authority.<sup>123</sup>

In terms of its licence, like MTN and Vodacom, Cell C must meet geographic and area population targets. Cell C must meet geographic targets of eight percent of the territory within the first five years and 40 percent, inclusive of territory covered via roaming agreements,<sup>124</sup> and area population targets of 60 percent over the same five-year period with a minimum of 80 percent area population coverage within one year of the commercial date by means of domestic roaming agreements.<sup>125</sup> This is to ensure that in deploying its commercial network, Cell C covers as much of the country as possible and does not limit itself to more lucrative urban areas alone.

### 7.3 MCTS Commercial Rollout

Cellular subscribers have increased from 535 000 in 1995 to approximately 12 million in 2002.<sup>126</sup> In 2001 mobile users in South Africa surpassed the number of fixed line users. This trend was replicated globally in 2002.<sup>127</sup> MCTS has played an important role in addressing universal service and universal access through both its commercial services, as well as its CSOs. This is made possible by the technology employed in terms of its ability to cover the country more comprehensively at a lower cost, and its mobility, as well as the development of prepaid services, which are attractive to low-income users.

Vodacom's subscriber base is more than 7,8 million with 6,6 million prepaid customers and 1,2 million post-paid customers as of March 2003.<sup>128</sup> MTN, during the same period, had 4,7 million customers, with the bulk being prepaid customers.<sup>129</sup> Cell C achieved its stated target of 2 million subscribers before 1 August 2003 and more than 95 percent of Cell C's customers are prepaid subscribers.<sup>130</sup>

<sup>121</sup> Cell C MCTS Licence published under GN 1601/2000 GG 22429 A2.2

<sup>122</sup> Cell C MCTS Licence (note 122 above) A2.6.

<sup>123</sup> Cell C MCTS Licence (note 122 above) A2.7

<sup>124</sup> Cell C MCTS Licence (note 122 above) A1.1.

<sup>125</sup> Cell C MCTS Licence (note 122 above) A 1.2.

<sup>126</sup> ITU World Telecommunications Development Report 2002: Reinventing Telecoms 6 ed (2002).

<sup>127</sup> ITU World Telecommunications Development Report (note 128 above).

<sup>128</sup> Vodacom Annual Report, 2003. See <http://www.vodacom.co.za/about/reports.asp>.

<sup>129</sup> MTN Interim Results for 30 September 2003. See <http://www.mtnngroup.com>.

<sup>130</sup> Cell C exceeds growth targets for second consecutive year. Press release issued by Cell C on 14 August 2003.

## 7.4 The Role and Relevance of Prepaid Technology

Pre-paid technology has proven to be a significant factor in the high take-up of MCTS in South Africa and internationally. Even though, in terms of the actual tariffs charged, prepaid is often less affordable on a per-minute or per-second basis than post-paid, it has other advantages that encourage the public to select it as a means of accessing telecommunications services. This is particularly so as low-income users need more than low prices.<sup>131</sup> Pre-paid is an attractive option owing to several factors, namely:

- the ability for users to control their spending;
- the ability to receive calls without having to pay costs additional to the SIM card cost;
- simple sign-up without credit vetting or the need for a bank account; and
- no binding long-term service agreement.

The high prepaid take-up in South Africa is not unique. In Africa (excluding South Africa) approximately 90 to 95 percent of total mobile customers use prepaid accounts.<sup>132</sup> As a result Telkom, like some other fixed line operators<sup>133</sup> has also introduced prepaid fixed telephony.<sup>134</sup>

## 7.5 MCTS Joint Economic Development Agreements

In addition to their respective CSOs, all three MCTS operators have entered into Joint Economic Development (JED) agreements with the regulator.<sup>135</sup> JED agreements are local economic support contracts in which the MCTS operators undertook to assist the government in economic development through job creation, local exports, boosting foreign investment, forging international linkages, research and development, the training of local personnel, the establishment of regional headquarters in South Africa, and developing local value-added technology.<sup>136</sup> Each category of JED activity attracts a specific and different weighting, with a preference given for activities directly related to the telecommunications sector and other related areas associated with the provision of MCTS.<sup>137</sup> The aim is to encourage corporate social responsibility beyond CSOs.

A JED target of R1 billion was set for all three MCTS operators to be achieved over a 10-year period. MTN and Vodacom also had ancillary targets of R400 million and R100 million respectively. In terms of a JED agreement, fulfilment of the commitments under the agreement would be a significant factor in the decision on whether to renew the MCTS licences after their initial 15-year licence terms.<sup>138</sup>

<sup>131</sup> S Oestmann. *Mobile Operators: Their Contribution to Universal Service and Public Access*, (2003) Intelcon Research & Consultancy Ltd 3.

<sup>132</sup> Oestmann (note 132 above) 5.

<sup>133</sup> Oestmann (note 132 above) 4. PSTS operators such as N-Soft in Gabon, Brazil Telecom, PLDT in the Philippines, Telmex in Mexico and CANTV in Venezuela have introduced prepaid.

<sup>134</sup> Recognising that prepaid is a key tool to address accessibility and affordability, Telkom has offered prepaid to its PSTS customers. In 1998, Telkom was the first company in the world to provide prepaid services on a fixed-line network and had 707 881 prepaid subscribers as at March 2002: Telkom Annual Report (2002) 24.

<sup>135</sup> MTN and Vodacom Licences (note 115 above) clause 5.1(b)(ii); Annexure A3 of Cell C MCTS Licence (note 122 above).

<sup>136</sup> Memorandum of Understanding on the JED Plan attached to the National Cellular Telecommunication Licence entered into between the Department of Posts and Telecommunications, MTN and Vodacom (JED agreement).

<sup>137</sup> Paragraph 13.3, JED agreement (MTN and Vodacom) para 9(ii), JED agreement (Cell C).

<sup>138</sup> JED agreement (note 137 above).

<sup>139</sup> MTN and Vodacom JED agreement (note 137 above) 13.3 Cell C JED agreement (Cell C) 9(ii).

Both MTN and Vodacom met the JED requirement of over R1 billion invested in local development within three years of being given the targets. The regulator had an opportunity to increase the JED targets set in Cell C's licence conditions, but set the target at what some observers have seen as a low one of R1 billion over 10 years. This was done in order to ensure that Cell C was given similar targets to ensure a level playing field with respect to licence conditions and obligations.

## 8. TELECOMMUNICATIONS AMENDMENT ACT: BEYOND PSTS AND MCTS, A SHIFT IN THINKING ABOUT UNIVERSAL ACCESS

### 8.1 Background

The 2001 Telecommunications Amendment Act marked a shift in thinking on universal service and universal access policy in South Africa. It made provision for the licensing of additional operators to compete with inter alia Telkom, given that Telkom's *de jure* exclusivity was due to expire in 2002. The Telecommunications Amendment Act also recognised that telecommunications services have moved beyond basic voice services provided by PSTS and MCTS operators. It recognised that issues around access to enhanced services must be considered.

Access to enhanced services can to some extent be catered for by the USF, as described earlier, to which licensees, including Internet Service Providers (ISPs) contribute, and which is to be used, in terms of the Telecommunications Amendment Act, to facilitate 'the provision of multimedia services' and to 'provide subsidies to public schools and training institutes to facilitate Internet access'.<sup>139</sup>

The 2001 Telecommunications Amendment Act also established an e-rate (education rate).<sup>140</sup> It also made explicit the issuing of obligations for access to the 1800 MHz spectrum and third generation (3G) spectrum.<sup>141</sup> It also made provision for the licensing of new operators, including the SNO,<sup>142</sup> Sentech (Pty) Ltd<sup>143</sup> and USALs.<sup>144</sup> These provisions, introduced by the Telecommunications Amendment Act, further the objectives enshrined in section 2 of the Telecommunications Act with respect to universal service and universal access; they also support objectives such as:

- promoting the provision of a wide range of telecommunication services in the interests of the economic growth and development of the Republic;<sup>145</sup>
- encouraging investment and innovation in the telecommunications industry;<sup>146</sup>
- encouraging the development of a competitive and effective telecommunications manufacturing and supply sector;<sup>147</sup>
- promoting the development of telecommunication services that are responsive to the needs of users and consumers;<sup>148</sup>

<sup>139</sup> s 66 of the Telecommunications Act.

<sup>140</sup> s 45(3) of the Telecommunications Act.

<sup>141</sup> ss 30A and 30B of the Telecommunications Act.

<sup>142</sup> s 32B of the Telecommunications Amendment Act.

<sup>143</sup> s 32C of the Telecommunications Amendment Act.

<sup>144</sup> s 40A of the Telecommunications Amendment Act.

<sup>145</sup> s 2(b) of the Telecommunications Amendment Act.

<sup>146</sup> s 2(d) of the Telecommunications Amendment Act.

<sup>147</sup> s 2(e) of the Telecommunications Amendment Act.

<sup>148</sup> s 2(f) of the Telecommunications Amendment Act.

- ensuring that, in relation to the provision of telecommunication services, the needs of local communities and areas are duly taken into account;<sup>149</sup>
- ensuring compliance with accepted technical standards in the provision and development of telecommunication services;<sup>150</sup>
- ensuring fair competition within the telecommunications industry;<sup>151</sup>
- promoting the stability of the telecommunications industry;<sup>152</sup>
- encouraging ownership and control of telecommunication services by persons from historically disadvantaged groups;<sup>153</sup>
- protecting the interests of telecommunications users and consumers;<sup>154</sup>
- promoting small, medium and micro-enterprises within the telecommunications industry;<sup>155</sup>
- ensuring efficient use of the radio frequency spectrum;<sup>156</sup> and
- promoting the empowerment and advancement of women in the telecommunications industry.<sup>157</sup>

## 8.2 E-rate

The Telecommunications Amendment Act recognised the importance of information and communications technologies (ICT) as an educational tool. It addresses affordability by academic institutions, and in particular public schools as defined in the South African Schools Act, 84 of 1996 and public and further education and training institutions in terms of the Further Education and Training Act, 98 of 1998. Section 45(3) of the Telecommunications Amendment Act stipulates that such schools shall be entitled to a 50 percent discount on all telecommunications calls to an Internet Service Provider (ISP) and any connection or similar fees or charges levied by an ISP for accessing the Internet.<sup>158</sup> Public schools will be entitled to this discount, also known in other jurisdictions as an e-rate, from a date still to be determined by the Minister.<sup>159</sup> As at July 2004, some three years since the promulgation of the 2001 Telecommunications Amendment Act, this date had not been set by the Minister.

## 8.3 Issuing of 1800 MHz and 3G Spectrum

In terms of sections 30A and 30B of the Telecommunications Act, PSTS licensees, MCTS licences and USALs are entitled access to 1800 MHz spectrum in exchange for a frequency spectrum fee to be determined by the Minister<sup>160</sup> and against such obligations as may be determined by Icasa.<sup>161</sup> The Act identified access to 1800 MHz spectrum and 3G spectrum as a means of achieving universal access and the Minister in October 2003, set the fees for access to 1800 MHz spectrum and 3G

<sup>149</sup> s 2(g) of the Telecommunications Amendment Act.

<sup>150</sup> s 2(i) of the Telecommunications Amendment Act.

<sup>151</sup> s 2(j) of the Telecommunications Amendment Act.

<sup>152</sup> s 2(j) of the Telecommunications Amendment Act.

<sup>153</sup> s 2(k) of the Telecommunications Amendment Act.

<sup>154</sup> s 2(l) of the Telecommunications Amendment Act.

<sup>155</sup> s 2(m) of the Telecommunications Amendment Act.

<sup>156</sup> s 2(n) of the Telecommunications Amendment Act.

<sup>157</sup> s 2(q) of the Telecommunications Amendment Act.

<sup>158</sup> s 45(3)(b) of the Telecommunications Amendment Act.

<sup>159</sup> s 45(3) of the Telecommunications Amendment Act.

<sup>160</sup> ss 30A(1)(b)(i) and 30B(1)(b)(i) of the Telecommunications Amendment Act.

<sup>161</sup> ss 30A(1)(b)(ii) and 30B(1)(b)(ii) of the Telecommunications Amendment Act.

spectrum<sup>162</sup>. The Authority must determine the obligations against which such fee shall be paid and may make such obligations universal service and universal access obligations.

## 8.4 Sentech: Rolling out Multimedia

An examination of the multimedia telecommunication service licence issued to Sentech makes it clear that the policy framework takes into account the limitations of some of the previous licences in terms of contributions to universal service and universal access. Sentech has been given as its CSOs the establishment and maintenance of Internet laboratories (computer laboratories with Internet access) in 500 schools in rural areas within six years of the effective date of the licence, which is 7 May 2002. Before rolling out its CSOs, Sentech must, like Cell C, submit an implementation plan to the Authority. An implementing body will be established to manage the process of the rollout, funded by Sentech.<sup>163</sup>

Sentech's CSOs represent a shift from a focus on promoting universal service and universal access to basic voice service, to one of encouraging access to enhanced services. Of equal importance is the prescription of a coordinating mechanism to oversee the rollout of Sentech's CSOs.

In 2002, Sentech applied to Icasa to amend the terms and conditions of its multimedia services licence issued in terms section 32C(6).<sup>164</sup> In its application, Sentech requested that clause 5.2 and Annexure A of its multimedia services licence be deleted in their entirety. This in effect meant the deletion of Sentech's CSOs. Sentech argued that the extent and cost of the CSOs imposed on it was great. It further argued that CSOs had been imposed and that they were not related to its licensed activities. For example, as part of its CSOs, Sentech is required to provide local area networks, workstations with enhanced functionality, furniture, secure and useable computer laboratories, technical training and the refurbishment and upgrading of buildings where appropriate.<sup>165</sup> Sentech has argued that these activities go beyond the scope of its Multimedia licence.

Sentech later revisited this position and in public hearings on the matter requested that the CSOs be revised downwards and not deleted in their entirety. It then proposed that the CSOs be limited to the provision of Internet access in the form of connectivity for 500 schools, and that all costs associated with the provision of infrastructure and facilities be borne by other entities involved in the management of the rollout of ICT projects to schools or by the schools themselves.<sup>166</sup> Sentech will be obliged to roll out Internet access at the e-rate to 1,500 rural public schools in terms of the amendments to its licence, over a period of nine years, and according to a roll out programme to be included in the licence.

<sup>162</sup> Ministerial Determination of 1800 MHz Spectrum Fee GN 2530/2003 GG 25513 dated 1 October 2003); and Ministerial Determination of 3 GHz Spectrum Fee GN 2531/2003 GG 25513 1 October 2003.

<sup>163</sup> Sentech Multimedia Telecommunications Service Licence published under GN 686/2002 GG 23405 A2 and A3.3.

<sup>164</sup> GN 984/2003 GG 24708 dated 3 April 2003.

<sup>165</sup> 'Proposed Amended Community Obligations of Sentech Limited in Respect of its Multimedia Service Licence issued on 6 May 2003.' Sentech submission to Icasa, 8 August 2003. Available at Icasa.

<sup>166</sup> Sentech submission (note 166 above) 3.



## 8.5 Under-serviced Area Licences

The White Paper acknowledged that by simply opening the local access market to competition at the end of Telkom's exclusivity, the lack of access to telecommunications services in rural and remote areas would not necessarily be addressed.<sup>167</sup> The White Paper further expressed a concern that the considerable amount of investment required in infrastructure, and the low population densities in rural areas, might deter new entrants from rolling out services in under-serviced areas post-exclusivity. Thus, in the policy, provision was made for small-, micro- and medium-sized enterprises (SMMEs) and co-operative organisations to build local loops, utilising new technologies.<sup>168</sup> The Telecommunications Amendment Act, five years later, makes provision for a new category of licence called a USAL (Under-serviced Area Licence) to address that concern.

Section 40A of the Telecommunications Act empowers the Authority to issue USALs to small businesses,<sup>169</sup> giving preference to businesses that include persons from historically disadvantaged communities, and in particular women.<sup>170</sup> Although in terms of the legislation USALs were to come into effect from 7 May 2002,<sup>171</sup> the invitations to apply for 25-year licences were issued in May 2004, for the provision of services in the Northern Province (now Limpopo Province), KwaZulu-Natal, Eastern Cape, Free State and Northwest province.<sup>172</sup>

In July 2004 Icasa made recommendations on seven short-listed bidders to the Minister of Communications. USAL applications were evaluated against the following criteria: ownership and control, consumer benefits, business plan, financial plan, empowerment, additional features and experience and credibility. Amongst these categories more weight will be given to ownership, control and empowerment.<sup>173</sup> To date Icasa has not issued the licences, but USALs will be licensed in areas with less than five percent fixed line teledensity as determined by the Minister.<sup>174</sup> The impact of mobile cellular penetration in those areas has not been factored into the analysis by the Minister since the definition of teledensity in the Telecommunications Act is the number of telephone lines per 100 persons.<sup>175</sup> Notwithstanding this, the Minister has declared 27 under-serviced areas.<sup>176</sup>

A USAL is an explicitly technology-neutral licence. The holder of a USAL may use any technology that is efficient and effective in rolling out infrastructure and providing services to the community in which it operates.<sup>177</sup> From a policy perspective this is positive, as it is an approach that is not technologically biased. It moves the universal service discussion away from one of basic voice telephony to one of access to other enhanced services since technological restrictions are lifted. It also allows the licensees to use less costly technologies and determine which technologies are best suited to the areas in which they have been licensed to operate.

<sup>167</sup> White Paper (note 2 above) 2.19.

<sup>168</sup> White Paper (note 2 above) 2.19.

<sup>169</sup> Defined in the Telecommunications Act as a 'small business' as defined in s 1 of the National Small Business Act, 102 of 1996.

<sup>170</sup> s 40A(2)(b) of the Telecommunications Amendment Act.

<sup>171</sup> s 40A(4) of the Telecommunications Amendment Act.

<sup>172</sup> Under-Serviced Area Licence Invitation to Apply (USAL ITA) GN 3458/200 GG 24204 1.1.

<sup>173</sup> USAL ITA (note 173 above) 21.5.

<sup>174</sup> s 40A(1) of the Telecommunications Amendment Act. This is substantially different from the under-serviced area definition in Malaysia which sets the percentage at 20 in terms of the CMC Commission Determination on Universal Service Provision, Determination no 2 of 2001

<sup>175</sup> s 1 of the Telecommunications Act.

<sup>176</sup> GN 1389 of 18 December 2001 GG 29954 as amended by GN 276/21 February 2002 GG 23164.

<sup>177</sup> s 40A(3) of the Telecommunications Amendment Act.

However, the resources needed to roll out networks in under-serviced areas may pose a challenge to USALs. Another challenge will be fulfilling the requirement that they be owned by small businesses. In recognition of these challenges, the USAL ITA stipulates that USALs must pay an annual licence fee of only 0,1 percent of annual turnover from a period beginning two years after the licence is issued.<sup>178</sup> This recognises that the difficulties to be encountered by small businesses in raising the required capital from financiers to install and maintain a network in an area where other existing operators with greater financial resources have chosen not to. Further, they must pay only one rand per annum to the USF. This low contribution is presumably because USALs are potentially primary beneficiaries of the USF and limited assistance is available to USALs in that the monies in the USF can be used to subsidise the acquisition and construction of infrastructure.<sup>179</sup>

### 8.5.1 Financing USALs

Generally, in other jurisdictions, two approaches are used for determining the subsidies required for telecommunications operators in rural areas. These may be used separately or to complement each other.

The first approach is to estimate the amount of the maximum subsidy using a financial cost model based on actual costing information.

The second is to let the market determine the final amount through a competitive bidding process, where the amounts bid by potential rural operators determine the level of the subsidy, but there is pressure on operators to submit low bids in order to win<sup>180</sup>.

The latter process is favoured because it requires less information and fewer resources from the regulator and it allows the market to determine the financial requirements, and yet it has a built-in mechanism for ensuring that costs are not inflated, since the lowest bid wins. There is therefore an incentive for bidders to keep their costs as low as possible.

South Africa has adopted an approach of determining a maximum subsidy, but has used neither financial cost modelling nor competitive bidding. The USA undertook a public consultation process to determine the appropriate level of subsidies, and decided that all licensed USALs may apply to the USA for a maximum total subsidy of ZAR 15 million, to be disbursed over a period of three years from the date of issue of the licence.<sup>181</sup> In terms of the policy guidelines issuance of the licence and disbursement of a further ZAR 5 million per year may be effected for two years subject to the achievement of rollout targets. The financial or economic basis for arriving at the subsidy is not clear.

### 8.5.2 International comparison of regional licences

Regional licences have been issued in several jurisdictions as a means of addressing universal service and universal access. These regional licences have been issued through competitive tenders, build-operate-transfer (BOT) methods, and as

<sup>178</sup> USAL ITA (note 173 above) 7.

<sup>179</sup> s 66(1)(f) of the Telecommunications Act.

<sup>180</sup> ITU World Trends Report (note 12 above) 87.

<sup>181</sup> The USA released a 'Policy on the Subsidisation of USALs', which was distributed to USAL applicants but not published in the Government Gazette. The commitment with regard to subsidies is expressed in paras 2 and 3 of the document.

telecommunications co-operatives. All three approaches are different from what is being pursued in South Africa, as discussed below. South Africa's approach is to issue the licences through a 'beauty contest' or competitive application approach by which applicants submit applications in response to an invitation to apply.

The competitive application approach taken in Peru and Chile enabled the award of a licence to operators who were required to meet specified universal service and universal access targets, particularly with respect to public payphones. The award of the licence was linked to a competitive tender in which the bidder with the lowest required subsidy was awarded the licence by the regulator. Payment of subsidies was tied to project implementation and service quality. In the South African scenario, the USAL applicants will compete for licences in a given area based on evaluation criteria. In terms of the policy guidelines for the subsidisation of USALs that were issued by the USA, once licensed, and in a manner similar to that contained in the policies of the aforementioned countries, a portion of the subsidy would be disbursed upon issuance of the licence. The rest of the subsidy would be issued subject to the fulfilment of the rollout targets over the subsequent two years.<sup>182</sup> The fundamental difference is that in South Africa, USALs will not be licensed based on any subsidy or a least-cost subsidy, but rather by competitive application.

Co-operatives are a model for rolling out telephony in which the community is involved in the telephone company both as subscribers and as shareholders or owners. Co-operatives have been used as a means of expanding access to rural and under-served communities in the United States, and more recently in Bolivia and Poland.<sup>183</sup> Bolivia has 15 regional co-operatives and members of each telecommunications co-operative pay a fee for subscription, which also entitles them to equity and voting rights in the phone company/co-operative. Thus the co-operative presents an empowerment model in which ownership and control rests in the hands of the community.<sup>184</sup> Each co-operative or operator holds an exclusive licence for its designated region for a specified period.

## 9. GENDER AND UNIVERSAL SERVICE AND UNIVERSAL ACCESS

The concept of universal access is not gender-neutral and an identified barrier to universal service and universal access provision is the lack of focus on women in universal service and universal access policy. This is a common issue internationally and it has been recognised that, without addressing the applicability of communications technologies generally and the Internet specifically to women, the success of a universal access policy will be limited.

In terms of section 40A(2)(b) of the Telecommunications Act, USALs are to be issued with preference being given to consortiums that include women and historically disadvantaged individuals. Further, among the objectives of the Telecommunications Act is the empowerment and advancement of women in the telecommunications industry.<sup>185</sup> It is thus envisaged that within South Africa's

<sup>182</sup> USA Policy on the Subsidisation of USALs (note 185 above) para 5.

<sup>183</sup> A Gillwald 'Under-served Area Licences in South Africa: Steps to Achieving Viable Operators' LINK Centre Policy Research Paper no 3. Graduate School of Public and Development Management, University of the Witwatersrand, January 2003. See [http://link.wits.ac.za/research/usal.htm#\\_Toc26352287](http://link.wits.ac.za/research/usal.htm#_Toc26352287).

<sup>184</sup> Datafile of Latin American Telecommunications (2000), CIT publications Ltd. See [http://banners.noticiasdot.com/termometro/boletines/docs/telcos/consultoras/citpubs/2000/cit\\_bolivia\\_telcos.pdf](http://banners.noticiasdot.com/termometro/boletines/docs/telcos/consultoras/citpubs/2000/cit_bolivia_telcos.pdf).

<sup>185</sup> s 2(q) of the Telecommunications Act.

policy imperatives it is necessary to include a special focus on addressing the needs of women in the provision of services, and to close the gender gaps in ICT policy, in general, and in universal service and universal access policy in particular. Despite the empowerment provisions in the legislative framework, as described, however, in practice this has not been an explicit factor in the implementation of universal service and universal access projects. Telecentres, for example, have not been focused on the needs of women as in other jurisdictions such as Bangladesh, where the success of the Grameen phone model<sup>186</sup> demonstrates the potential that women-owned and -operated telecentres have for rural development. Furthermore, no gender analysis is required for, or has been performed on, the allocation of monies in the USF for the development of universal service and universal access projects. Thus, although there is provision for ownership by women in USALs and in other licences, that is the current extent of the engendering of South Africa's universal service and universal access policy.

## Conclusion

As a consequence of the complex socio-economic and political dynamics that previously existed in South Africa and which resulted in the extremely skewed distribution of telecommunications services, South Africa has to be additionally creative and more innovative in developing universal service and universal access strategies. Several approaches have been employed to address the skewed voice penetration. In addition, strategies are also being implemented to provide access to enhanced services. This chapter has compared these legislative and policy approaches to addressing universal service and universal access to those adopted in other jurisdictions. In some cases, and generally at a macro level - such as the establishment of a universal service fund, regional licences and the provision of exclusivity periods — these approaches are similar to those adopted in other countries. However, in some instances, there are differences in the way in which they are being implemented.

South Africa has put in place several policy tools to address universal service and universal access. These were reviewed in this chapter and include the establishment of a specialised USA and USF, the imposition of CSOs on telecommunications licensees, the provision of a defined exclusivity period on PSTS in exchange for universal service obligations, and the legislation of an e-rate and regional licences in under-served areas. In other jurisdictions these approaches have to varying degrees proven to be successful in attaining universal service and universal access; however, implementation of similar approaches has had mixed results in South Africa.

Notwithstanding the adoption of these policy tools, in terms of PSTS penetration it does not appear that much progress has been made towards achieving universal service. In respect of MCTS there has been greater progress and there is today a measurable difference in universal service as compared to 10 years ago. The growth in the mobile industry cannot be attributed solely to regulatory intervention as

<sup>186</sup> The Grameen Village Phone programme provides telecommunications facilities in rural areas while providing village phone operators who are predominantly poor women based in rural areas with an opportunity to earn an income. The project is administered by Grameen Telecom and Grameen Bank, a micro-credit lending institution. Available at [www.grameenphone.com/village.htm](http://www.grameenphone.com/village.htm).

much of the development has been as a result of commercial prepaid customers and not CSOs.

Notwithstanding the fact that South African telecommunications policy and legislation have a relatively strong gender bias, in that they encourage a consideration of ownership by women in licensing processes, including USALs, and they promote the empowerment of women and encourage other forms of participation by women, in terms of implementation, for example through licensing, there is a need for a specific focus on women.

The promulgation of the 2001 Telecommunications Amendment Act has created the space for several key universal access projects and has brought about some critical and fundamental changes to the sector, namely the development of the USAL category, the restructuring of the USA and the USE, the right of the regulator to impose terms and conditions for access to 1800 MHz spectrum<sup>187</sup> and 3G spectrum,<sup>188</sup> the legislation of discounts for educational institutions and the restructuring of the USA. But it is still too soon to tell what the impact of these measures will be and whether those connections will be made — and, more importantly whether they will be maintained.

<sup>187</sup> s 30A(1)(b)(ii) of the Telecommunications Amendment Act.

<sup>188</sup> s 30B(1)(b)(ii) of the Telecommunications Amendment Act.

# CONVERGENCE

Oupa Suping, Kerron Edmunson and Anton Alberts<sup>1</sup>



<sup>1</sup> The original author of this chapter, Oupa Suping, would like to thank Lisa Thornton for access to various unpublished works of Lisa Thornton Inc regarding convergence, and would like to thank Kerron Edmunson and Anton Alberts for the assistance in finalizing this chapter.

## Introduction

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*'Nobody can predict the future, but you can understand the forces that will shape the future — and it is always better to play with the forces than against them.'*

Lester Thurow

Imagine this. You are walking out of a business meeting and want to check the score at a sports event. Your cell phone, always connected to the Internet, opens the web page with an update. Your favourite team is leading and you decide to see for yourself how they are playing. You speak a command into your cell phone and up pops a high definition television transmission on the screen. A beep from the phone distracts you as a message scrolls across the bottom of the screen. Your refrigerator at home is contacting you. You answer the call and are informed that you are running low on groceries and provided with a list of items needed. You copy and paste the list into an e-mail and send the order off to a local grocery store. As you arrive at the store, the groceries are ready and neatly packed. You pay and as you walk out you notice another shop advertising a new bundle of services. For a set monthly fee you can get an unlimited broadband connection on any compatible device; including television, cell phone, laptop, and satellite phone, with free television content; as well as free online services from various vendors. In addition, you get one thousand minutes free IP-telephony calls using your cell phone's voice-over-IP function. You decide it is an offer too good to be true. You pay for it and upload the package via the wireless system onto your cell phone, and then forward it to your home server. Seconds later the new service is activated.

Is this a scene from the future? Perhaps, but a number of these scenarios are actually possible today and more will undoubtedly unfold in the future. The development of this new communications technology and the innovative services made possible over it has become known as 'convergence'.

It is this development and the concomitant legal implications that will be discussed in this chapter, wherein the authors will attempt to define an understanding of convergence; identify the possible trends and consequences of convergence worldwide; discuss the approach that other countries have adopted; and identify and audit current South African policy and legislation which may affect convergence.

## 1. WHAT IS CONVERGENCE?

### 1.1 Definitions

The predominant feeling is that the term ‘convergence’ has no single definition. Some even hold that the term resists definition. Included herein are a few of the many definitions here, not necessarily because they are more correct than those provided elsewhere, but to stimulate debate on this issue and understand why it is important to define it at all.

‘Convergence’ is defined in Newton’s Telecom Directory as ‘the word to describe a trend, now that most media can be represented digitally, for the traditional distinctions between industries to blur and for companies from consumer electronics, computer and telecommunications industries to form alliances, partnerships and other relationships, as well as to raid each others’ markets’<sup>2</sup>.

The International Telecommunications Union (‘ITU’) has provided an almost all encompassing definition that describes convergence as ‘the technological, market, legal or regulatory capability to integrate across previously separated technologies, markets or politically defined industry structures. Convergence also involves an important international component, as many services and information sources that were traditionally controlled on a domestic level are being provided on a global basis’<sup>3</sup>.

In yet a third interpretation, the Australian Convergence Review (2000) defines the concept as ‘the restructuring of the services sector enabled by digitization. It is the transition between two structural models for service delivery. The traditional is dominated by analog or physical technologies favouring mass production, domestic market focus, and vertically and horizontally integrated corporate structures. Conversely, the new service delivery model uses digital programmable networks that favour mass customization, an international market focus, and vertical separation between the services users see and the underlying platform. The process of convergence results in a services sector that is more fragmented, competitive and international in its outlook’<sup>4</sup>.

In summary, the word encompasses the convergence of services, such as telecommunications, computing, publishing and broadcasting; the convergence of technologies, such as wireless and wire line communications conduits, computers, newspapers and other traditional print media; the convergence of entities that supply such services and technologies such as Time Warner and AOL; as well as the various pieces of legislation and potentially the regulatory authorities operating in these sectors.

### 1.2 The Drivers of Convergence

The three levels of convergence outlined in the previous paragraph are obviously interlinked and any of them can become an internal driver of the other. There also external drivers of convergence and the most important ones are what Allison Gillwald refers to as ‘the technological drive towards digitization and the economic drive towards liberalization’<sup>5</sup>.

<sup>2</sup> Newton, H (2002) Newton’s Telecom Dictionary (18th Edition) at pg300.

<sup>3</sup> International Telecommunications Union, (1999). Trends in Telecommunication Reform: Convergence and Regulation (1999) at pg2.

<sup>4</sup> Australian Convergence Review (2000). Available: <http://www.noie.gov.au>.

<sup>5</sup> Gillwald, A. National Convergence Policy in a Globalised World: Preparing South Africa for Next Generation Networks, Services and Regulation. Available: <http://link.wits.ac.za>.



Digital technology enables the conversion of any type of information, be it text, sound or images, into a sequence of binary digits ('bits'), represented by the numbers 0 and 1. Digitisation also consists in compression techniques that make it possible to reduce the number of bits required to represent information in data transmission or storage. In this way, less bandwidth is necessary to transmit complex content or to enable the storage of it on magnetic devices such as compact disks. New 'multimedia' services allow for the transmission of different types of information like voice, data, text and images by converting them all into bit streams.

The liberalization of markets has also accelerated these technological trends as far as competition and innovation in the services sector is concerned. As governments move to privatise their incumbent telecommunications operators, introduce competition in various sectors and promote access to fundamental infrastructure, so technical developments become more creative and inevitably lead to the creation of new markets. This trend has been observed time and again as existing markets are liberalised; for instance in the United States, broadband connections have enabled the downloading of films from the Internet, thus creating a parallel market alongside the existing television broadcasting and DVD rental markets.

Together the two drivers — digitisation and liberalization — are globally and locally shaping and forging a new world of communications, and eroding the traditional notion of the separation of the industries of information technology, telecommunications and broadcasting.

### 1.3 The South African Context

Even though South Africa is still a developing country, it has well-developed information technology, telecommunications and broadcasting industries. These industries keep us abreast of world trends and in some respects are even world leaders. South Africa is a quick adopter of convergence and applies it as basic infrastructure and technology allow. However, there is a severe backlog in the level of penetration of technology and take-up of new service offerings is low as most of the South African population still has very limited access or no access to it at all. This is not an ideal environment for convergence to prosper in.

Moving forward, South Africa's take up of convergence will, like that of other developing countries, depend on and differ according to the needs of the market; level of investment locally and internationally; governance models and social policy. The convergence of technologies and services, as well as that of entities that provide such services will create various challenges to current legislation and policy framework. Current legislation is simply unable to address market needs.

## 2. POLICY AND REGULATORY ISSUES

For numerous reasons the communications industry, which includes media, is regarded as strategic. It has social, political, economic and even militaristic implications; it facilitates domestic communications and electronic business as well as international communications and services. It is clear that the way in which this important sector

is regulated will be critical not only to stakeholders within South Africa but internationally. One of the first areas which anyone looking into the telecommunications market in South Africa will research is the sector policy — what are the government's goals and objectives, what are the key industry issues and how will the government facilitate progress?

## 2.1 What is policy?

Policy is generally a tool that enables the drafting of legislation in a particular environment. The success of a policy can be measured by its ability to sum up the status quo, describe challenges facing the industry that it seeks to regulate, and set forth the government's approach to the sector over a period into the future. While policy tends to refer to political, social and economic goals, legislation is intended to give effect to policy objectives and goals through the creation of a framework of rules and regulations and licence conditions set out in detail the practical method of implementation and enforcement of legislation by all stakeholders.

Policy in emerging telecommunications markets typically begins with the access principle, namely that each member of society has a right to access to communications at affordable prices. Policy in the context of convergence has been a difficult thing to grasp, not only in South Africa but elsewhere, as the international community struggle to find a solution for the so-called 'digital divide'. This divide signifies the gap between people without access to communications networks sometimes even for basic purposes; and those who transact as a matter of course across integrated broadband networks and access through them, a multitude of sophisticated services and business practices.

William H. Melody believes that telecommunications policy objectives have not changed significantly in recent years but that changing circumstances have shown that old models to implement these objectives were not functioning well and need updating. He also reflects that the direction and priorities of particular regulatory models might differ according to circumstances in different countries, particularly between developing and developed countries<sup>6</sup>.

South Africa has few models to follow in the development of communications worldwide. This chapter will deal elsewhere with progress made in other countries, but it is important to realize that a policy solution is unique to circumstances which exist at the point when policy is being formulated and applied, and there is no one 'right' approach. An important factor influencing policy will be the stage of development reached.

In South Africa, technological developments are significant but hampered presently by the cost of both research and of manufacturing; slower than expected market take-up; and restricted access to communications networks, particularly in rural areas. The benefits of convergence are likely to have a positive effect on cost in the longer term, as users are able to take up services across a broader range of platforms and make use increasingly of cheaper internet-based technologies. The challenge therefore for government, is how to formulate a policy that enables the establishment of affordable communications networks and multiple services for the whole of the population. Legislation and policy typically lag behind the

<sup>6</sup> Melody, W.H.. Chapter 2, Policy Objectives and Models of Regulation, in *Telecoms Reform: Principles, Policies and Regulatory Practises*. Available: <http://www.LIRNE.net>.

advances of technology and South Africa is no different in this regard.

Furthermore, policy must try to balance the need to keep up with international trends and development to ensure South Africa remains competitive on the global market and invites participation in local industry, whilst addressing the domestic deficiencies of a less developed country. Our domestic goals may require increased funding, human and technological resource, and flexible regulation to ensure steady growth. These priorities may be at odds with the WTO requirements of 'most favoured nation' treatment for example<sup>7</sup>.

## 2.2 The South African policy landscape

The broadcasting and telecommunications industries have undergone significant changes in the past ten years in South Africa. This is evident in the various pieces of legislation that have been enacted. These changes, both legal and in the marketplace, have been in line with South Africa's own political and social transformation as well as its attempt to keep up to speed with the developments in the global communications market. Some of the changes have resulted in anomalies, notably in that the protection that is afforded to the independence of the broadcasting sector in the Constitution is not afforded in the same way to telecommunications as we know it.

Amongst the factors that precipitated change in the last ten years, was the recognition that access to telecommunication services was limited for most South Africans, specifically historically disadvantaged individuals and groups. Prior to and during the early 1990s, South Africa had only 9.8 lines for every 100 persons as well as highly skewed telecommunications penetration rates<sup>8</sup>. One of the Telecommunications Act's primary objectives was to address the shortfall by increasing affordable access to communications.<sup>9</sup>

The sector has dramatically transformed over the last decade. Telkom had control over the provision of telecommunications services in South Africa as a state-owned monopoly and determined policy and licensing procedure in South Africa. In 1994, South Africa ushered in a new political dispensation that resulted in a new approach to this sector as the post-apartheid government began to focus on competition and access. An independent regulator was created which now represents the converged market-place; two mobile cellular operators have been licensed; Telkom has now been partially privatised and an initial public offering in Telkom in early 2002 implemented; Cell C (Pty) Limited, the third cellular operator, shows good signs of growth; the value added network services market is competitive; Sentech has been licensed to operate as a carrier of carriers and a multimedia services provider; and a competitor to Telkom, the SNO, has been formed, although it is not yet licensed. Icasa is also proceeding with the licensing of up to 10 'under serviced area' operators. It is completely understandable that policy would have a hard time keeping up!

<sup>7</sup> WTO General Agreement on Trade in Services. The Annex on Telecommunications requires countries to treat one another on a non-discriminatory basis ie on 'terms and conditions no less favourable than those accorded to any other user of like public telecommunications transport networks or services under like circumstances'. This 'most favoured nation' or MFN treatment may be difficult in certain cases while South Africa creates parity within the country.

<sup>8</sup> The Green Paper on Telecommunications Policy, Notice 594 of 1995, GG No. 16526.

<sup>9</sup> The Telecommunications Act No 103 of 1996 as amended.

## 2.3 Possible policy objectives

If one were to imagine some relevant sector objectives in present circumstances, they could include:

- Ensuring that South Africa becomes and remains competitive on the international market;
- Ensuring greater choice of service and enhanced service quality for consumers;
- Enabling affordable access to ensure greater penetration.

Major objectives of the current broadcasting policy and legislation are likely to be<sup>10</sup>:

- The promotion of diversity in services and content by regulating equivalent services in an equivalent way, without requiring use of a particular technology;
- The promotion of diverse forms of ownership, particularly by historically disadvantaged individuals;
- The provision, development and protection of a national and regional identity, culture and character, particularly through local content development and independent production; and
- If necessary, restricting cross-media ownership and control, and foreign ownership in order to promote these objectives.

Against this background, three important areas can be identified for review in future policy:

- Access to the market and to elements of it by users and industry participants control of entry into the market or licensing in order to conserve the theory of scarce resources such as land access rights, spectrum and numbers will be necessary, but not control by virtue of the technology used. Control of pricing might be necessary to ensure that the terms access by consumers and competitors alike are affordable and reasonable;
- Upholding public interest concerns in relation to content — it will be important, particularly where children are concerned, that content is not offensive or obscene but equally cultural, or national, or local or regional perspectives must be protected; and
- Addressing ownership or control of the tools of information within South Africa — to ensure that our culture and heritage are promoted and protected, and that historically disadvantaged communities also share in this important sector it will become important to regulate who may become an owner or stakeholder.

<sup>10</sup> Gillwald, A. National Convergence Policy in a Globalised World: Preparing South Africa for Next Generation Networks, Services and Regulation.

In general, the access to and form of content will become more important in the converged environment.

These objectives must be translated through the implementation of that policy, by creating concrete measurements and enforcing them through regulation. Policy goals cannot therefore be too impossible or too impractical to implement and to monitor. Because the converged marketplace is new but contains so many elements of what is known and what has been subject to particular models of regulation for many years, it is an easy mistake to apply old rules even where policy goals may differ.

Policy makers must be advised by professional industry analysts. It is internationally accepted that drafting policy should be a separate function of the Ministry on behalf of government, and should be independent of monitoring and enforcement functions and independent of operations.

## 2.4 Policy and legislation to date

Herein is a brief description of the current legislative tools in operation.<sup>11</sup> The government has recently (in 2002) introduced related legislation to try to keep pace with the changes within this market. These measures include the Electronic Communications and Transactions Act<sup>12</sup> ('ECT Act') to facilitate e-commerce and to create the necessary legal environment to enable online transacting; and the Interception Act of Communications and Provision of Communication-Related Information Act<sup>13</sup> ('the Interception Act'), which aims to curtail the use of communications networks in criminal activities.

In the late 1990's, the government's policy was to introduce managed liberalization — a process of introducing gradual competition and encouraging foreign direct investment. The Telecommunications Act began this process but it is not complete. As a minimum, any new legislation should ensure that the sector is stable, and that the regulatory framework is certain, to reassure investors that the liberalization process continues, albeit in a changed landscape.

Most recently, the Department of Communications published a draft Convergence Bill ('the Bill') on the 3rd December 2003. Far from clarifying the government's attitude to convergence, however, the Bill was not able even to consolidate eleven existing pieces of legislation into a co-ordinated whole. To match the achievements of industry in converging technologies and services, the aim of any drafting exercise should be to simplify and consolidate the position and enable the market to develop in a flexible manner.

Policy also has to take care not to create distortions in the market by emphasizing certain objectives over others to achieve short-term goals. Treatment of key issues like access and penetration, pricing, accounting separation, licensing and regulation of scarce resources needs to take account of international trends as well and these trends anticipate planning for the longer term.

The current policy framework in South Africa does not provide a flexible approach for the longer term, for example it has not recognized that the distinction between voice and data, which is maintained in legislation, is artificial and restricts

<sup>11</sup> See Chapter 1 herein for a more detailed overview of policy and legislative instruments.

<sup>12</sup> The Electronic Communications and Transactions Act No 25 of 2002.

<sup>13</sup> Regulation of the Interception of Communications and Provision of Communication-Related Information Act, 70 of 2002.

growth in the sector by limiting the use of technology for no clear reason other than to segment markets for purposes of separating regulatory responsibility. In other geographic markets, the trend is to acknowledge that the blurring of technology means that legal frameworks should be reworked to enable growth. Without clear policy direction on this important issue the regulator cannot take steps to remove an obstacle to market innovation.

The other area in which policy must take a firm hand is the separation of functions and powers between the Minister and the regulator. It is frequently the case that policy is 're-made' as policy goals change to suit circumstances. Political interference operates to frustrate certainty and growth. In an environment where policy goals are unclear or not translated into practical rules which are capable of enforcement and which are effectively administered, policy can have no real role to play.

The Ministry is the place of safekeeping for policy whereas the regulator, Icasa should be responsible for implementing policy and ensuring that operators are accountable to the objectives enshrined in it. Currently our legislation creates an overlap between the roles of these two bodies in critical areas, resulting in conflict within the organizational structures and a tendency for industry players to approach the functionary whom they believe will best support their cause. The Minister is still a stakeholder as representative shareholder in Telkom for the government and further conflicts must therefore arise when the Minister has responsibility for policy formulation and implementation as well.

It will be advantageous to the sector to ensure that policy is clear before finalizing the Bill. With clear policy objectives, it is hoped that the Bill will be thoroughly debated and carefully articulated so that when it is finalized, South Africa has a Convergence Act that is technology-neutral; clear and understandable; easily implementable by Icasa; allows for fair competition and effective control of monopoly players; and most importantly, ensures maximum exploitation of the benefits of convergence so that there is maximum universal access.

### **3. CURRENT LEGISLATIVE FRAMEWORK AFFECTED BY CONVERGENCE**

The Information, Communications and Technology ('ICT') industries in South Africa have in the last ten years been governed by numerous and disparate pieces of legislation. This legislation is industry-specific and ignores the strong trend of combining the three. The need to create a single consolidated piece of legislation was identified as far back as a decade ago, during the negotiations that led to the interim Constitution. Some delay was experienced while the Constitution<sup>14</sup> was negotiated, drafted and tabled before Parliament.

Further attempts to address convergence were reflected in the White Paper policy processes for both telecommunications and broadcasting in the mid 1990s. The closest that we have come to catering for convergence is the Independent Communications Authority of South Africa Act<sup>15</sup> ('the Icasa Act'), which provides for the merger of the former regulator of telecommunications, the South African Telecommunications Regulatory Authority of South Africa ('Satra'), and the Independent Broadcasting Authority (IBA), which was tasked with regulating all

<sup>14</sup> Constitution of the Republic of South Africa Act No 108 of 1996.

<sup>15</sup> The Independent Communications Authority of South Africa Act No 13 of 2000.

broadcasting matters, in 2000. The merger created the Independent Communications Authority of South Africa ('Icasa'), which has authority to regulate both telecommunications and broadcasting. Such a far-seeing step has of itself, created some problems for an industry looking for strong guidance as it re-shapes itself. Icasa has even been criticized by industry players as being more of a divergent regulatory authority than a converged one.

Icasa is now entrusted with the regulation of the ICT industries. All these industries are however still governed by separate pieces of legislation. Telecommunications and broadcasting in particular, are subject to a high degree of regulation that is specific to each. The existing legislation does not take cognisance of convergence as telecommunications and broadcasting are clearly defined in accordance with the type of signal that they deliver — telecommunications is defined in terms of sound or voice while broadcasting refers mainly to pictures.

### 3.1 Telecommunications

There are several pieces of legislation that regulate communications in South Africa. In addition to the Telecommunications Act<sup>16</sup>, the Constitution, the Icasa Act mentioned above, the ECT Act, the Interception Act and the Competition Act<sup>17</sup> all apply in various ways to the telecommunications sector. In this part is a summary of these sources of rules applicable to the sector.<sup>18</sup>

#### 3.1.1 *The Constitution*

Section 2 of the Constitution provides for its supremacy within the democratic Republic of South Africa, and the entire information, communications and technology industry, is therefore subject to the Constitution. Section 14(d) and Section 16(1) provide for personal privacy, including our right not to have our communications infringed, as well as the protection of our right of freedom of expression and the freedom to receive and impart ideas. The latter can be interpreted to include the means of communications.

#### 3.1.2 *The Icasa Act*

The Icasa Act provides for the formation of Icasa, which is entrusted, with regulating the telecommunications and broadcasting industries. Icasa is funded through a budget approved by the Department of Communications.

#### 3.1.3 *The ECT Act*

The object of the ECT Act is to enable and facilitate electronic communications and transactions in the public interest. It also allows for the admissibility of electronic messages in legal proceedings and provides for consumer protection in electronic transactions.

<sup>16</sup> The Telecommunications Act No 103 of 1996 as amended.

<sup>17</sup> The Competition Act No 89 of 1998.

<sup>18</sup> Other legislation that affects the market includes the Sentech Act No 63 of 1996, Eskom Conversion Act No 13 of 2001, Post Office Act No 44 of 1958, State Information Technology Agency Act No 88 of 1998 and Legal Succession to the South African Transport Services Act No 9 of 1989.

### **3.1.4 The Interception Act**

The Interception Act is intended to regulate the interception of communications, the monitoring of signals and radio frequency spectrum and the provision of communication-related information. When it comes into force, the Interception Act will repeal the Interception and Monitoring Prohibition Act No 127 of 1992.

### **3.1.5 The Competition Act**

The Competition Act establishes the Competition Commission, whose responsibility it is to investigate anti-competitive practices, any abuse of a dominant position, and mergers. The Competition Tribunal is responsible for adjudicating in these matters. The Competition Commission has signed a memorandum of understanding with Icasa in which the two parties agree how they will interact with one another in respect of the regulation of the telecommunications and broadcasting industries.

### **3.1.6 The Telecommunications Act**

This Act sets out the rules for the telecommunications industry and makes provision for Icasa to make further rules that are consistent with the Act. The Minister of Communications is also empowered in terms of the Telecommunications Act to give policy directions to Icasa, which directions must also be consistent with the Telecommunications Act.

Section 40 of the Act currently restricts value added network services ('Vans') licensees from allowing voice to be carried by their customers, thereby creating an artificial regulatory barrier to the convergence of voice and data.

## **3.2 Broadcasting**

Broadcasting is also regulated by numerous pieces of legislation, notably the Independent Broadcasting Authority Act<sup>19</sup> ('the IBA Act') and the Broadcasting Act<sup>20</sup>.

### **3.2.1 The IBA Act**

The IBA Act establishes the regulatory framework for broadcasting activities in South Africa, and it sets out rules limiting ownership and control of broadcasting licensees and control over more than one licence; restrictions on cross-media control of broadcasting licensees and newspapers; rules regarding local television content; independent television production and South African music.

Icasa has taken over the functions of the IBA including making regulations, exercising control over the use of frequency spectrum, licensing parties to provide broadcasting services and adjudicating complaints regarding broadcasting and broadcasts.

<sup>19</sup> The Broadcasting Authority Act No 153 of 1993.

<sup>20</sup> The Broadcasting Act, 4 of 1999.



### 3.2.2 *The Broadcasting Act*

This Act amends the IBA Act in respect of the licensing regime for broadcasters and deals with content.

These pieces of legislation address their various sectors as distinct silos of activity. In other words, the current legal structure has emphasized vertically integrated network operations that are regulated along distinct technological lines. In maintaining these distinctions, current legislation and policies will not be able to address or fulfil convergence needs. This situation is, however, not unusual. In Britain, although Ofcom (the Office of Communications) has recently begun to regulate in the combined environment of telecommunications and broadcasting, separate legislation exists for each industry. This is changing however, to reflect the requirements of the European Community, which is encouraging a move toward less regulation generally, and similar modes of regulation for industries regardless of technology used.

## 4. POSSIBLE OUTCOMES AND/OR CONSEQUENCES OF CONVERGENCE

Network convergence, which is a result of technological convergence, has enabled the use of networks that were previously dedicated to the transmission of specific types of data to now transport any type of information. Telecommunications networks can now transport broadcast services and broadcasting networks can provide telecommunications services, including voice telephony. Electricity companies are even able to install fibre-optic lines within their cables that can then be used to provide long distance, high-speed data and video services.

The convergence of technologies and networks has already led to the convergence of services and the introduction of 'hybrid' services such as pay-per-view and video-on-demand services. Home banking and home shopping are also possible over the Internet or even over the airwaves through a television. Sophisticated consumer devices such as VoIP modems, set-top boxes and navigation software are available to the general public to enable them to modify their services to suit their lifestyles. The scenarios outlined above are becoming reality.

Convergence is therefore also bringing about a change in the traditional way of doing things. It is eroding the traditional economies of scale and scope, demanding a restructuring of the various industries as well as their business strategies. Business activities have been categorized at three main levels within the ICT industries, namely:

- content and services;
- transport and software; and
- infrastructure and hardware.

There are now many opportunities for integration at a horizontal level between these different industries in addition to the more traditional vertical integration between the different levels.

Vertical integration refers to integration across two or all of the horizontal layers and can occur within all industries. Horizontal integration refers to integration across two or more of various industries. 'Integration' means a change in the market structures.<sup>21</sup>

We have seen how telecommunications operators and equipment vendors are rushing to add IP network products and services to their portfolios, whilst data communications vendors are busily acquiring voice technologies and expertise. This diversification of activities is also made possible by the liberalization of markets. Companies are merging or forming various types of associations, leading to a restructuring of these markets. Content and infrastructure providers are coming together to offer the skills or resources to provide innovative services. The ill-fated merger between Time Warner and AOL was one such example of integration. Less aggressive models might include alliances between cellular network operators and broadcasters to permit sporting highlights to be shown over mobile phones.

The landscape of communications can be expected to develop and change further in the following ways:

- A consumer or user can choose services that they may want to receive instead of taking up standardized services aimed at mass markets;
- Customer databases are likely to gain commercial value as they can be used for more purposed marketing to meet demand;
- The customisation of products and services may in turn lead to further integration as service providers and network operators enter into alliances and associations and its possible that this consolidation will squeeze competitor products on price; and
- Digital technology enables cross-border transactions, so the implications of convergence are greater than national borders.

These trends have implications for security and privacy of communications in South Africa and internationally. They may also require attention under the Competition Act, and the relevance and efficacy of other pieces of legislation that have been mentioned in part 4 above must also be considered.

Convergence may be limited by a number of other factors, some of which have been identified as follows:

- Incumbent service providers are likely to have an economic advantage over smaller service providers and new entrants which may lead to abuse of their positions in the market;
- Demand may vary depending on demographics and the stage of development of a particular market, and markets with a high demand may therefore develop more quickly than others to meet that demand;
- The availability of and ability to access infrastructure to complement the delivery of services may initially be under the control of dominant providers in each sector.

<sup>21</sup> Henten, A., Falch, M and Tadayoni, R (2002) Some implications of ICT and Media Convergence, LIRNE.net, Centre for Tele-information (CTI), Technical University of Denmark, World Dialogue on Regulation. Available: <http://www.regulateonline.net>.

The role that policy and legislation must play in this new environment should not be under-estimated.

## 5. INTERNATIONAL MODELS

In developing an appropriate policy and regulatory framework, South Africa as a developing country may be able to learn from experience in other countries - the key lesson being that no one model is necessarily the 'right' model — each country will have its own particular concerns. Malaysia, South Korea and Australia have already developed a whole new legal regime to govern converged networks and services.

Malaysia is said to offer perhaps the best example of converged legal regulation. It has effectively changed its regulatory and licensing regime from a 'vertical' system to that of a 'horizontal' system that is service and technology-neutral. In a vertical regime, a licence is needed for every type of recognized service provided, for instance separate licences are issued for providing each of broadcasting, telecommunications, and value-added network (or internet connection) services. The horizontal model adopted by Malaysia provides for four different licence categories that correspond with four identified markets, namely network, connectivity, applications and content. All licensing arrangements are governed by one regulatory body. It is, however, important to note that only services with significant economic and social importance are licensed and so delivering content over the Internet is not a licensed activity. This removes a regulatory burden and also ensures that market players with an economic advantage or who may be dominant in the converged marketplace, are subject to proportionate controls.

South Africa can also learn a great deal from the South Korean and Australian experiences where the authorities have also departed from the traditional licensing system, however not in as radical a manner as Malaysia. While these countries serve as good models for convergence governance, South Africa will have to design its own unique model to satisfy its internal requirements whilst ensuring at the same time that it is aligned with international trends and expectations.

## **Conclusion**

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Historically therefore, legislation was enacted to be technology-specific. Convergence, however, allows for the provision of multiple services over different networks. There is a need for policy-makers to respond to the demands of convergence and to also ensure that regulations and policies enhance the development of cross-sector applications, services and businesses; protect the integrity and security of communications; and are able to monitor content.

South Africa's regulatory and policy framework has been characterized by a move in the last ten years from a monopoly, which was in effect self-regulated, to independent regulation in a largely liberalized environment. There is, however, a need for a policy review to ensure that legislation keeps pace with technological advances and consumer interests.

As a global player, South Africa's success in the telecommunications arena will be measured by its ability to develop knowledge and to disseminate new applications and services in a secure, consistent and transparent way. To achieve these goals, South Africa requires policies that position it not only as an innovative player and an active participant in the global economy but also as a country whose national priorities are balanced against public interest concerns, technological developments and international norms. There is a need for more integrated, enabling and innovative approaches to policy and regulation if this vision can be realized.



# The Electronic Communications and Transactions Act

Shumani L. Gereda<sup>1</sup>



<sup>1</sup> The author would like to extend his gratitude to Lisa Thornton for affording him the opportunity to be part of this project, and also thanks Advocate Patrick Mtshaulana for commenting on the chapter.

## Introduction

A new communications revolution has created, and continues to create, a new economic and democratic landscape. Societies around the globe are drawing closer to each other and integrating into the global economy through electronic communication. This communications revolution has fundamentally changed the way the world operates.

However, the changes have happened so fast that their character and implications are neither clear nor well understood. People are buying and selling goods and services online, either directly or with the help of electronic agents. Businesses are increasingly doing business online and new forms of commercial cooperation are emerging. These transactions either have brought about or may bring about legal consequences for the parties involved as well as for third parties such as online intermediaries and Internet Service Providers (ISPs).

Conventional legal frameworks governing the offline world are proving to be inadequate in the online world. Therefore, it has become imperative for national governments to have in place a clear policy framework for this rapidly developing sector. It was for this and other related reasons, that the Minister of Communications commissioned a due diligence survey aimed at identifying laws that could constitute barriers to the development of electronic commerce (e-commerce).

The due diligence Report on E-commerce Legal Issues, prepared by a Johannesburg firm of attorneys, led to the launch of the Discussion Paper on Electronic Commerce in July 1999.<sup>2</sup> The report recommended, amongst other things, that the UNCITRAL Model Law on Electronic Commerce form the basis for introducing primary legislation on commercial transacting.<sup>3</sup> The Green Paper on Electronic Commerce followed in November 2000, which in turn led to the Electronic Communications and Transactions Act, 25 of 2002 (the ECT Act).<sup>4</sup>

The ECT Act regulates all forms of electronic communications in South Africa, but whether it facilitates electronic communications has hitherto been unclear. This chapter aims to investigate whether the ECT Act facilitates electronic communications. In so doing, it focuses on:

- A comparative analysis of international instruments that influenced the ECT Act, that is, the UNCITRAL Model Law on E-commerce, the OECD Guidelines on E-commerce, and the European Union Policy Directive on E-commerce;
- The background and overview of the ECT Act, as well as the outstanding provisions of the ECT Act;
- The electronic communication legislation of selected foreign countries, in particular the United States of America (US), Australia, the United Kingdom, and Canada; and
- A comparison of all of the foreign legislation dealt with as well as the international instruments vis-à-vis the ECT Act.

<sup>2</sup> Department of Communications *Discussion Paper on Electronic Commerce* (July 1999). (The Discussion Paper was launched with a specialised website: <http://docweb.pwv.gov.za/Ecomm-Debate/myweb/docs/discuss01.html> [07 September 2003].)

<sup>3</sup> T James *An Information Policy Handbook for Southern Africa — A Knowledge Base for Decision-Makers* (IDRC, 2001) 147.

<sup>4</sup> GG 23708 dated 2 August 2002.

The conclusion of this chapter is that, comparatively speaking, the ECT Act does have the potential to facilitate the use of electronic communication.

## **1. INTERNATIONAL REGULATION OF ELECTRONIC COMMUNICATIONS**

There are international guiding instruments that many states consult in developing their own appropriate state laws, such as the United Nations Commission on International Trade Law's Model Law on Electronic Commerce of 16 December 1996 (The Model Law)<sup>5</sup> and the OECD Guidelines for Consumer Protection in the Context of Electronic Commerce (The Guidelines). The United Nations General Assembly established the United Nations Commission on International Trade Law (Commission) in 1966 by resolution 2205(XXI) of 17 December 1966.<sup>6</sup>

During 2003, the commission increased its membership from 36 to 60.<sup>7</sup> It has established six working groups composed of all member states of the Commission. Working Group IV on e-commerce is responsible for the Model Law and the overall development of e-commerce relating to international trade.<sup>8</sup>

### **1.1. The Model Law**

On 16 December 1996, the United Nations General Assembly passed a resolution that led to the adoption of the Model Law. The General Assembly stated that:

Noting that an increasing number of transactions in international trade are carried out by means of electronic data interchange and other means of communication, which involve the use of alternatives to paper-based methods of communication and storage of information ...

Recommends that all States give favourable consideration to the Model Law when they enact or revise their laws, in view of the need for uniformity of the law applicable to alternatives to paper-based methods of communication and storage of information ...<sup>9</sup>

The aim of the Model Law is to provide national legislatures with a template of internationally acceptable rules to remove legal obstacles and create a more secure legal environment for electronic commerce. The Model Law intends to facilitate the use of electronic communications by encouraging the international harmonisation of domestic legal rules for electronic communications.

Article 2 of the Model Law defines the originator of a data message as 'a person by whom, or on whose behalf, the data message purports to have been sent or generated prior to storage, if any; but it does not include a person acting as an intermediary with respect to that data message'. Article 2 of the Model Law further defines the addressee of a data message as a person who is intended by the

<sup>5</sup> The General Assembly Resolution 51/162 of 16 December 1996: UNCITRAL Model Law on Electronic Commerce in *United Nations Commission on International Trade Law (UNCITRAL) Status of Conventions and Model Laws*; available at <http://www.uncitral.org/en-index.htm>.

<sup>6</sup> General Assembly Resolution 2205(XXI) of 17 December 1966; available at <http://www.uncitral.org/en-index.htm>.

<sup>7</sup> Statement by Dr M Gandhi, Counsellor & legal adviser on agenda item 151: Report of the United Nations Commission on International Trade Law on the work of its thirty-sixth session at sixth committee of 58th Unga on 6 October 2003; available at <http://secint04.un.org/india/ind809.htm>.

<sup>8</sup> UNCITRAL Working Groups. The structure of the Working Groups and their responsibilities are provided in the UNCITRAL website at <http://www.uncitral.org/en-index.htm>.

<sup>9</sup> The General Assembly Resolution 51/162 of 16 December 1996: UNCITRAL Model Law on Electronic Commerce. The resolution is available online at <http://www.uncitral.org/en-index.htm>.



originator to receive the data message, but does not include a person acting as an intermediary with respect to that data message.

## 1.2 The Model Law on e-Signatures

In 2001, the Commission adopted the Model Law on Electronic-Signatures with the intention of bringing additional legal certainty regarding the use of e-signatures.<sup>10</sup> The Model Law on e-signatures is built on the flexible principle contained in article 7 of the Model Law, which establishes a presumption that, where they meet certain criteria of technical reliability, electronic signatures shall be treated as equivalent to handwritten signatures. The Model Law on Electronic-Signatures applies where e-signatures are used in the context of commercial activities, without overriding any rule of law intended for the protection of consumers.<sup>11</sup>

## 1.3 The Organisation for Economic Co-operation and Development (OECD)

The OECD succeeded the Organisation for European Economic Co-operation (the OEEC), which was formed to administer American and Canadian aid under the Marshall Plan for the reconstruction of Europe after the Second World War. Since it took over from the OEEC in 1961, the OECD has set out to build strong economies in its member countries. In recent years, the OECD has moved beyond a focus on its member countries to offer its analytical expertise and accumulated experience to developing market economies.<sup>12</sup>

The OECD has 30 members and currently involves in its work approximately 70 non-member countries. These non-members subscribe to OECD agreements and treaties. The affiliation with 70 non-member countries gives the OECD a global reach.<sup>13</sup>

South Africa is one of the 70 non-members that maintain an active association with the OECD.<sup>14</sup> South Africa, like many other non-member countries, both from emerging market and developing economies, participates in the OECD's conferences and seminars. The OECD has several committees that deal with various issues. One of the committees is the Committee on Consumer Policy (CCP). The CCP developed the OECD Guidelines for Consumer Protection in the Context of Electronic Commerce (The Guidelines). The Guidelines set out the core characteristics for effective consumer protection for online business-to-consumer (B2C) transactions.

The Guidelines approved on 9 December 1999 are designed to help ensure that consumers are no less protected when shopping online than they are when they buy from their local store or order from a catalogue.<sup>15</sup> By setting out the core characteristics of effective consumer protection for online B2C transactions, the

<sup>10</sup> United Nations *UNCITRAL Model Law on Electronic Signatures with Guide to Enactment 2001* (2002); available at: <http://www.uncitral.org/english/texts/electcom/ml-elecsig-e.pdf>.

<sup>11</sup> Ibid.

<sup>12</sup> OECD *Overview of the OECD: What is it? History? Who does what? Structure of the organisation? The OECD in 15 slides - PowerPoint Presentation* (24 January 2003); available at [http://www.oecd.org/document/18/0,2340,en\\_2649\\_201185\\_2068050\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/18/0,2340,en_2649_201185_2068050_1_1_1_1,00.html).

<sup>13</sup> Overview of the OECD (note 12 above).

<sup>14</sup> South Africa is a non-member of the OECD. For more information, visit the OECD Website at Overview of the OECD (note 12 above).

<sup>15</sup> Ibid.

Guidelines are intended to help eliminate some of the uncertainties that both consumers and businesses encounter when buying and selling online.<sup>16</sup>

The Guidelines are expected to play a major role in assisting governments, business and consumer representatives with developing and implementing online consumer protection mechanisms without erecting barriers to trade. It is important to note that the OECD decisions and recommendations are as applicable to members as they are to non-members who contract electronically with members of the OECD. For this reason, the Guidelines have an effect on South Africa's conduct of its e-commerce transactions with OECD member countries. Non-compliance with the Guidelines might lead to South Africa's exclusion from certain e-commerce-related business relations with OECD member countries. The consumer protection provisions of the ECT Act (discussed below) reflect the OECDs core characteristics of effective consumer protection for online B2C transactions.<sup>17</sup>

## 1.4 The EU Directives on e-Commerce

The concept of the EU was conceived after the Second World War, when the process of European integration was launched on 9 May 1950, with six countries joining from the very beginning. The EU was created in 1993 with the aim of achieving closer economic and political union between member states of the European community. Today the EU has 15 member states, ten acceding states and three candidate countries.<sup>18</sup>

The EU is run by five institutions, each playing a specific role: the European Parliament; the Council of the Union; the European Council (the EC); the Court of Justice and the Court of Auditors. The European Parliament is the assembly of the EU. The EC is the executive body and driving force of the EU, formed in 1967; it initiates legislation, administers funds and ensures that union laws are enforced.<sup>19</sup>

While national law and EU laws are mutually dependent, EU law is an independent legal system that takes precedence over national law. The EU law is composed of three different types of legislation, ie primary legislation, secondary legislation and case law. Primary legislation includes treaties and other agreements having similar status, agreed upon by direct negotiation between member states. Secondary legislation comprises, amongst other things, directives. Directives bind member states to the objectives to be achieved within a certain limit while leaving the national authorities the choice of form and means to be used. Directives have to be implemented in national legislation in accordance with the procedures of the individual member states.

Directives are essentially instructions to the member states to introduce legislation. They indicate the goals to be achieved without laying down the manner of achieving these goals. In general, enforcement measures and remedies are left to the member states.

On 17 July 2000, the European Parliament passed Directive 2000/31/EC on

<sup>16</sup> Overview of the OECD (note 12 above).

<sup>17</sup> Chapter VII of the Electronic Communications and Transactions Act (ECT Act), 25 of 2002.

<sup>18</sup> European Union Member States. This information is available online at <http://www.eurunion.org/states/home.htm>.

<sup>19</sup> The commission is answerable to the European Parliament, which has the power to dismiss it by a vote of censure or no confidence. The commission attends all sessions of the European Parliament and must explain and justify its policies if so requested by members of the house. The European Community's core objective of achieving European unification is based exclusively on the rule of law.

certain legal aspects of information society services (the EU Directive).<sup>20</sup> The objective of the EU Directive is to establish a harmonised regulatory framework for electronic communication networks and services across the EU.

In terms of the provisions in article 5 of the EU Directive, member states must lay down in their legislation that information society services must render certain information easily accessible, in a direct and permanent manner, to their recipients and competent authorities, eg the name of the service provider and the address at which the service provider is established. This provision is similar to the consumer protection provisions in section 43 of the ECT Act. The comparison between the EU Directive and the ECT Act is discussed fully below.

The EU Directive does not apply to services supplied by service providers established in a third country (ie outside the EU Community). Article 25 of the Principles of the EU Directive, which deals with the transfer of personal data to third countries, provides that:

(1) Member states shall provide that the transfer to a third country of personal data which are undergoing processing or are intended for processing after transfer may take place only if, without prejudice to compliance with the national provisions adopted pursuant to the other provisions of this Directive, the third country in question ensures an adequate level of protection . . .<sup>21</sup>

To the extent that it does business with EU member states, South Africa is affected by these provisions. It is therefore expected of South Africa to comply, albeit indirectly, with the EU Directive whenever a South African business transacts with a subject (or business establishment) that originates from an EU member state. The only qualified exception is that provided for in article 26 of the EU Directive's principles. Article 26 provides that: by way of derogation from article 25 and save where otherwise provided for by domestic law governing particular cases, member states shall provide that a transfer or a set of transfers of personal data to a third country which does not ensure an adequate level of protection within the meaning of article 25(2) may take place on condition that the data subject has given his consent unambiguously to the proposed transfer.<sup>22</sup>

The EU Directive on Data Protection came into effect in October 1998 (Data Protection Directive). Its main aim is to prohibit the transfer of personal data to non-EU nations that do not meet the European 'adequacy' standard for privacy protection. While the US and the EU share a common goal of enhancing privacy protection for their citizens, the US has adopted a different approach to privacy from that taken by the EU. Because of these different privacy approaches, the Directive could have significantly hampered the ability of US companies to engage in many trans-Atlantic transactions.

In order to bridge these different privacy approaches and provide a streamlined means for US organisations to comply with the Directive, the US Department of

<sup>20</sup> Directive 2000/31/EC of the European Parliament and of the council of 8 June 2000 on Certain Legal Aspects of Information Society Services, in Particular Electronic Commerce, in the Internal Market (Directive on Electronic Commerce) in *Official Journal of the European Communities* L178/1 (17 July 2000).

<sup>21</sup> Data Protection Directive 95/46/EC of the European Parliament and of the council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data in *Official Journal of the European Communities* L281 (23 November 1995).

<sup>22</sup> *Ibid.*

Commerce, in consultation with the EC, developed a 'safe harbor' framework.<sup>23</sup> On 26 July 2000, the EC adopted a decision on the adequacy of the level of data protection in the US with the Data Protection Directive. The decision entered into force on 1 November 2000.

The safe harbor framework provides for certain principles to which organisations must adhere in order to become members. South African organisations and businesses that have subsidiaries or branches in the US are indirectly affected, to the extent that their subsidiaries conduct business transactions with any of the 15 EU member states.

The US Federal Trade Commission (FTC) has established the safe harbor guidelines for its private-sector organisations that are affected. Joining the safe harbor is voluntary to US organisations of all sectors. However, organisations that fall under the auspices of the FTC and undertake to adhere to the safe harbor principles are penalised when they fail to do so. Therefore, South African companies that conduct business with organisations in EU member states through US organisations that are subject to the FTC jurisdiction and have undertaken to comply with the safe harbor principles are required to comply with these principles.<sup>24</sup>

## 2. THE ECT ACT

The ECT Act was promulgated on 2 August 2002 and came into force on 30 August 2002. The main objective of the ECT Act is 'to enable and facilitate electronic communications and transactions in the public interest'.<sup>25</sup> 'Electronic communications' is defined in the ECT Act as 'a communication by means of data messages'. In addition, 'data' is defined as 'electronic representations of information in any form'. 'Transaction' is defined as 'a transaction of either a commercial or non-commercial nature, and includes the provision of information and e-government services'.<sup>26</sup> The ECT Act does not limit the operation of any law that expressly authorises, prohibits or regulates the use of data messages.

The aims of the ECT Act, as provided for in section 2(1) are, inter alia:

- to remove barriers to electronic communications and transactions in the Republic;
- to promote legal certainty and confidence in respect of electronic communications and transactions;
- to promote technology neutrality in the application of legislation to electronic communications and transactions; and
- to ensure that electronic transactions in the Republic conform to the highest international standards.

### 2.1 National e-Strategy

Section 5 of the ECT Act requires the Minister to develop a three-year national e-strategy for the Republic of South Africa by 31 July 2004. This national e-strategy

<sup>23</sup> US Department of Commerce *Safe Harbor Overview*; available at [http://www.export.gov/safeharbor/sh\\_overview.html](http://www.export.gov/safeharbor/sh_overview.html).

<sup>24</sup> Federal Trade Commission *TRUSTE Earns 'Safe Harbor' Status*; available at <http://www.ftc.gov/opa/2001/05/truste.htm>.

<sup>25</sup> s 2(1) of the ECT Act.

<sup>26</sup> s 1 of the ECT Act.

must be submitted to Cabinet for approval. On acceptance of the national e-strategy, the Cabinet must declare its implementation a national priority.

The Minister is further required to invite comments from all interested parties by way of notice in the Gazette and consider any comments received, prior to prescribing the determined subject matters to be addressed in the national e-strategy and the principles that must govern its implementation.<sup>27</sup> Section 6 of the ECT Act requires that the national e-strategy must outline strategies and programmes to, inter alia, provide Internet connectivity to disadvantaged communities. Section 9 of the ECT Act provides that the Minister must, in consultation with the Minister of Trade and Industry, evaluate the adequacy of any existing processes, programmes and infrastructure providing for the use by SMEs of electronic transactions.

## 2.2 Electronic Transactions Policy

Section 10 of the ECT Act provides that the Minister must, subject to this Act, formulate an electronic transactions policy in consultation with members of the Cabinet directly affected by such policy formulation or the consequences of it.

## 2.3 Legal recognition of data messages

Section 11(1) of the ECT Act provides that 'information is not without legal force and effect merely on the grounds that it is wholly or partly in the form of a data message'. Data messages are given the same legal status as information generated conventionally on paper. 'Data message' is defined as data generated, sent, received or stored by electronic means and includes voice where the voice is used in an automated transaction and a stored record.<sup>28</sup> An example of automated transactions where voice is used can be a contract entered into telephonically by a consumer as defined in the ECT Act with an automated voice answering machine.

In terms of section 11(3) of the Act, information can be incorporated by reference, provided that such information is referred to in a way in which a reasonable person would notice such reference and incorporation and provided further that such information is accessible in a form in which it may be retrievable and stored.<sup>29</sup>

It can therefore be reasonably assumed that the requirements of section 171 of the Companies Act that every business letter or trade circular, that the company sends or issues to any person in the Republic should state, thereon or therein in a retrievable form, the names of all the directors, are satisfied by mere compliance with this section.<sup>30</sup>

<sup>27</sup> Upon approval by the Cabinet, the Minister must publish the national e-strategy, as well any subsequent material revision of the national e-strategy, in the Gazette. s 5(9) of the ECT Act prohibits the Minister from amending or adapting the national e-strategy without the approval of the Cabinet. Without approval by the Cabinet, such amendment or adaptation will be ineffective. s 5(4)(c) of the ECT Act provides that the national e-strategy must, inter alia, 'set out . . . existing government initiatives directly or indirectly relevant to or impacting on the national e-strategy and, if applicable, how such initiatives are to be utilised in attaining the objectives of the national e-strategy'.

<sup>28</sup> s 1 of the ECT Act.

<sup>29</sup> s 11(3) of the ECT Act provides that:

(3) Information incorporated into an agreement and that is not in the public domain is regarded as having been incorporated into a data message if such information is -  
(a) referred to in a way in which a reasonable person would have noticed the reference thereto and incorporation thereof; and  
(b) accessible in a form in which it may be read, stored and retrieved by the other party, whether electronically or as a computer printout as long as such information is reasonably capable of being reduced to electronic form by the party incorporating it.

<sup>30</sup> s 171 of the Companies Act, 61 of 1973 provides that:

(1) A company shall not issue or send, irrespective of whether it is in electronic or any other format, to any person in the Republic

**2.3.1 'In writing'**

Section 12(a) and (b) of the ECT Act provides that:

'A requirement in law that a document or information must be in writing is met if the document or information is in the form of a data message; and accessible in a manner usable for subsequent reference.'

The legal requirement that a document or information must be 'in writing' will now be satisfied if the document or information is in electronic format. However, the document or information concerned must also be accessible in such a manner that the person retrieving it would be able to use it afterwards. Generally, all documents and agreements that previously had to be in writing can be generated electronically, except the following:

- Agreements for the sale of immovable property;
- A long term lease of immovable property for 20 years or more;
- The execution, retention and presentation of a will or codicil;
- The execution of a bill of exchange; and
- Documents or agreements, which by agreement between the parties may not be generated electronically.

The ECT Act does not compel anyone to use or receive information in electronic form, nor does it prohibit anyone specifying requirements for the manner in which they will accept data messages. The ECT Act may therefore not discriminate between papers and electronic documents. Effectively, the ECT Act does not create new ways of doing business; it only facilitates and gives legal recognition to the new ways of doing business that are emerging through the evolution of technology.

**2.3.2. Signature**

Section 13 of the ECT Act provides that:

- (1) Where the signature of a person is required by law and such law does not specify the type of signature, that requirement in relation to a data message is met only if an advanced electronic signature is used.
- (2) Subject to subsection (1), an electronic signature is not without legal force and effect merely because it is in electronic form.

The effect of this section is to give legal recognition to electronic signatures. However, where the law requires a signature, only an advanced signature shall be used. It should be noted that an advanced electronic signature is an electronic signature that can be authenticated only by an agency that has been accredited by

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any trade catalogue, trade circular or business letter bearing the company's name unless there is stated thereon or therein in a form capable of retrieving therefrom in respect of every director-

(a) his present forenames, or the initials thereof, and present surname;

(b) any former forenames and surnames not being those referred to in section 215(3);

(c) his nationality, if not South African.

(2) Any company which fails to comply with any provision of subsection (1), shall be guilty of an offence.

the Department of Communications (DoC) in terms of section 37 of the ECT Act.<sup>31</sup>

The ECT Act further provides that, where contracting parties failed or neglected to agree on the electronic signature to be used, the presumption is that the requirement of a signature is met if a method is used to identify the person (who has purportedly ‘signed’ the electronic communication) and to indicate such person’s approval of the message. Such an expression of intent can be made by any means from which such person’s intent can be inferred.<sup>32</sup>

### ***2.3.3 Original***

Section 14(1)(a) and (b) provides that:

Where a law requires information to be presented or retained in its original form, that requirement is met by a data message if — the integrity of the information from the time when it was first generated in its final form as a data message or otherwise has passed assessment in terms of subsection (2); and that information is capable of being displayed or produced to the person to whom it is to be presented.

For purposes of this provision, it should be noted that a computer printout of an ‘original’ electronic document does not constitute an original. An original message remains in electronic form, and it is the first generated copy by the sender or an agent of the sender.

### ***2.3.4 Evidential weight of data messages***

Section 15 of the ECT Act provides that:

- (1) In any legal proceedings, the rules of evidence must not be applied so as to deny the admissibility of a data message, in evidence — on the mere grounds that it is constituted by a data message; or if it is the best evidence that the person adducing it could reasonably be expected to obtain, on the grounds that it is not in its original form.
- (2) Information in the form of a data message must be given due evidential weight.

E-mail messages will therefore have an evidential weight in both civil and criminal proceedings. This is particularly important for employer — employee relations when the relationship terminates. Archived e-mail messages may come in useful as evidence for either the employer or the employee in workplace-related disputes.

<sup>31</sup> s 37(1) of the ECT Act provides that: ‘The Accreditation Authority may accredit authentication products and services in support of advanced electronic signatures.’

<sup>32</sup> s 13 of the ECT Act.

### ***2.3.5 Retention***

Section 16(1) of the ECT Act provides that ‘where a law requires information to be retained, that requirement is met by retaining such information in the form of a data message...’

Information can now be retained electronically, provided it is retained in the format in which it was generated, sent or received; or in the format that can be demonstrated to represent accurately the information generated, sent or received. This provision would undoubtedly make retention easier for those institutions required to keep records, either by virtue of the nature of their business or by law, for example, in accordance with the Promotion of Access to Information Act.<sup>33</sup>

### ***2.3.6 Production of document or information***

Section 17 of the ECT Act provides that, where a law requires a person to produce a document or information, that requirement is met if the person produces, by means of a data message, an electronic form of that document or information, and if certain other requirements, including the integrity of the information, are met.

### ***2.3.7 Notarisation, acknowledgement and certification***

Section 18 provides that:

(1) Where a law requires a signature, statement or document to be notarised, acknowledged, verified or made under oath, that requirement is met if the advanced electronic signature of the person authorised to perform those acts is attached to, incorporated in or logically associated with the electronic signature or data message...

In terms of Section 18 of the ECT Act, a Commissioner of Oaths can sign a document by way of an advanced electronic signature. The effect of this is that an agreement that previously required the stamp of a notary can now be concluded, signed and notarised electronically. Section 19 provides, *inter alia*, that ‘a requirement in law for multiple copies of a document to be submitted to a single addressee at the same time is satisfied by the submission of a single data message that is capable of being reproduced by that addressee.’<sup>34</sup>

### ***2.3.8 Automated transactions***

Section 20 of the ECT Act introduces the concept of an ‘automated transaction’ which is an electronic transaction conducted or performed by means of data messages in which the conduct or data messages of one or both parties are not reviewed by a natural person.

<sup>33</sup> s 50 of the Promotion of Access to Information Act, 2 of 2000.

<sup>34</sup> s 19 of the ECT Act further provides that:

- (3) Where a seal is required by law to be affixed to a document and such law does not prescribe the method or form by which such document may be sealed by electronic means, that requirement is met if the document indicates that it is required to be under seal and it includes the advanced electronic signature of the person by whom it is required to be sealed.
- (4) Where any law requires or permits a person to send a document or information by registered or certified post or similar service, that requirement is met if an electronic copy of the document or information is sent to the South African Post Office Limited, is registered by the said Post Office and sent by that Post Office to the electronic address provided by the sender.



### ***2.3.9 Formation and validity of agreements***

Section 22 of the ECT Act provides that:

- (1) An agreement is not without legal force and effect merely because it was concluded partly or in whole by means of data messages.
- (2) An agreement concluded between parties by means of data messages is concluded at the time when and place where the acceptance of the offer was received by the offeror.

### ***2.3.10 Time and place of communications, dispatch and receipt***

In terms of section 23(a) of the ECT Act, there is a presumption that a data message has been sent when it enters an information system outside the control of the originator. If the originator and addressee are using the same information system, the presumption is that the message has been sent when it is capable of being retrieved by the addressee. Section 23(b) further provides that a data message must be regarded as having been received by the addressee when the complete data message enters an information system designated and used for that purpose by the addressee and is capable of being retrieved and processed by the addressee.

An electronic transaction is deemed to have been concluded at the time when and the place where the acceptance of the offer is received by the offeror. The ECT Act also introduces a further deeming provision that an acknowledgement of receipt of a data message is not necessary to give effect to that message.<sup>35</sup> This deeming provision could have negative implications; for example, an online supplier can claim that an order submitted by the buyer is binding on the buyer notwithstanding that the buyer never received the order. However, these deeming provisions apply only if parties to an agreement have not agreed otherwise.

### ***2.3.11 Expression of intent or other statement***

Section 24 of the ECT Act provides that, as between the originator and the addressee of a data message, an expression of intent or other statement is not without legal force and effect merely on the grounds that:

- (a) It is in the form of a data message; or
- (b) It is not evidenced by an electronic signature but by other means from which such person's intent or other statement can be inferred.

### ***2.3.12. Attribution of data message to originator***

Section 25 of the ECT Act provides that a data message is that of the originator if it was sent by -

- (a) the originator personally;
- (b) a person who had authority to act on behalf of the originator in respect of

<sup>35</sup> s 26 of the ECT Act.

- that data message; or
- (c) An information system programmed by or on behalf of the originator to operate automatically unless it is proved that the information system did not properly execute such programming.

The ECT Act recognises, for example, that an agreement may be concluded with either party using an electronic agent. None the less, a party using an electronic agent to conclude an agreement is not bound if the terms of the agreement were not capable of being reviewed by a natural person representing that party prior to formation of the agreement.

## **2.4 e-Government services**

Section 27 of the ECT Act provides that any public body that, pursuant to any law, *inter alia*, 'accepts the filing of documents, or requires that documents be created or retained . . . may, notwithstanding anything to the contrary in such law, accept the filing of such documents, or the creation or retention of such documents in the form of data messages; ...'

One notable practical effect of this requirement is that Court papers can now be filed with the Registrar or clerk of the Court by electronic means.

Section 28 of the ECT Act provides that in any case where a public body performs any of the functions referred to in section 27, such body may specify by notice in the Gazette, *inter alia*,

- (a) the manner and format in which the data messages must be filed, created, retained or issued . . .
- (d) the identity of or criteria that must be met by any authentication service provider used by the person filing the data message or that such authentication service provider must be a preferred authentication service provider.

Section 28(2) provides that, for the purposes of subsection (1)(d), the South African Post Office Limited is a preferred authentication service provider and the Minister may designate any other authentication service provider as a preferred authentication service provider based on such authentication service provider's obligations in respect of the provision of universal access.

## **2.5 Cryptography providers**

The development and growth of electronic commerce relies primarily on building the confidence of the consumer, business and government in the e-commerce environment. In order to provide a stable environment for conducting business online, consumer protection becomes critical. The reason is that, while the new environment provides new opportunities for business, it also brings new types of threats in the form of, for example, electronic fraud, cyber crime and forms of

<sup>36</sup> Vivienne A Lawack-Davids 'The cryptographic dilemma: possible approaches to formulating policy in South Africa' Local Academic Papers Commissioned by the Department of Communications; available at <http://www.ecomm-debate.co.za>.

cyber terrorism. Security of information becomes the backbone of conducting business online.<sup>36</sup>

Cryptography implies security online, to ensure consumers' and businesses' confidence in electronic commerce. Cryptography is also referred to as encryption. Encryption is a special mathematical formula or algorithm through which a message is transformed from the original or understandable text into a not understandable or illegible text.<sup>37</sup>

A widely used method of encryption is secret key cryptography, by which both the sender and the recipient of a message share the same secret key used in conjunction with an algorithm to both encrypt and decrypt the message. Unlike secret key cryptography, which uses one key, public key cryptography uses two paired keys.<sup>38</sup> The ECT Act seeks to regulate the use of public key cryptography by making provision for authentication infrastructures. The risk with public key cryptography is that a third party might intercept the other key before it reaches the intended receiver.

Cryptography providers have to be registered by the Director-General of the DoC in terms of section 30 of the ECT Act. In terms of section 29(3), a cryptography provider is not required to disclose confidential information or trade secrets in respect of its cryptography services or products, except to government agencies such as cyber inspectors.<sup>39</sup>

Section 31 of the ECT Act prohibits the disclosure of information contained in the register provided for in section 29, to any person other than to employees of the Department who are responsible for the keeping of the register, except to government agencies responsible for safety and security or criminal investigations in the Republic, or to cyber inspector, pursuant to section 11 or 30 of the Promotion of Access to Information Act; or for the purposes of any civil proceedings which relate to the provision of cryptography services or cryptography products and to which a cryptography provider is a party.

## 2.6 Authentication service providers

Authentication can be defined as an assurance of the originality or authenticity and integrity of an electronic message. It serves to secure the identities of the parties to a transaction. To communicate securely, you need a way to verify the identity of the party or parties with whom you communicate. This is necessary to avoid revealing otherwise confidential information to impostors. In terms of chapter VI of the ECT Act, only an authorised or accredited authentication service provider (ASP) can provide digital signatures. It is widely believed that digital signatures are one of the primary ways in which public key cryptography can be used to make electronic communications safer.

The ECT Act appoints, in terms of section 28(2), the South African Post Office (SAPO) as a preferred authentication service provider. This is probably because of the public service that the SAPO already provides, as well as its ties with the

<sup>37</sup> S Andrews 'Who holds the key? A comparative study of US and European encryption policies' 29 February 2000 (2) *The Journal of Information, Law and Technology* Introduction para 1.

<sup>38</sup> Lawack-Davids (note 37 above).

<sup>39</sup> In terms of s 30(3) of the ECT Act, a cryptography service or cryptography product is regarded as being provided in the Republic if it is provided:

- from premises in the Republic;
- to a person who is present in the Republic when that person makes use of the service or product; or
- with regard to a business carried on in the Republic.

government as a ‘parastatal’. Moreover, SAPO is in a good position to implement universal service through its widespread administrative centres. Still, the accreditation authority, that is, the Minister, must first accredit the SAPO in terms of the regulations published pursuant to section 41 of the ECT Act.

Section 33 of the Act defines ‘accreditation’ as recognition of an authentication product or service by the accreditation authority. Section 34 (1) provides that, for the purposes of this chapter, the director-general must act as the accreditation authority. Section 37 provides that the accreditation authority may accredit authentication products and services in support of advanced electronic signatures. In terms of section 37(3), a person falsely holding out its products or services to be accredited by the accreditation authority is guilty of an offence.<sup>40</sup>

Section 38(1) provides that the accreditation authority may not accredit authentication products or services unless the accreditation authority is satisfied that an electronic signature to which such authentication products or services relate satisfies the requirements listed under that section. Section 38(2) prescribes factors that the accreditation authority must have regard to prior to accrediting authentication products or services.

Section 39 of the ECT Act provides that the accreditation authority may suspend or revoke an accreditation if it is satisfied that the authentication service provider has failed or ceases to meet any of the requirements, conditions or restrictions subject to which accreditation was granted under section 38 or recognition was given in terms of section 40. However, subject to the provisions of subsection (3), the accreditation authority may not suspend or revoke the accreditation or recognition contemplated in subsection (1) unless it has given the authentication service provider a fair hearing.<sup>41</sup>

## **2.7 Consumer Protection**

Section 1 of the ECT Act defines ‘consumer’ as any natural person who enters or intends entering into an electronic transaction with a supplier as the end user of the goods or services offered by that supplier. Section 42 of the ECT Act provides that the consumer protection provision apply only to electronic transactions. In terms of section 42(3), the consumer protection chapter does not apply to a regulatory authority established in terms of a law, if that law prescribes consumer protection provisions in respect of electronic transactions.

Section 43 of the ECT Act provides that a supplier offering goods or services for sale, for hire or for exchange by way of an electronic transaction must make information listed under this section available to consumers on the website where such goods or services are offered. Such suppliers must, for example, provide their full details (i.e. full name, legal status, physical address, telephone numbers, e-mail address, physical address where they would receive legal service of documents (an impressive improvement on the conventional terminology of ‘Domicilium citandi

<sup>40</sup> s 40 of the ECT Act provides that the Minister may, by notice in the Gazette and subject to such conditions as may be determined by him or her, recognise the accreditation or similar recognition granted to any authentication service provider or its authentication products or services in any foreign jurisdiction.

<sup>41</sup> s 39(3) of the ECT Act provides that the accreditation authority may suspend accreditation granted under s 38 or recognition given under s 40 with immediate effect for a period not exceeding 90 days, pending implementation of the procedures required by subsection (2), if the continued accreditation or recognition of the authentication service provider is reasonably likely to result in irreparable harm to consumers or any person involved in an electronic transaction in the Republic.

et executandi’)) and generally a sufficient description of the goods/services so that a potential purchaser can make an informed decision about a potential purchase and the price of the goods/services.

Section 43(2) requires the supplier to provide a consumer with an opportunity:

- (a) to review the entire electronic transaction;
- (b) to correct any mistakes; and
- (c) to withdraw from the transaction, before finally placing any order.

Section 43(3) provides that if a supplier fails to comply with the provisions of subsection (1) or (2), the consumer may cancel the transaction within 14 days of receiving the goods or services under the transaction.

Section 43(5) requires the supplier of goods or services to utilise a payment system that is sufficiently secure with reference to accepted technological standards at the time of the transaction and the type of transaction concerned. In terms of section 43(6), the supplier is liable for any damage suffered by a consumer due to a failure by the supplier to comply with subsection (5). It can only be assumed that this is an objective test determined by the types of technological security standards available in the particular industry at a given time.

Section 44(1) provides that a consumer is entitled to cancel without reason and without penalty any transaction and any related credit agreement for the supply of goods within seven days after the date of the receipt of the goods, or after the conclusion of the agreement. Sections 44(2) and (3) provides that the only charge that may be levied on the consumer is the direct cost of returning the goods; and, further, that if payment for the goods or services has been effected prior to a consumer exercising a right referred to in subsection (1), the consumer is entitled to a full refund of such payment, which refund must be made within 30 days of the date of cancellation. However, it should be noted that section 44 does not apply to electronic transactions listed under section 42(2).

Section 45 of the ECT Act provides that any person who sends unsolicited commercial communications to consumers, generally and commonly referred to as ‘spam’, must provide the consumer -

- (a) with the option to cancel his or her subscription to the mailing list of that person; and
- (b) with the identifying particulars of the source from which that person obtained the consumer’s personal information, on request of the consumer.

Section 45(2) further provides that no agreement is concluded where a consumer has failed to respond to an unsolicited communication. Section 45(4) provides that any person who sends unsolicited commercial communications to a person who has advised the sender that such communications are not welcome is guilty of an offence and liable, on conviction, to the penalties prescribed in section 89(1). It must be noted, however, that section 45(1) makes it clear that what is prohibited is not spam per se. Senders of spam are required to give the recipient of the spam the option to remove his or her subscription from the spammer’s mailing list.

It is important to note, further, that the ECT Act does not provide for the absolute prohibition of the sending of commercial spam, let alone ordinary spam. It only prohibits the continuous sending of commercial spam despite a recipient or recipients' request to have their e-mail addresses removed from a 'spammer's' mailing list.<sup>42</sup> For both consumers and ISPs, this is not good enough. ISPs particularly are in an unfortunate position in that they stand to lose from the sending of one 'lawful' spam. ISPs serve thousands of individuals who are legally enjoined to tolerate at least one spam, before they can request to be removed from the spammer's mailing list. In terms of section 45 as it stands, it is lawful for retail stores and cell phone service providers to send unsolicited advertising SMSs to their customers, unless and until the consumer lodges a complaint. The implementation of the penalty provision also remains curious. International case law shows that regulating and fighting spam is necessary but not an easy task.<sup>43</sup>

In terms of section 46 of the Act, the supplier must execute the order within 30 days after the day on which the supplier received the order, unless the parties have agreed otherwise. Failure by the supplier entitles the consumer to cancel the agreement with seven days' written notice, in terms of section 46(2). Section 47 of the ECT Act provides that the protection provided to consumers in this chapter applies irrespective of the legal system applicable to the agreement in question. Therefore, even foreign suppliers will be required to comply with these requirements.

Section 48 further provides that any provision in an agreement that excludes any rights provided for in this chapter is invalid. In terms of the latter section, the consumer protection provisions cannot be contracted out, that is, parties cannot agree to exclude these provisions. In terms of section 49 of the ECT Act a consumer may lodge a complaint with the Consumer Affairs Committee in respect of any non-compliance with the provisions of this chapter by a supplier. The ECT Act defines the Consumer Affairs Committee as a committee established by section 2 of the Consumer Affairs (Unfair Business Practices) Act, 71 of 1988.

## **2.8 Protection of personal information**

Section 50(1) provides that the chapter on the protection of personal information applies only to personal information that has been obtained through electronic transactions. Subsection (2) provides that a data controller may voluntarily subscribe to the principles outlined in section 51 by recording such fact in any agreement with a data subject. However, a data controller who chooses to subscribe to the listed principles must subscribe to all the principles and not merely to parts of them.

Section 50(4) provides that the rights and obligations of the parties in respect of the breach of the principles outlined in section 51 are governed by the terms of any agreement between them. Section 51 lists the nine principles that a data controller must comply with, for example, section 51(4) provides that the data controller may not use the personal information for any other purpose than the disclosed purpose

<sup>42</sup> See G Ebersohn 'The unfair business practices of spamming and spoofing' July 2003 *De Rebus* and S Gereda 'The truth about spam' September 2003 *De Rebus*.

<sup>43</sup> *Ferguson v Friend Finders, Inc* 94 Cal App 4th 1255, 115 Cal Rptr 2d 258 (Cal App 1st Dist 2 January 2002), review denied (10 April 2002). *CompuServe Inc v Cyber Promotions*, *AOL v Cyber Promotions* 1997, *America Online v Over the Air Equipment, Inc* (1997).

without the express written permission of the data subject, unless he or she is permitted or required to do so by law.

## 2.9 Limitation of service provider liability

Sections 70-79 of the ECT Act provide for the limitation of liability of service providers. The ECT Act limits the liability of service providers against their customers' liability arising from the services given by these providers. For example, ISPs are therefore protected against liability arising from individuals and entities to which they provide service and who or which send unsolicited commercial e-mails.

Section 73, in particular, provides that because service providers are merely conduits for the transmission of information or merely provide facilities for information systems, they cannot be held liable for, amongst other things, providing access to or operating facilities for information systems or transmission of data messages. This limitation is, however, subject to certain exceptions and applies only to service providers who adhere to certain requirements, namely, if the service provider becomes a member of an industry representative body for service providers as recognised by the Minister. Furthermore, services providers who render hosting services will be entitled to enjoy the limitation of liability provisions only if they have designated an agent to receive notifications of infringement of data stored by them and have made the name of the agent publicly available.<sup>44</sup>

## 2.10 Critical Databases

The ECT Act introduces the concept of critical databases. The Minister will determine the requirements and procedure for registering of these databases. The Minister is also empowered to designate critical databases in both the public and the private sector. Effectively, this provision means that if the Minister believes that 'Siyakhasonke Bank's database contains information that may be harmful to the welfare of the State, if and when divulged, she or he can designate such database as critical.<sup>45</sup> The Minister makes the final call on the type of information that is of importance to the protection of the national security of the Republic or the social well being of its citizens.

Section 53 of the ECT Act provides that the Minister may by notice in the Gazette:

- (a) declare certain classes of information which is of importance to the protection of the national security of the Republic or the economic and social well-being of its citizens to be critical data for the purposes of this chapter; and
- (b) establish procedures to be followed in the identification of critical databases for the purposes of this chapter.

Section 54(2) provides that, for the purposes of this chapter, registration of a critical database means the recording of information listed under this section in a

<sup>44</sup> 'Analysis of the Electronic Communications and Transactions Act, 25 of 2002' *Legislation Service Bulletin* vol 20 (Juta, 3 October 2002).

<sup>45</sup> s 53 of the ECT Act.

register maintained by the department or by such other body as the Minister may specify, for example, the full names, address and contact details of the critical database administrator; and the location of the critical database, including the locations of component parts of it where a critical database is not stored at a single location.<sup>46</sup>

## 2.11 Domain Name Authority and administration

Section 59 of the ECT Act provides that a juristic person to be known as the ‘.za Domain Name Authority’ is established for the purpose of assuming responsibility for the .za domain name space as from a date determined by the Minister by notice in the Gazette and by notifying all relevant authorities.

The initial draft of this provision envisaged the State as the only member of the domain name authority (Authority). A compromise has been reached in the ECT Act that envisages a public organisation, representative of all South Africans including government, controlling and administering the domain name. Instead of the State being the sole member of the Authority, the amended Act provides that all citizens and permanent residents of South Africa may be members upon application.

However, the Minister retains the powers to appoint the selection panel for selecting members of the board, and may exercise an option to reject the panel’s recommendations if she disagrees with them. Effectively, the panel is required to select individuals whom the Minister chooses to have on the board, but, ultimately, the Minister selects members of the board. The amended Act declares that the panel must recommend appointments from certain sectors of society, such as the existing domain name community, academic and legal sectors, the Internet user community and labour.<sup>47</sup> The Minister published names of members of the .za domain names board in the Government Gazette of 15 July 2003.

Section 65(1) provides that the Authority must, amongst other things, administer and manage the .za domain name space in compliance with international best practice in the administration of the .za domain name space. Section 65(7) provides that the authority must respect and uphold the vested rights and interests of parties that were actively involved in the management and administration of the .za domain name space at the date of its establishment, provided that certain requirements are met.

Section 69(1) provides that the Minister, in consultation with the Minister of Trade and Industry, must make regulations for an alternative mechanism for the resolution of disputes in respect of the .za domain name space. It is not clear so far how domain names will be allocated to individuals and companies, or whether such individuals will have property rights over their domain names. In terms of the Canadian Internet Registration Authority (CIRA), for example, a domain name registrant retains no property right on the domain name.<sup>48</sup> The only right of

<sup>46</sup> s 56 of the ECT Act provides that information contained in the register provided for in s 54 must not be disclosed to any person other than to employees of the department who are responsible for the keeping of the register, subject to exceptions listed under the section.

<sup>47</sup> s 60(1) of the ECT Act provides that the Minister must, within 12 months of the date of commencement of this Act, take all steps necessary for the incorporation of the authority as a company contemplated in s 21(1) of the Companies Act, 61 of 1973. s 60(2) further provides that all citizens and permanent residents of the Republic are eligible for membership of the authority. s 62(1) provides that the authority is managed and controlled by a board of directors consisting of nine directors, one of whom is the chairperson, appointed in terms of the process prescribed under s 62(2).



possession such registrant has is valid for a renewable period of registration.

## 2.12 Cyber inspectors

The ECT Act creates cyber policing in the form of cyber inspectors or cyber police. These cyber police will be employees of the DOC. They have the power to monitor, with no expertise required, any web page or information system in the public domain. In terms of section 80(1) of the ECT Act, the director-general may appoint any employee of the department as a cyber inspector empowered to perform the functions provided for in the chapter. Subsection (2) further provides that a cyber inspector must be provided with a certificate of appointment signed by or on behalf of the director-general in which it is stated that he or she has been appointed as a cyber inspector. Such a certificate provided for in subsection (2) may be in the form of an advanced electronic signature.

Section 81 of the Act provides that a cyber inspector may monitor and inspect any website or an information system in the public domain. Section 82 of the Act provides that a cyber inspector may, in the performance of his or her functions, at any reasonable time, without prior notice and on the authority of a warrant issued in terms of section 83(1)–

enter any premises or access an information system that has a bearing on an investigation and –

- (a) search those premises or that information system;
- (b) search any person on those premises if there are reasonable grounds for believing that the person has personal possession of an article, document or record that has a bearing on the investigation;

Section 82(2) provides that a person who refuses to cooperate or hinders a person conducting a lawful search and seizure in terms of this section is guilty of an offence. Consumers and businesses can only hope that the ECT Act will be amended to cater for these people's qualifications, and also provide certain limits to their powers, considering the potential infringement of individual's and company's rights of privacy.

## 2.13 Cyber crime

Section 85 defines 'cyber crime' as the actions of a person who, after taking note of any data, becomes aware of the fact that he or she is not authorised to access that data and still continues to access that data.

Section 86(1) provides that, subject to the Interception and Monitoring Prohibition Act, 1992 (Act 127 of 1992), a person who intentionally accesses or intercepts any data without authority or permission to do so, is guilty of an offence. In the case of *Douvenga*,<sup>49</sup> the Court had to decide whether an accused employee GM Douvenga of Rentmeester Assurance Limited (Rentmeester) was guilty of a

<sup>49</sup> CIRA policies, rules, procedures, and agreement applicable to registrants and registrars <http://www.cira.ca/en/documents/q3/RegistrantAgreement-1.5-en.txt>.

contravention of section 86(1) (read with sections 1, 51 and 85) of the ECT Act. It was alleged in this case that the accused, on or about 21 January 2003, in or near Pretoria and in the district of the Northern Transvaal, intentionally and without permission to do so, gained entry to data which she knew was contained in confidential databases and/or contravened the provision by sending this data per e-mail to her fiancée (as he then was) to 'hou' (keep).

The accused, through her legal representative, pleaded not guilty and further argued that she had the authority to access the database on the basis that Rentmeester had given her the passwords and codes to obtain such access. In answering the questions of whether the accused did have the authority to access the database and whether Rentmeester was therefore vicariously liable for the accused's actions (as claimed by the accused), the Court held (quoting from the judgment of *Minister of Police v Rabie*) that the accused had neither permission nor consent to access the information in the database for her own personal purposes.<sup>50</sup>

The accused could not give any explanation to the Court when asked about her reasons to access and send the information to another computer. The Court therefore concluded that the accused was on a frolic of her own when she gained access to Rentmeester's databases and that Rentmeester could therefore not be held responsible (vicariously liable) for her actions. The Court observed that the information remained confidential information that only Rentmeester has exclusive use over. It was further observed that the information and the data subject were attached to one another and had to be handled by the data controller in a manner that complies with section 51(4) of the ECT Act.<sup>51</sup>

The accused was found guilty of contravening section 86(1) of the ECT Act and sentenced to a R1 000 fine or imprisonment for a period of three months. When passing sentence, the Court considered various factors, such as the fact that the accused was a first-time offender and the fact that they were dealing with a very new piece of legislation, etc.

Section 86(2) of the ECT Act provides that a person who intentionally and without authority to do so interferes with data in a way that causes such data to be modified, destroyed or otherwise rendered ineffective is guilty of an offence.

Section 86(4) provides that a person who utilises any device or computer program mentioned in subsection (3) in order to overcome unlawfully security measures designed to protect such data or access thereto is guilty of an offence. Section 86(5) provides that a person who commits any act described in this section with the intent to interfere with access to an information system so as to constitute a denial, including a partial denial, of service to legitimate users is guilty of an offence.

<sup>49</sup> *Die Staat v M Douvenga (née Du Plessis)* (District Court of the Northern Transvaal, Pretoria, case no 111/150/2003, 19 August 2003, unreported).

<sup>50</sup> In *Minister of Police v Rabie* 1986 (1) SA 117 (A) it was held that:

It seems clear that an act done by a servant solely for his own interests and purposes, although occasioned by his employment, may fall outside the course or scope of his employment and that in deciding whether an act by the servant does fall within the course and scope of employment, some reference is to be made to the servant's intention.

<sup>51</sup> In answering the question of whether by giving the accused passwords and codes to the databases Rentmeester had implicitly given her permission to access the databases, the Court cited the judgment of *R v Legwabe* 1949 TPD 872, where it was held that: If, in the course of driving a motor vehicle within the limits of the consent or the instructions of the owner, a driver, by a change of intention, departs from the instructions or the terms of the consent of the owner and drives it for his own purposes, such driver is in my opinion guilty of a contravention of the Section. Likewise in the case of driving without the knowledge or consent of the owner if the stage arises where the driver departs substantially from the instructions or terms of consent of the owner the guilty mind may be inferred from misconduct.

Section 90 provides that a Court in the Republic trying an offence in terms of this Act has jurisdiction where the offence was committed in the Republic; by a South African citizen or a person with permanent residence in the Republic or by a person carrying on business in the Republic; or on board any ship or aircraft registered in the Republic or on a voyage or flight to or from the Republic at the time that the offence was committed.

Section 91 provides that this chapter does not affect criminal or civil liability in terms of the common law.

### 3. SOME OF THE CRITICISMS LEVELLED AGAINST THE ECT ACT

There has been considerable interest in the ECT Act, which led to various experts and pseudo-experts in the area of information technology law to offer their differing interpretations of its provisions. Some critics of the ECT Act believe that the Act is rather prescriptive in the way in which electronic transactions will operate and that this could disrupt the way in which electronic transactions and e-commerce already operate within the market. This would be counter-productive and indeed contrary to the intent of the legislation, which is to stimulate growth and promote certainty in this area by actually slowing down rather than encouraging e-commerce, they say.<sup>52</sup>

Others, however, believe that the ECT Act is not prescriptive:

although it does contain certain provisions relating to use of 'advanced electronic signatures', essential information that has to be available to consumers of a website where goods or services are offered (in certain circumstances), it leaves it up to you to decide how you want to communicate electronically or conclude transactions electronically. The ECT Act does not interfere with your business dealings and relationships.<sup>53</sup>

Some critics believe that the appointment of SAPO in terms of section 28(2) of the ECT Act<sup>54</sup> as a preferred ASP could be an impediment to the effective use of electronic communications. This could be a potential problem from an implementation and ongoing efficiency point of view, as the Post Office is notorious for its poor service and lack of efficiency, it is said.<sup>55</sup>

These critics believe that the provision on automated transactions is awkward:

An exceptionally awkward provision unnecessarily affords contractual capacity to computers for the purposes of automated transactions, the purpose of which is unclear and suggests some muddled thinking. Indeed, the inclusion of unnecessary rules of offer and acceptance in the electronic context seems to suggest a failure to fully engage the common law principles of contract.<sup>56</sup>

<sup>52</sup> Cliffe Dekker Attorneys *Commentary on the Electronic Communications Act 25 of 2002*; available at <http://www.mmbendi.co.za/cliffedekker/literature/commentary/ect2002.htm>.

<sup>53</sup> Department of Communications, Deloitte & Touche and Michalsons Attorneys Guide to the Electronic Communications and Transactions Act (24 March 2003); available at [www.michalson.com/docs/guide.doc](http://www.michalson.com/docs/guide.doc).

<sup>54</sup> s 28(2) of the ECT Act provides that '[w]here a law requires or permits a persons to send a document or information by registered or certified post or similar service, that requirement is met if an electronic copy of the document or information is sent to the South African Post Office Limited, is registered by the said Post Office and sent by that Post Office to the electronic address provided by the sender'.

<sup>55</sup> Cliffe Dekker's TMT Unit *Comments on the New South African ECT Act* (2 August 2002); available at [http://www.mmbendi.co.za/a\\_sndmsg/news\\_view.asp?P=0&PG=24&I=38991&M=0&CTRL=S](http://www.mmbendi.co.za/a_sndmsg/news_view.asp?P=0&PG=24&I=38991&M=0&CTRL=S).

<sup>56</sup> *Comments on the new South African ECT Act* (note 56 above).

This could, however, be a misinterpretation of the ECT Act, in that the ECT Act does not regard the computer as an individual, but rather as an agent of an individual. The qualification is that the conduct of the electronic agent must be attributable to an individual. As it would appear below, legislation that regulates or seeks to regulate electronic communication in other countries does provide for automated transmission.

In the US, the E-Sign Act has a provision that a contract or other record relating to a transaction may not be denied legal effect solely because its formation, creation or delivery involves the action of an electronic agent, provided that the action of the electronic agent is legally attributable to the person to be bound by such contract. (An 'electronic agent' is a computer program or other automated means used to initiate an action or respond to electronic records or performances without review or action by an individual.<sup>57</sup>)

It is further argued, by critics of the ECT Act, that while the protections afforded to consumers in terms of the ECT Act do so extensively protect consumers, these same provisions may have gone too far in protecting the consumer, with the result that many international suppliers may choose not to carry on an e-business helping South African consumers if they feel that it is not worth the trouble of having to comply with fairly onerous obligations with regard to South African consumers. It is said that, while the ECT Act specifically provides that the Act will apply in respect of consumer protection irrespective of the applicable law of the contract concluded, the enforceability of such a provision is highly unlikely.<sup>58</sup>

This appears to be a misconceived analysis of the provisions of the ECT Act, considering that electronic legislation in other countries also provides for 'onerous' consumer protection measures, as will be seen below. The ECT Act, like most electronic legislation in foreign countries, reflects the recommendations of the Model Law and the Guidelines.

## **4. OTHER RELEVANT SOUTH AFRICAN LEGISLATION**

### **4.1 Privacy and data protection**

Data protection is an aspect of safeguarding a person's right to privacy, which is enshrined in the constitutional Bill of Rights. The essence of data protection is to give a person (a degree of) control over his or her personal information. However, the law should also consider such competing interests as administering national social programmes, maintaining law and order, and protecting the rights, freedoms and interests of others. The task of balancing these opposing interests is a delicate one.

Section 14 of the Constitution of the Republic of South Africa (the final Constitution), provides that everyone has the right to privacy, which includes the right not to have their property searched or the privacy of their communications infringed.

The South African Law Commission is at present (March 2004) conducting an

<sup>57</sup> Alston & LLP Bird Law Firm *How the New E-Sign Act will affect E-Commerce* (26 April 2003); available at <http://www.gigalaw.com/articles/2000-all/alston-2000-06-all.html>.

<sup>58</sup> *Comments on the new South African ECT Act* (note 56 above).

investigation entitled 'Privacy and Data Protection' (Project 124). The investigation was included in the programme of the Commission at the request of the Minister for Justice and Constitutional Development. The Minister of Justice has appointed a Project Committee for this investigation to assist the Commission in its task. As a first step in its consultation process, the Commission intends to publish an issue paper for information and comment. The project is still at its infancy, and the issue paper was published on 28 August 2003.<sup>59</sup>

The idea of developing privacy legislation for South Africa is aligned with international trends. The United Kingdom (Data Protection Act, 1998); Canada (Privacy Act, 1983 and Personal Information Protection and Electronic Documents Act, 2000), Australia (Privacy Act, 1988 and The Privacy Amendment (Private Sector) Act, 2000), New Zealand (Privacy Act, 1993) and most European countries have already enacted privacy legislation.<sup>60</sup> It should be noted that the promulgation of data protection legislation in South Africa would necessarily result in amendments to other South African legislation, most notably the current privacy protection provisions in the Promotion of Access to Information Act, 2 of 2000 and the ECT Act. Both these Acts contain interim provisions regarding data protection in South Africa. The provisions of section 50 of the ECT Act are therefore transitional provisions, pending the promulgation of what would likely be the Privacy and Data Protection Act.

## 4.2 The Electronic Communications Security (Pty) Ltd Act

On 6 February 2003, the ECS (Pty) Ltd Act, 68 of 2003 (e-Company Act) was published in Government Gazette 24356. The main objective of the e-Company Act is to provide for the establishment of a company (Comsec) that will provide electronic communications security products and services to organs of State. Comsec will be registered in terms of the Companies Act, 61 of 1973 (the Companies Act); however, the Minister of Trade and Industry can, in terms of section 6 of the e-Company Act, exempt Comsec from the application of the Companies Act.

Section 7 of the e-Company Act provides that the functions of Comsec are, inter alia, to protect and secure critical electronic communications against unauthorised access or technical electronic or any other related threats. Comsec will therefore monitor the e-Government services provided for under the ECT Act. Section 7(7) further exempts Comsec from licensing in terms of both the Broadcasting Act, 4 of 1999 and Telecommunications Act, 103 of 1996. Comsec can operate a telecommunication or broadcasting service without the need for a licence.

## 5. COMPARATIVE STUDY OF SELECTED FOREIGN JURISDICTIONS

The following section deals with the regulation of electronic communication in other jurisdictions, in particular, Australia, the United Kingdom (UK), the United States of America (US), and Canada.

<sup>59</sup> The Issue Paper can be accessed from the Law Commission's website at <http://wwwserver.law.wits.ac.za/salc/issue/issue.html>.

<sup>60</sup> *Explanatory Notes to Electronic Communications Act, 2000*; available at [http://www.hmso.gov.uk/cgi-bin2/hmso\\_hl?DB=hmso-new&STEMMER=en&WORDS=electron+commun+&COLOUR=Red&STYLE=s&URL=http://www.hmso.gov.uk/acts/en/2000en07.htm#muscat\\_highlighter\\_first\\_match](http://www.hmso.gov.uk/cgi-bin2/hmso_hl?DB=hmso-new&STEMMER=en&WORDS=electron+commun+&COLOUR=Red&STYLE=s&URL=http://www.hmso.gov.uk/acts/en/2000en07.htm#muscat_highlighter_first_match).

## 5.1 Australia

The Australian Electronic Communications Act, 2000 (Australian Act), which came into operation from 1 July 2001, is based upon the Model Law. The Australian Act primarily relates to dealings between persons and the Commonwealth government agencies, not dealings between private parties. South Africa's ECT Act applies to both business-to-government agencies and B2C transactions. However, the ECT Act leans strongly towards B2C and its provisions on consumer protection and protection of personal information are evidence of this. Provisions such as the protection of a critical database, domain name authority and administration and limitation of liability of service providers, on the other hand, indicate the business-to-government agency application of the ECT Act.

The Australian Act does not cover the enforceability or admissibility of Internet contracts as evidence in Court proceedings; or determine whether an electronic agent can accept 'click through' terms that have not been seen by a human being. Section 20 of the ECT Act provides that in an automated transaction an agreement may be formed where an electronic agent performs an action required by law for agreement formation, unless the agent commits a material error without providing the other person with an opportunity to prevent or correct the error.

The Australian Act gives business and the community the option of using electronic communications when dealing with government agencies. The ECT Act also has an e-government services provision in terms of which any public body that accepts the filing of documents, or requires that documents be created or retained, may, notwithstanding anything contrary in the applicable law, accept the filing of such documents, or the creation or retention of such documents in the form of data messages.<sup>61</sup>

In terms of the Australian Act, a person must consent to receiving electronic communications. Consent can be inferred from a person's conduct. The consent provisions do not extend to Commonwealth entities. It is believed that extending these provisions to Commonwealth entities would be inconsistent with the Australian government's commitment to delivering all appropriate Commonwealth services electronically.

The Australian Act does not state what standard will constitute an electronic signature. Parties are free to agree on what is acceptable under the circumstances. Section 13 of the ECT Act provides that: 'Where the signature of a person is required by law and such law does not specify the type of signature, that requirement in relation to a data message is met only if an advanced electronic signature is used.' However, in terms of section 13(3) of the ECT Act, parties can agree between themselves on the type of the electronic signature to be used.

The Australian Act provides that an electronic signature must identify the originator sufficiently for the purpose of that communication. The Australian Act does not require that the signature itself provide a means of verifying the integrity of the communication. Section 13(3)(a) of the ECT Act and article 7 of the Model Law provide that a method must be used in an electronic signature to identify the person and to indicate the person's approval of the information contained in the data message.

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<sup>61</sup> s 27 of the ECT Act.

## 5.2 The United Kingdom (UK)

The UK Electronic Communications Act, 2000 (UK Act) received Royal assent on 25 May 2000. The main purpose of the UK Act is said to be to help build confidence in electronic commerce and the technology underlying it by providing for, inter alia, the legal recognition of electronic signatures and the process under which they are verified, generated or communicated; and the removal of obstacles in other legislation to the use of electronic communication and storage in place of paper.<sup>62</sup> The broad aim of the UK Act is to facilitate electronic communication and thus e-commerce.<sup>63</sup>

The UK also has other electronic communications regulatory instruments, such as the Electronic Commerce (EC Directive) Regulations 2002. The main purpose of these regulations is to implement the main requirements of the EU Directive into UK law — aimed at encouraging greater use of e-commerce. The UK also has the Directive on Privacy and Electronic Communications, 2002, which updates the existing EU Telecoms Data Protection Directive of 1999.

## 5.3 The United States of America

In the summer of 1999, the National Conference of Commissioners on Uniform State Laws (NCCUSL) promulgated the Uniform Electronic Transactions Act (UETA).

### 5.3.1 *The Uniform Electronic Transactions Act (UETA)*

The UETA is modelled on the Model Law. The purpose of the UETA is to create the legal recognition of electronic records, electronic signatures, and electronic contracts. The fundamental premise of this Act is that the medium in which a record, signature, or contract is created, presented or retained does not affect its legal significance.<sup>64</sup> In terms of section 7(a) and (b) of the UETA, a record or signature may not be denied legal effect or enforceability solely because it is in electronic form, nor can a contract be denied legal effect or validity simply because an electronic record was used in the formation of the contract.

### 5.3.2 *The Electronic Signatures in Global and National Commerce Act (e-Sign Act)*

On 30 June 2000, the US President signed the e-Sign Act into law. Unlike the UETA, which is an instrument for adoption by individual states, the E-Sign Act is a federal statute that is binding on every state. The E-Sign Act is applicable to a country for facilitating the use of electronic records and signatures in interstate and foreign commerce. However, the basic scope of the two Acts is similar.

Under the E-Sign Act, e-signatures and electronic documents may be used in

<sup>62</sup> *Explanatory Notes to Electronic Communications Act 2000* (note 61 above).

<sup>63</sup> *Ibid.*

<sup>64</sup> The New United States Uniform Electronic Transactions Act: Substantive Provisions, Drafting History and Comparison to the UNCITRAL Model Law on Electronic Commerce available at <http://www.unidroit.org/english/publications/review/articles/2000-4.htm>.

most commercial transactions, both B2B and B2C. This is in line with the EU member states, whose respective appropriate laws are required to comply with the EU Directive that applies to both B2B and B2C transactions. The purpose of the e-Sign Act is to facilitate the use of electronic records and signatures by affording the same legal status to an electronic document or to a document signed electronically as to its paper counterpart. This covers both data messages and electronic signatures.

The e-Sign Act provides protections for B2C transactions in e-commerce that are not similarly required for B2B transactions. In particular, the consumer must consent to the use of an electronic record or signature.<sup>65</sup> The e-Sign Act aims to create a consistent legal framework throughout the US, and would automatically invalidate any regulation that denies validity to a record solely because it is an electronic record.<sup>66</sup> In practical terms, the e-Sign Act grants online contracts the same legal weight as their paper counterparts. The e-Sign Act attempts to facilitate commercial transactions by providing a uniform legislative framework throughout the US.<sup>67</sup>

## 5.4 Canada

On 30 September 1999, the Uniform Law Conference of Canada adopted the Uniform Electronic Commerce Act (Uniform Act) of 1999, which was created as a model electronic transactions law. The Uniform Act is based upon the Model Law and it was recommended that all the provinces of Canada as well as the federal government adopt it.

Section (3) of the Uniform Act provides that the Act does not apply in respect of (a) wills and their codicils; (b) trusts created by wills or by codicils to wills; (c) powers of attorney, to the extent that they are in respect of the financial affairs or personal care of an individual; (d) documents that create or transfer interests in land and that require registration to be effective against third parties; and, further, that, it does not apply in respect of negotiable instruments.

Section (5) of the Uniform Act provides that information shall not be denied legal effect or enforceability solely by reason that it is in electronic form.<sup>68</sup> Section 7 of the Uniform Act provides that a requirement under enacting jurisdiction law that information be in writing is satisfied by information in electronic form if the information is accessible to be usable for subsequent reference.

Section 10 provides that an electronic signature in respect of documents to be submitted to the government can be satisfactory only if the government has consented to accepting electronic signatures; and, further, that the electronic signature should meet technology standards the government has put in place.<sup>69</sup>

Section 19 of the Uniform Act also recognises an electronic agent, and defines it as a computer program or any electronic means used to initiate an action or to respond to electronic documents or actions in whole or in part without review by a natural person at the time of the response or action.

This policy took effect on 1 April 2002 with the purpose of ensuring that

<sup>65</sup> Kelley Drye Law Firm *Electronic Contracting under the E-sign Act*; available at <http://www.kelleydrye.com/resourcecenter/Internet-E-Commerce/ElectronicContracting1.htm>.

<sup>66</sup> *Ibid.*

<sup>67</sup> *Electronic Contracting under the E-sign Act* (note 66 above).

<sup>68</sup> s 6 of the ECT Act, on the other hand, provides that:



communications across the Government of Canada are well coordinated, effectively managed and responsive to the diverse information needs of the public.

It requires that institutions must:

- ensure that Internet communications conform to government policies and standards; and that Government of Canada theme and messages must be accurately reflected in electronic communications with the public and among employees.
- ensure congruence with other communication activities, an institution's Web sites, sub-sites and portals must be reviewed regularly by the head of communications, or his or her designate, who oversees and advises on Web content and design.
- respect privacy rights and copyright ownership in all online publishing and communication.<sup>70</sup>

Canada also has the Personal Information Protection and Electronic Documents Act to support and promote e-commerce by protecting personal information that is collected, used or disclosed in certain circumstances, by providing for the use of electronic means to communicate or record information or transactions and by amending the Canada Evidence Act, the Statutory Instruments Act and the Statute Revision Act. However, this Act prescribes no specific technology for electronic signature. It vaguely provides that secure electronic signature is required for documents as evidence or proof, seals, or statements made under oath, etc.

Canada, in addition, has several international bilateral agreements on e-commerce, signed with the EU on 16 December 1999, with Australia on 9 February 2000 and with the UK on 22 February 2001.<sup>71</sup>

## 6. COMPARISON AND ANALYSIS OF THE INTERNATIONAL INSTRUMENTS

South Africa's ECT Act is to some extent based on the Model Law and the EU Directive. Chapter 3 of the Green Paper on e-commerce specifically recognised the Model Law on e-commerce as a source to be used in the development of South African law on e-commerce. The Green Paper also set out provisions of the

(1) Nothing in this Act requires a person to use or accept information in electronic form, but a person's consent to do so may be inferred from the person's conduct.

(2) Despite subsection (1), the consent of the Government to accept information in electronic form may not be inferred by its conduct but must be expressed by communication accessible to the public or to those likely to communicate with it for particular purposes.

<sup>69</sup> s 10(1) of the ECT Act provides that a requirement under [enacting jurisdiction] law for an electronic signature satisfies the signature of a person.

(3) For the purposes of subsection (1), where the signature or signed document is to be provided to the Government, the requirement is satisfied only if:

(a) the Government or the part of Government to which the information is to be provided has consented to accept electronic signatures; and

(b) the electronic document meets the information technology standards and requirements as to method and as to reliability of the signature, if any, established by the Government or part of Government, as the case may be.

<sup>70</sup> Communications Policy of the Government of Canada (April 2002); available at [http://www.tbsct.gc.ca/pubs\\_pol/sipubs/comm/comm1\\_e.asp#leg](http://www.tbsct.gc.ca/pubs_pol/sipubs/comm/comm1_e.asp#leg).

<sup>71</sup> On 9 February 2000, Canada and Australia signed a bilateral and multilateral co-operation on e-commerce, endorsing a shared vision of policy principles aimed at encouraging the growth of global e-commerce. On 16 December 1999, Canada and the EU signed a bilateral and multilateral cooperation on e-commerce, detailing a shared vision for the development of a global information society and economy. On 22 February 2001, Canada and the UK signed a bilateral and multilateral cooperation agreement on e-commerce, acknowledging a shared vision to encourage e-commerce and e-government. South Africa does not appear to have any bilateral cooperative agreement on electronic communications.

European Directive on Distance Contracts, which ultimately influenced the consumer protection provisions in chapter VII of the ECT Act.<sup>72</sup>

## 6.1 The Model Law and the ECT Act

The ECT Act reproduces the Model Law's definitions of 'originator' and 'addressee' as they are. This similarity is not surprising, considering that the Model Law influenced the ECT Act.

However, there are differences in certain definitions between the ECT Act and the Model law; for example, the Model Law defines an 'intermediary' as 'a person who, on behalf of another person, sends, receives or stores that data message or provides other services with respect to that data message'. The ECT Act, on the other hand, defines an intermediary as 'a person who, on behalf of another person, whether as an agent or not, sends, receives or stores that data message or provides other services with respect to that data message'.<sup>73</sup> The definition in the ECT Act therefore adds the words 'whether as an agent or not', which words do not appear in the Model Law's definition. The importance of this difference is highlighted in a situation where an impostor claims to be representing 'another person' and an innocent third party is lured into conducting e-business transactions with an impostor to the third party's own detriment. For purposes of the ECT Act, such an impostor will be held liable as an intermediary to a particular data message.

There are other differences in wording, article 7 of the Model Law provides 'that where the law requires a signature of a person, that requirement is met in relation to a data message if, (a) a method is used to identify that person and to indicate that person's approval of the information contained in the data message'. Section 13(1) of the ECT Act emphasises 'only' if an advanced electronic signature is used. There is no such qualification in article 7 of the Model Law. Section 37 of the ECT Act requires that only persons whose authentication products are accredited by the Accreditation Authority can provide advanced electronic signatures. It therefore follows that, in situations where a signature is required by law, such signature must be performed through a registered authentication service provider.

On the issues of legal requirements for data messages, writing, retention of information, formation and validity of agreements and recognition by parties of data messages, the ECT Act and the Model Law contain the same provisions. Article 13 of the Model Law provides that:

- (1) A data message is that of the originator if it was sent by the originator itself.
- (2) As between the originator and the addressee, a data message is deemed that of the originator if it was sent:
  - (a) by a person who had the authority to act on behalf of the originator in respect of that data message; or
  - (b) by an information system programmed by, or on behalf of, the originator to operate automatically.

<sup>72</sup> Department of Communications Green Paper on e-Commerce (November 2000).

<sup>73</sup> s 7 of the ECT Act.

Section 25(c) of the ECT Act goes further to provide that such data message will, however, not be regarded as that of the originator, if it can be proved that the information system of the originator, did not properly execute such programming. This is simply another generous provision of the ECT Act — a safeguard. Although not all of the provisions of the ECT Act are verbatim repetitions of the Model Law, they are substantially similar. It is also true to say that all of the provisions covered in the Model Law are also covered in the ECT Act, with the exception of provisions in the Model Law concerning contracts with regard to the carriage of goods.

## 6.2 The Model Law on e-Signatures and the ECT Act

The Model Law on e-signatures defines ‘electronic signature’ as ‘data in electronic form in, affixed to, or logically associated with, a data message, which may be used to identify the signatory in relation to the data message and indicate the signatory’s approval of the information contained in the data message’.

Section 1 of the ECT Act, on the other hand, defines ‘electronic signature’ as data attached to, incorporated in or logically associated with other data and which is intended by the user to serve as a signature. The definition of an ‘electronic signature’ in the Model Law on e-signature differs from that of the ECT Act in that the ECT Act’s definition does not require that the signatory’s e-signature should indicate the signatory’s approval of the information contained in the data message. Unlike the Model Law on e-signatures, the ECT Act requires only that the signatory should intend for the e-signature to serve as a signature. The effect of this difference is that, in terms of the ECT Act, a signatory may dispute the accuracy of the information contained in the data message, whereas in terms of the Model Law on e-signatures, a signatory may not dispute the information contained in the data message. This is so because by virtue of appending their signature, a signatory has approved the information contained in the particular data message.

## 6.3 The EU Directive on e-Commerce and the ECT Act

Article 11 of the Directive provides that the contract will be considered concluded when the recipient has received from the service provider, electronically, an acknowledgement of receipt of the recipient’s acceptance and has confirmed receipt of the acknowledgement of receipt. This provision is similar to sections 22 and 26 of the ECT Act, except that in terms of the ECT Act the recipient does not receive an acknowledgement of receipt from the service provider, but rather from the sender.

To remove existing legal uncertainties the EU Directive establishes an exemption from liability for intermediaries where they only transmit information between third parties. Internet Service Providers (ISPs) have only limited liability for other ‘intermediary’ activities such as the storage of information (hosting) or enhancing onward transmission (caching). This implies that, in certain circumstances, as long as ISPs are not actively involved in the information they are transmitting and are not aware they are transmitting illegal content, they are not liable for transmitting it. The ECT Act also provides for the limited liability of ISPs in its chapter XI for, inter alia, activities such as mere conduit, caching and hosting.

## **6.4 The US UETA and the ECT Act**

Section 8(a) of the UETA provides that, if parties agree to conduct their transactions electronically and there is a law that requires a person to provide, send or deliver information in writing to another, then that requirement is met if the information is provided, sent or delivered in an electronic record, but only if that information can be retained and later retrieved by the receiver when it is received. Section 12 of the ECT Act provides for the same requirement except that it does not specifically provide that parties should agree to conduct their transactions electronically.

Section 8(c) of the UETA further provides that an electronic record may not be sent, communicated or transmitted by a system that inhibits the ability to print or download the information in the electronic record. The ECT Act's version of this provision is the qualification that such an electronic communication should be capable of being retrieved by the recipient.

Another important issue raised by electronic transactions is attribution - that is, when and under what circumstances an electronic record or electronic signature is attributable to an individual. The UETA responds to this with a rule that if the electronic record or signature resulted from a person's action, then the record or signature will be attributed to that person. The ECT Act has a similar provision in section 25, except that instead of a simple requirement of action, the ECT Act requires that the originator should have sent the message in person or through his/her authorised agent or through a programmed information system.

Most, if not all, of the UETA provisions are similar to those provided for in the ECT Act. The reason for this is that both Acts resembles the recommendations of the Model Law.

## **6.5 The e-Sign Act and the ECT Act**

An electronic signature, as that term is defined in the e-Sign Act, encompasses, but is not limited to, a 'digital signature', which refers solely to those signatures created and verified by cryptography. The ECT Act refers to electronic signatures and advanced electronic signatures, only a person accredited in terms of section 37 can provide the latter.

Specifically, the e-Sign Act provides that (1) signatures, contracts, and other records shall not be denied legal effect merely because they are in electronic form; and (2) a contract shall not be denied legal effect merely because it is signed electronically. Thus, an online electronic signature intended to create a legal agreement or a commercial transaction will have the same legal status as a written signature, and online contracts will have the same legal force as equivalent paper contracts. All of these provisions are covered in sections 11 to 15 of the ECT Act.

However, the e-Sign Act does not apply to documents to the extent that they are governed by, inter alia, any of the following: (1) a statute, regulation, or other rule of law addressing the creation and execution of wills, codicils or testamentary trusts; (2) a State statute, regulation, or other rule of law addressing adoption, divorce or other matters of family law. (3) The e-Sign Act also does not apply to critical notices such as the following: (1) Court orders or notices, or official Court

documents (including briefs, pleadings, and other writings); (2) notice of cancellation or termination of utility services, health insurance or benefits, or life insurance benefits; (3) product recall; (4) default, acceleration, repossession, foreclosure, eviction, right to cure or a rental agreement for a primary residence of an individual; and (5) any document required to accompany any transportation or handling of hazardous materials, pesticides, or other toxic or dangerous materials.

This is quite a broad exclusionary provision, as compared to the ECT Act, which excludes only agreements for alienation of immovable property, agreements for the long-term lease of immovable property in excess of 20 years, the execution, retention and presentation of a will or codicil and the execution of a bill of exchange. It is important to note that the EU Directive, which also has a broader exclusion list than the ECT Act, does not exclude things such as rentals. The EU Directive expressly includes rentals as a form of agreement that can be entered into electronically, whilst the e-Sign Act expressly excludes it.

## Conclusion

Generally, the ECT Act is a welcome piece of legislation, having regard to the previous lack of legislative direction on many of the more important and pressing e-commerce issues, including the validity of electronically concluded agreements, the legal validity of electronic data, the admissibility of electronic documents in Courts of law and the legal status given to electronic signatures.<sup>74</sup>

Other than the powers that the ECT Act confers on the Minister, all of the electronic communication legislation dealt with above, including the ECT Act, contains similar provisions. They are all modelled largely in terms of the Model Law and the OECD Guidelines. The ECT Act is therefore comparatively in line with foreign legislation from developed countries. The ECT Act has many commendable provisions — for instance, it does not exclude the common law, nor does it limit the operation of any law that expressly authorises, prohibits or regulates the use of data message. Most importantly, the ECT Act does not prohibit any person from establishing his or her own requirements in respect of the manner in which they will accept data messages. It also does not require any person to generate, communicate, produce, process, send, receive, record, retain, store or display any information, document or signature by or in electronic form.

Nor does the ECT Act require persons to change the way in which they do business; it merely gives full legal force and status to transactions that may already be taking place electronically. Moreover, the Act gives full legal status to information that is electronically transmitted, generated, received or stored. In terms of the Act, agreements that are concluded wholly or partly by transmitting data messages have the same legal status as written agreements.

The ECT Act does not, however, dispense with any of the common-law requirements for valid contracting, for instance, requirements such as that the

<sup>74</sup> *Comments on the New South African ECT Act* (note 56 above).

<sup>75</sup> s 7 of the ECT Act.

parties contracting must have the necessary capacity to contract; that they must reach consensus on the terms of their agreement; and that the contract in question must be legal. Section 22 of the ECT Act also acknowledges the common-law reception theory of acceptance instead of the expedition theory of acceptance.

South Africa is also in the unique position of having components of developed and developing economies in one country, with the majority of its citizens living in Third World conditions. The emergence of the information economy in a country such as South Africa provides significant challenges to the public and private sectors. Owing to this unique position, the ECT Act provides for matters such as the provision of ways to maximise the benefits of electronic transactions to historically disadvantaged individuals (HDIs), and the provision of processes, programmes and infrastructure for using electronic transactions by SMMEs.

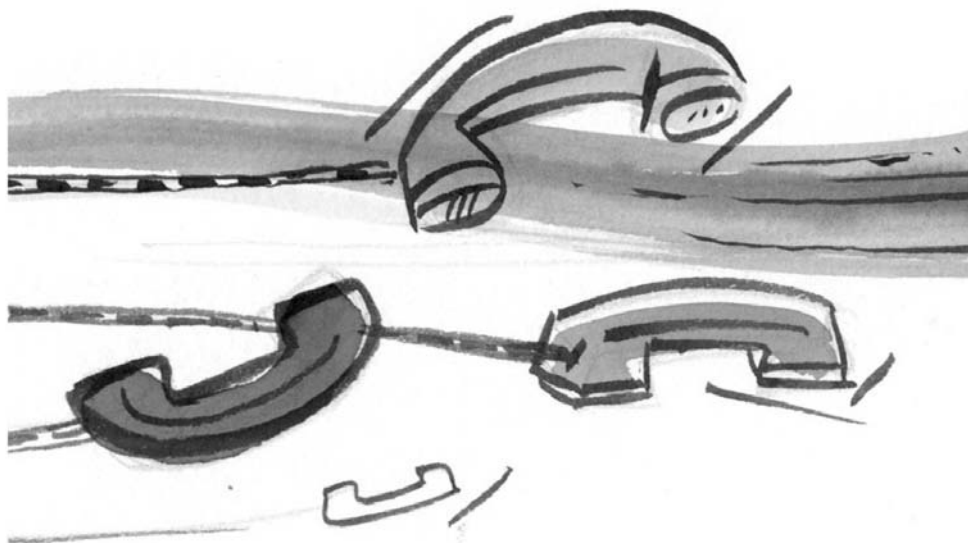
Considering the fact that South Africa's communications sector is in a developing stage, the ECT Act therefore has, in comparison with the other jurisdictions, the potential to facilitate the use of electronic communications.<sup>75</sup>



# **The Regulation of the Interception of Communications and Provision of Communication Related Information Act**

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Nazreen Bawa<sup>1</sup>



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<sup>1</sup> The author would like to thank the following persons for reviewing parts of previous drafts: Lisa Thornton, Deshni Pillay, Tanya Scott, Fatimah Essop and Adele Erasmus.



# Introduction

In November 1995, the South African Law Reform Commission<sup>2</sup> (SALC) undertook to review and rationalise South Africa's security legislation with specific regard to international norms, the interim Constitution<sup>3</sup> and the country's changed circumstances and requirements.

As part of this broad investigation, the SALC prioritised the area of interception and monitoring of communications for crime investigation and intelligence gathering, and it appointed a Project Committee to advise it and to consider documentation generated during the course of this investigation. The interception and monitoring of communications was prioritised, as sophisticated telecommunication services<sup>4</sup> were increasingly being used to perpetrate crime, especially organised crime, heists, and other serious violent crimes. In addition, the SALC was of the view that since the promulgation of the Interception and Monitoring Prohibition Act, 127 of 1992 (IM Act) on 1 February 1993, there had been an increase in the use of advanced telecommunications technologies, including cellular communications, satellite communications, computer communications through e-mail, as well as the electronic transfer of information and data. Furthermore, the considerable legal developments across the world regarding the interception of communications made a review of the IM Act necessary. The SALC took the approach that legal provision should be made for law-enforcement agencies to be equipped with the necessary tools to investigate crimes that used telecommunications directly, as well as other concomitant crimes, such as money-laundering. The SALC contended that a review of the existing legislation, in particular the IM Act, would ensure that emphasis would be on crime.<sup>5</sup>

As indicated in its long title, the IM Act is directed at prohibiting the interception of certain communications, monitoring certain conversations or communications, providing mechanisms for the interception of postal articles and communications as well as the monitoring of conversations or communications when a serious offence is committed or the security of South Africa is threatened. It deals with the issues of monitoring and interception separately. The primary objective of the IM Act is not crime prevention but the protection of confidential information<sup>6</sup> from illicit eavesdropping.<sup>7</sup> It allows the state to intercept and monitor conversations and communications under certain conditions and in accordance with directives issued in terms of the IM Act.

<sup>2</sup> Since the promulgation of the Judicial Matters Amendment Act, 55 of 2002 the South African Law Commission, as established by the South African Law Commission Act, 19 of 1973, has become the South African Law Reform Commission (hereinafter referred to as 'the SALC').

<sup>3</sup> Constitution of the Republic of South Africa, Act 200 of 1993.

<sup>4</sup> 'Telecommunication service' is defined in the Telecommunications Act, 103 of 1996 as including any service provided by means of a telecommunication system. A 'telecommunication system' is defined as any system or series of telecommunication facilities or radio, optical or other electromagnetic apparatus or any similar technical system used for the purpose of telecommunication, whether or not such telecommunication is subject to rearrangement, composition or other processes by any means in the course of their transmission or emission or reception. 'Telecommunication', in turn, is defined as the emission, transmission or reception of a signal from one point to another by means of electricity, magnetism, radio, other electromagnetic waves, or any agency of a like nature, whether with or without the aid of tangible conductors.

<sup>5</sup> SALC Report *Review of Security Legislation Project 105: The Interception and Monitoring Prohibition Act (Act 127 of 1992)*, October 1999 (hereinafter referred to as 'the SALC Report') para 1.27.

<sup>6</sup> Although the IM Act did not define confidential information, in *Protea Technology Limited and Another v Wainer and Others* [1997] 3 B All SA 594, 603, the Court remarked as follows:

That expression must surely mean such information as the communicator does not intend to disclose to any person other than the person to whom he is speaking and any other person to whom the disclosure of such information is necessary or impliedly to be restricted. I think that there is a distinction between 'confidential' information and 'private' information.

<sup>7</sup> *Lenco Holdings Ltd v Eckstein* 1996 (2) SA 693 (N) at 700; *S v Kidson* 1999 (1) SACR 338 (W) at 344.

During October 1999, after extensive public consultation, the SALC Report was submitted to the Minister of Justice and Constitutional Development for consideration. It included an extensive review of the IM Act and was compiled with reference to, and in comparison with, similar legislation in France, the Netherlands, Belgium, Germany, Britain, the United States, Hong Kong and Canada.<sup>8</sup> The comparison with international law illustrated that in the past decade many other countries had similarly reconsidered and reviewed their interception and monitoring legislation, predominantly for reasons relating to crime prevention and national security. Many of the aforementioned countries have developed new legislation to conduct surveillance and monitoring of communications (commonly known as ‘wiretapping’ or ‘bugging’).

The SALC was of the view that even though the IM Act compares favourably with its counterparts in other countries, it does not deal adequately with new technology (eg, the IM Act does not deal with the monitoring of employees’ e-mail by employers). For that reason the SALC recommended that it be substantially repealed and replaced with new legislation.

To this end, the SALC recommended a new draft bill, which culminated in the promulgation of the Regulation of the Interception of Communications and Provision of Communication-Related Information Act, 70 of 2002 (ROICA) on 22 January 2003.<sup>9</sup> ROICA will come into operation on a date to be fixed by the President by proclamation in the Government Gazette.<sup>10</sup> ROICA was drafted in response to the increasing diversity and developments in communication technologies, globalisation of the telecommunications industry, and the convergence of the telecommunications, broadcasting and information technology industries, which inter alia include satellites, optical fibres, computers, cellular technology, e-mail, surveillance equipment, and the electronic transfer of information and data. ROICA sets out the circumstances under which government entities and other persons may or must intercept or monitor conversations, cellular text messages, e-mails, faxes, data transmissions and postal articles, and establishes that in all other circumstances, such interception or monitoring is prohibited.

Although the shift from the IM Act to ROICA was initiated ostensibly to equip law-enforcement officers in their battle against the types of crime that involve sophisticated technological advances, it also regulates virtually every aspect pertaining to the interception and monitoring of telecommunications both in the workplace and in the private sphere. This includes the monitoring and interception of employee e-mails by employers. In permitting such interception and monitoring, it is arguable that ROICA does not provide adequate safeguards to protect the privacy of employees in the workplace. This may result in a number of provisions of ROICA being susceptible to constitutional challenge. There is also the danger that the invocation of the provisions of ROICA, both in the employment context and by law-enforcement officers, may be abused in a manner that is inconsistent with the right to privacy and freedom of expression enshrined in the final Constitution.<sup>11</sup>

<sup>8</sup> SALC Report (note 5 above) chapters 3-10. The SALC had particular regard to the Law Reform Commission of Hong Kong *Privacy: Regulating Surveillance and the Interception of Communications* Consultation Paper 1996, <http://www.info.gov.hk/info/pricon.htm> and its comparative foreign review; see SALC Report (note 5 above) chapter 9. See also the SA Law Commission Discussion Paper 78 *Review of Security Legislation - The Interception and Monitoring Prohibition Act (Act 127 of 1992)* (November 1998) chapters 3-10 (hereinafter referred to as ‘the SALC Discussion Paper’).

<sup>9</sup> Government Gazette 24286 dated 22 January 2003. As recommended by the SALC, s 62(1) of ROICA will repeal the IM Act.

<sup>10</sup> s 63 of ROICA. As at July 2004, that date had not yet been proclaimed.

<sup>11</sup> Constitution of the Republic of South Africa Act, 108 of 1996.

ROICA subsumes monitoring into interception and permits greater latitude for the interception and monitoring of communication than was permitted in the IM Act. It makes detailed provision for the State to intercept and monitor communications. In doing so, ROICA also places onerous obligations (financial and otherwise) on the private telecommunications industry to assist the State in its interception and monitoring of communications. This is apparent in the comparison made between the relevant provisions in the IM Act and ROICA, as done below. The increase in obligation on the industry and the shifting of liability to the private sector may also result in the crippling of the smaller sectors of the telecommunications industry, with small service providers having to shut down due to an inability to meet obligations imposed by ROICA. In addition, neither the SALC nor the legislature has indicated what the implementation of ROICA will cost both government and the telecommunications industry.

This chapter focuses on the provisions of ROICA most relevant to telecommunications and is structured as follows: firstly brief consideration is given to the legislative and policy developments with specific regard to the findings of the SALC and the parliamentary process which preceded its enactment; secondly, the relevant constitutional framework, with particular regard to the rights to privacy and freedom of expression, is set out; thirdly, the general prohibition on interception and monitoring and the specific exemptions as contained in ROICA, including monitoring of signals and radio frequency spectrums, are considered; fourthly, the scope of the application of ROICA with reference to the objectives sought to be achieved, the issuance and execution of written and oral directions for interception, and entry warrants is discussed and, finally, consideration is given to the obligations that ROICA places on the telecommunications industry.

## 1. LEGISLATIVE AND POLICY DEVELOPMENT

### 1.1 The South African Law Reform Commission

The SALC Report was compiled after public comments were solicited from government departments, law-enforcement agencies, telecommunication service providers (TSPs), individuals and bodies representing the legal community. Comments were invited with respect to regulating the manufacture, distribution, possession and advertisement of wire or oral communication intercepting devices, third party surveillance, and on whether the new Act should be more prescriptive.<sup>12</sup>

On 27 November 1998, the SALC Discussion Paper was published for general information and comment. It contained a number of provisional recommendations as well as an initial draft Bill amending the IM Act.<sup>13</sup> Twenty-eight respondents commented in writing on the Discussion Paper. The Project Committee met on 29 May 1999 with parties representing the TSPs, law-enforcement, intelligence and security agencies. Their views, as well as those reflected in the written comments, were taken into account when the Project Committee made its recommendations reflected in the SALC Report. In particular, the SALC took the position that, in principle, interception and monitoring should

<sup>12</sup> SALC Report (note 5 above) paras 11.7-11.9; annexure D.

<sup>13</sup> SALC Report (note 5 above) para 11.6.

be prohibited when conducted without the knowledge or permission of the parties to a conversation or communication, and should not be a tool for acquiring confidential information concerning any person, body or organisation.<sup>14</sup>

## 1.2 Parliamentary process

The initial Interception and Monitoring Bill, 2001 (to replace the IM Act) that was introduced in 2001 in the National Assembly in accordance with section 75 of the final Constitution emanated from the SALC Report.<sup>15</sup> The main object of the Bill was to replace the existing IM Act with a new substantive Act, incorporating the recommendations made by the SALC.<sup>16</sup> The Bill was referred to the Portfolio Committee on Justice and Constitutional Development, which called for further written submissions. Interested parties made oral and written representations.<sup>17</sup>

The Bill that subsequently emerged from the parliamentary process contained most of the provisions of the IM Act (either in amended or un-amended form) as well as numerous new provisions aimed at further regulating the interception and monitoring of communications. It differed substantially from the version recommended by the SALC and contained a number of controversial new provisions, which were widely criticised in the media and in the submissions made to the Portfolio Committee for Justice and Constitutional Development. It is apparent from the Deputy Minister of Justice and Constitutional Development's address to Parliament at the second reading of the Bill that the main bases for the criticism were, first, that the Bill will infringe an individual's right to privacy and, secondly, that the division of costs between the State and the TSPs placed an onerous financial burden on the latter, which was unfair.<sup>18</sup>

Pursuant to this process, ROICA was signed into law on 30 December 2002.<sup>19</sup> The long title of ROICA states that its objects include inter alia the regulation of the interception and monitoring of communications, the interception of postal articles and communications, and the monitoring of communications in the case of a serious offence or if the security or other compelling national interests of the Republic are threatened. In addition, it prohibits the provision of certain telecommunications services that do not have the capacity to be monitored, and regulates authorised telecommunications monitoring.

## 2. CONSTITUTIONAL FRAMEWORK

The use of electronic equipment to intercept and monitor telecommunications constitutes a *prima facie* invasion of the right to privacy. A Court may find that, in regulating interception and monitoring, ROICA also infringes the right to freedom of expression and dignity.<sup>20</sup>

<sup>14</sup> SALC Report (note 5 above) xiii-xxiii.

<sup>15</sup> This Bill was published in *Government Gazette* 22582 dated 17 August 2001 [B50-2001].

<sup>16</sup> *Government Gazette* 22582 (note 15 above); Memorandum on the objects of the Interception and Monitoring Bill, 2001.

<sup>17</sup> The written representations had to be submitted by no later than 13 August 2001 and the public hearings were scheduled for the third parliamentary term of 2001.

<sup>18</sup> Deputy Minister of Justice and Constitutional Development *Address on the second reading in the National Assembly on the Regulation of Interception of Communication and Provisioning of Communication-related Information Bill*, 17 September 2002.

<sup>19</sup> *Government Gazette* 24286 (note 9 above).

<sup>20</sup> *S v A* 1971 (2) SA 293 (T) at 297; See also *Janit v Motor Industry Fund Administrators (Pty) Ltd* 1995 (4) SA 293 (A), where it was held that the recording of confidential business meetings and offering the tapes for sale to a third party was held to be an invasion of privacy.

## 2.1 Rights

The rights contained in the Bill of Rights are not absolute. No hierarchy of rights exists. Rather, the rights have to be read and interpreted in the light of other competing and conflicting or even complementary rights contained in the Bill of Rights. In addition, rights are limited by the general limitation clause.<sup>21</sup>

Furthermore, some of the rights including the right to freedom of expression, which will be discussed in greater detail below, contain specific internal limitations. Also, rights must be interpreted with regard to relevant public international law and may be interpreted with regard to comparative foreign case law.<sup>22</sup>

## 2.2 The right to privacy

The right to privacy is a universally accepted right.<sup>23</sup> Under the South African common law, the invasion of private communications per se was regarded as an invasion of privacy.<sup>24</sup> Section 14 of the final Constitution provides everyone with a right to privacy, which includes inter alia the right not to have the privacy of their communications infringed. The scope of the right to privacy extends only to those aspects of life or conduct to which a legitimate expectation of privacy can be harboured.<sup>25</sup>

The formulation of the South African constitutional right to privacy was drawn primarily from American and Canadian jurisprudence, notwithstanding that their own constitutions do not expressly protect the privacy of communications. The United States' Fourteenth Amendment has been interpreted to include a general right to privacy.<sup>26</sup> In *Olmstead v United States* Justice Brandeis, in a dissenting judgment, adopted the principle of the 'right to be let alone' in the context of a wiretapping case.<sup>27</sup> At that stage, the right to privacy was founded on the basis of the protection of private property. The US Supreme Court declined to extend such protection to include the privacy of communication; instead, it upheld the wiretapping on the basis that there had been no seizure of tangible property and that the eavesdropping had taken place without any physical invasion of property. Many years later, in *Katz v United States* the US Supreme Court ruled that a warrant was required for intercepting telephone conversations. To obtain a warrant a compelling State interest had to be shown.<sup>28</sup>

In *Financial Mail (Pty) Ltd v Sage Holdings Ltd* although the issue before the Court was whether the appellants, who had come into possession of certain tapes, were entitled to publish information on them, and not whether telephone tapping itself was an invasion of privacy, the Court held that telephone tapping was a manifestly unlawful invasion of privacy.<sup>29</sup>

<sup>21</sup> s 36 of the final Constitution.

<sup>22</sup> s 35 of the final Constitution.

<sup>23</sup> The right to privacy is expressly guaranteed in the Universal Declaration of Human Rights (art 17), the International Covenant of Civil and Political Rights (art 17), the European Convention on Human Rights (art 8) and the American Convention on Human Rights (art 11) and a number of domestic Bills of Rights. In respect of the latter see LM du Plessis and J de Ville 'Personal Rights: Life, Freedom, and Security of the Person, Privacy and Freedom of Movement' in D van Wyk et al (eds) *Rights and Constitutionalism* (1994) 212.

<sup>24</sup> D McQuoid-Mason 'Privacy' in M Chaskalson et al (eds) *Constitutional Law of South Africa* (1996 3 rev 1998) 18-15.

<sup>25</sup> J de Waal, I Currie and G Erasmus *The Bill of Rights Handbook* 4 ed (2001) 269.

<sup>26</sup> De Waal et al (note 25 above) 267.

<sup>27</sup> 277 US 438 (1928).

<sup>28</sup> 389 US 347 (1967); GE Devenish *A Commentary on the South African Bill of Rights* (1999) 140.

<sup>29</sup> 1993 (2) SA 451 (A) at 462.

In *Bernstein v Bester* the right to privacy was characterised as lying along a continuum, where the more a person interrelates with the world, the more the right to privacy becomes attenuated.<sup>30</sup> In *Investigating Directorate: Serious Economic Offences v Hyundai Motor Distributors (Pty) Ltd: In re Hyundai Motor Distributors (Pty) Ltd v Smit NO (Hyundai)* the Constitutional Court further elucidated on the *Bernstein* decision, stating that:

The right, however, does not relate solely to the individual within his or her intimate space. Ackermann J did not state in the above passage that when we move beyond this established 'intimate core', we no longer retain a right to privacy in the social capacities in which we act. Thus, when people are in their offices, in their cars or on mobile telephones, they still retain a right to be left alone by the State unless certain conditions are satisfied. Wherever a person has the ability to decide what he or she wishes to disclose to the public and the expectation that such a decision will be respected is reasonable, the right to privacy will come into play.<sup>31</sup>

In addition, the distinction between substantive privacy rights and information privacy rights is essential in the consideration of the right to privacy of communications. Substantive privacy rights relate to controversial matters that impact on individuals or small groups of persons. Information privacy rights refer to the ability of persons to acquire, publish or employ information about others without their consent. Privacy of communications is generally regarded as falling into the latter category.<sup>32</sup> Any forms of information imparted by telecommunicated means, fall by definition within this category. The general prohibition on interception and monitoring emphasises and gives effect to the right to privacy, as entrenched in the Constitution, not to have the privacy of communications infringed.

As the right to information privacy is intended to curb the use by third parties of information imparted by way of confidential communications (or communications reasonably apprehended or expected to be confidential), there cannot be a subjective expectation of privacy by one party to a communication vis-à-vis another party to the same conversation.<sup>33</sup> Accordingly, parties to a communication are at liberty to use the information obtained to the extent that it is neither privileged nor imparted on the basis that it should remain confidential.

In *Protea Technology Ltd v Wainer* the respondents argued that the transcripts of telephone calls recorded by means of a surveillance device sought to be used as evidence against them were inadmissible on the basis that their use contravened the general prohibition against interception as contained in section 2 of the IM Act. The Court considered issues of privacy and found that the evidence was not inadmissible in civil proceedings. The Court rejected the argument that the evidence should be inadmissible on the basis that it contravened the respondents' right to privacy of their communications. It held that, in respect of telephonic conversations pertaining to the employer's affairs at the employer's business, there was no legitimate expectation of privacy and the employer was entitled to access such conversations. In other words, the Court held that privacy only extended where there existed a legitimate expectation to privacy, which had to be determined on an objective basis.<sup>34</sup>

<sup>30</sup> 1996 (2) SA 751 (CC).

<sup>31</sup> 2001 (1) SA 545 (CC) para 16.

<sup>32</sup> Devenish (note 28 above) 147-150.

<sup>33</sup> De Waal et al (note 25 above) 287.

<sup>34</sup> Protea (note 6 above).

In *S v Kidson* Cameron J held that the formulation in the *Protea* matter as to what constituted confidential information was overbroad and added that 'the information the communicator intended to restrict as confidential must be information upon which the law attributes the confidentiality'.<sup>35</sup>

In *Waste Products Utilisation (Pty) Ltd v Wilkes and Another* the defendants argued that as the tape recordings were made in contravention of the IM Act, the contravention precluded the admissibility of the tape recordings so obtained in breach of a statutory provision and in a manner which infringed the constitutional right to privacy.<sup>36</sup> The defendants did not argue that the contravention of the IM Act itself rendered the tape recordings inadmissible and this was accordingly not decided.

The aforementioned decisions indicate that the right to privacy has been developed on a case-by-case basis with the content of the right being defined with specific reference to the facts of a particular case.

To determine whether the right to privacy has been infringed, a balance must be struck between the right of individuals to be left alone and the right of the State to infringe the individual's privacy in order to achieve some State objective, for example, crime prevention. The Constitutional Court adopted the view, as espoused by the United States, that individuals retain the right 'to be left alone by the state unless certain conditions are met'.<sup>37</sup> Further in *Mistry v Interim Medical and Dental Council of South Africa and Others* it was held that the more public the undertaking and the more closely it would be regulated, the more attenuated would the right to privacy be and the less intense any possible invasion.<sup>38</sup>

[T]he regulation of electronic surveillance protects us from a risk of a different order, ie not the risk that someone will repeat our words but the much more insidious danger inherent in allowing the state, in its unfettered discretion, to record and transmit our words.

The reason for this protection is the realisation that if the state were free, at its sole discretion, to make permanent electronic recordings of our private communications, there would be no meaningful residuum to our right to live our lives free from surveillance. The very efficacy of electronic surveillance is such that it has the potential, if left unregulated, to annihilate any expectation that our communications will remain private. A society which exposed us, at the whim of the state, to the risk of having a permanent electronic recording made of our words every time we opened our mouths might be superbly equipped to fight crime, but would be one in which privacy no longer had any meaning.<sup>40</sup>

In developing interception and monitoring legislation consistent with the values of the Constitution, there must be a balance between the need to make legislative provision equipping law-enforcement with the means to combat crime and the need to retain a modicum of privacy of communications. A number of foreign

<sup>35</sup> 1999 (1) SACR 338 (W).

<sup>36</sup> 2003 (2) SA 515 (W) at 550. See also *S v Naidoo and Another* 1998 (1) SACR 479 (N) and *Tap Wine Trading CC and Another v Cape Classic Wines (Western Cape) CC and Another* 1999 (4) SA 194 (C), where the reasoning of Heher J in *Protea Technology* (note 6 above) was approved. See also *S v Dube* 2000 (2) SA 583 (N) at 610.

<sup>37</sup> *Hyundai* (note 31 above).

<sup>38</sup> *Mistry v Interim Medical and Dental Council of South Africa* 1998 (4) SA 1127 (CC) para 27.

<sup>39</sup> *R v Thompson* [1990] 2 SCR 1111.

<sup>40</sup> *R v Duarte* [1990] 1 SCR 30 at 44.

jurisdictions in their interception laws provide for the establishment of a government body that has an obligation to provide reports publicly on the use of electronic surveillance. These reports would provide summary details about the number of uses of electronic surveillance, the types of crime they are authorised for, their duration and other information. Reports of this nature promote openness and transparency and limit any potential abuse of the right to privacy. They also act as an oversight on law-enforcement.

ROICA, however, does not provide for public reporting of information. Furthermore, there are no provisions made in ROICA, once an investigation has been completed, to inform individuals whether their communications had been intercepted or their transactional information collected that accessed. A duty to so inform may act as a further check on law-enforcement and counter-balance any invasion of the right to privacy.

## 2.3 The right to freedom of expression

Freedom of expression is a widely recognised right contained in a multitude of international instruments.<sup>41</sup> It has been applied not only in respect of the content of the information but also with reference to the means of transmission or reception, since any restriction imposed on the means necessarily interferes with the right to receive and impart information.<sup>42</sup> In *S v Mamabolo* (E TV and Others Intervening) the following was said:

Freedom of expression, especially when gauged in conjunction with its accompanying fundamental freedoms, is of the utmost importance in the kind of open and democratic society the Constitution has set as our aspirational norm. Having regard to our recent past of thought control, censorship and enforced conformity to governmental theories, freedom of expression — the free and open exchange of ideas — is no less important than it is in the United States. It could actually be contended with much force that the public interest in the open marketplace of ideas is all the more important to us in this country because our democracy is not yet firmly established and must feel its way. Therefore, we should be particularly astute to outlaw any form of thought control, however respectably dressed.<sup>43</sup>

Section 16(1) of the final Constitution protects free expression generally but also specifically provides for freedom of the press and media, the freedom to receive or impart information and ideas, artistic creativity, academic freedom and scientific research. Section 16(1) expressly protects the freedom of expression in a manner that does not warrant a narrow reading.<sup>44</sup> It protects speech and any form of

<sup>41</sup> Freedom of expression is expressly guaranteed in the Universal Declaration of Human Rights (art 19); the International Covenant of Civil and Political Rights (art 19), the European Convention on Human Rights (art 10); American Convention on Human Rights (art 13) and a number of domestic Bills of Rights. See also *Islamic Unity Convention v Independent Broadcasting Authority* 2002 (4) SA 294 (CC) para 28.

<sup>42</sup> In *Autronic AG v Switzerland* 12 EHRR 485 the European Court of Human Rights held that art 10(1) of the European Convention which provides for freedom of expression, applied not only to the content of the information but also to the means of transmission or reception, since any restriction imposed on the means necessarily interferes with the right to receive and impart information.

<sup>43</sup> 2001 (3) SA 409 (CC) para 37; *Islamic Unity Convention v Independent Broadcasting Authority* (note 41 above) paras 25-36; *Phillips and Another v Director of Public Prosecutions, Witwatersrand Local Division, and Others* 2003 (3) SA 345 (CC) para 39.

<sup>44</sup> *De Reuck v Director of Public Prosecutions, Witwatersrand Local Division, and Others* 2004 (1) SA 406 (CC) para 48.

<sup>45</sup> *Devenish* (note 28 above) 191; G Marcus and D Spitz 'Expression' in Chaskalson et al (note 24 above) 20-17. See *Irwin Toys Ltd v Quebec (A-G)* [1989] 1 SCR 927 at 931 and 933 for the Canadian approach to 'speech' and 'expression'. The Canadian Supreme Court defined expression in terms of which 'activity is expressive if it attempts to convey meaning'. The Court found that not all expression will be protected. What constituted protected expression would be determined on a case-by-case approach.

<sup>46</sup> s 16(2) puts some forms of expression, such as propaganda for war, incitement of imminent violence and certain forms of hate speech, outside the scope of the right.



human expression,<sup>45</sup> including communications and telecommunications.<sup>46</sup> Any restriction by means of interception and monitoring is *prima facie* an infringement of the right to communicate, and as such constitutes an infringement of the right to freedom of expression. In addition, to the extent that TSPs may decrease in number as a result of increasing costs of licensing or compliance with the stringent requirements contained in ROICA, communication may be impeded and provisions of ROICA may be regarded as being a *prima facie* on infringement of the right to freedom of expression.

The protection of freedom of expression extends not only to the content of the speech or communication but also to the means by which it is transmitted or received.<sup>47</sup> In other words, the content of the right protects the giving and receiving of 'information and ideas, artistic creativity, academic freedom and scientific ideas'.<sup>48</sup>

The right to receive information and ideas has been described as the 'passive' reception of information as well as its 'active' collection. This is interpreted to mean that an individual does not have the right to insist on receiving any specific communication or information.<sup>49</sup>

In *Case v Minister of Safety of Security* the majority of the Constitutional Court expressed some doubt as to whether the right to freedom of expression included the reception of ideas by the receiver.<sup>50</sup> Mokgoro J (in a minority view) found that the right to freedom of expression embraced the right to 'receive, hold and consume expression transmitted by others', and thus the right to freedom of expression protected both the speaker and the recipients of the communication.<sup>51</sup>

The specific enumeration of a right to receive information and ideas in the final Constitution removes any doubt as to whether the right to freedom of expression aims to protect only speakers or both speakers and listeners.<sup>52</sup> The definition contained in section 16(1)(b) of the final Constitution, which provides that everyone has the right to freedom of expression, which includes freedom to receive and impart information and ideas, is, however, more limited in scope than the interpretation adopted by Mokgoro J in respect of the right contained in the interim Constitution.<sup>53</sup>

Notwithstanding, in order to invoke the right to receive information on behalf of receivers, listeners, holders and consumers, reliance would have to be placed on the general right to free expression, rather than its specific enumeration as contained in section 16(1)(b) of the final Constitution.

In addition, privacy rights of third parties must be balanced against the right to freedom of expression, including the receipt of information. In the exercise of the latter right, an individual may not intrude on the privacy rights of another. The

<sup>47</sup> In *Retrofit (Pvt) Ltd v Posts and Telecommunications Corporation (Attorney-General) Intervening* (1995) 9 BCLR 1262 (Z) the Court held that in the particular circumstances pertaining to the corporation's monopoly over public telecommunication services within, into and from Zimbabwe, which prohibited the establishment by Retrofit of a public mobile cellular telephone service, was an infringement of the fundamental right to freedom of expression. In *TS Masiyiwa Holdings (Pvt) Ltd and Another v Minister of Information, Posts and Telecommunications* 1998 (2) SA 755 (ZS) it was held that the cumulative impact of the structure of the regulations and the failure to implement the relevant provisions with reasonable expedition constitutes an abridgement of the constitutionally protected freedom of expression.

<sup>48</sup> Marcus et al (note 45 above) 20-17.

<sup>49</sup> Y Burns *Communications Law* (2001) 76.

<sup>50</sup> 1996 (3) SA 617 (CC) para 90. This matter dealt with the right to freedom of expression as enumerated in the interim Constitution, and the majority of the Constitutional Court did not support the decision of Mokgoro J.

<sup>51</sup> *Case v Minister of Safety of Security* (note 50 above) para 25.

<sup>52</sup> De Waal et al (note 25 above) 315; Devenish (note 28 above) 210.

<sup>53</sup> *De Reuck* (note 44 above) para 49.

extent to which the right to receive information and the right to privacy interact in the area of interception and monitoring depends on what would qualify as 'expression' for the purpose of invoking the right. As already stated, this would require a case-by-case assessment. The extent to which the right may be limited depends on whether the limitation requirements set out in section 36 of the final Constitution are complied with. In interpreting the right in the context of the interception and monitoring of private communications to fulfil a State objective, a Court would have to balance the conflicting interests of the right of the persons to communicate and be able to receive a communication with the need of the State to have access to such communication.

## 2.4 The limitation of a right

The rights contained in the Bill of Rights are not absolute and may be limited in terms of section 36 of the Constitution, which provides that the rights entrenched in the Bill of Rights may be limited only in terms of a law of general application and to the extent that the limitation is reasonable and justifiable in an open and democratic society, based on human dignity, equality and freedom, taking into account all relevant factors. Reasonableness plays an important role in the application of this limitation clause. There is no absolute standard for determining reasonableness; it is a process that requires the balancing of different interests.<sup>54</sup> In *Prince v President of the Law Society of the Cape of Good Hope* it was stated:

To pass constitutional muster, the limitation on the constitutional rights must be justifiable in terms of section 36(1) of the Constitution. The limitation analysis requires an enquiry into whether the limitation is reasonable and justifiable in an open and democratic society based on human dignity, equality and freedom. In that enquiry, the relevant considerations include the nature of the right and the scope of its limitation, the purpose, importance and the effect of the limitation, and the availability of less restrictive means to achieve that purpose. None of these factors is individually decisive. Nor are they exhaustive of the relevant factors to be considered. These factors, together with other relevant factors, are to be considered in the overall enquiry. The limitation analysis thus involves the weighing up of competing values and ultimately an assessment based on proportionality.<sup>55</sup>

ROICA is a law of general application as contemplated in section 36 and any interception or monitoring, in accordance with ROICA, would have to be tested against the requirements of the limitation clause in order to determine whether it would pass constitutional muster. What constitutes a reasonable and justifiable limitation will depend on the circumstances of each case. For example, where a law-enforcement officer is likely to require access to information to reasonably fulfil a governmental objective in circumstances where the request is proportional to the objective sought to be achieved, and there is no less restrictive manner of achieving such objective, it is likely to pass constitutional scrutiny.

It is contemplated in ROICA that the interception and monitoring of

<sup>54</sup> *S v Steyn* 2001 (1) SA 1146 (CC) para 30 and the authorities cited in note 50.

<sup>55</sup> 2002 (2) SA 794 (CC) para 45; *S v Jordan (Sex Workers Education & Advocacy Task Force as Amici Curiae)* 2002 (6) SA 642 (CC) para 85.

communications may be authorised by a judge only if there are no other less intrusive ways to investigate a crime or obtain evidence. This means that one has to determine whether the contemplated interception or monitoring is less invasive than a physical search or any other method of investigation. Therefore, a judge, before issuing a directive, must take into account whether the necessary information could reasonably be acquired by any other means.

The infringement of privacy and freedom of expression is an inevitable result of the interception and monitoring of communications. The constitutionality of a number of the provisions in ROICA — some of which are discussed below — is open to legal challenge with the Courts having to determine whether they are reasonable and justifiable as contemplated in section 36 of the Constitution.

### 3. THE SCOPE OF THE APPLICATION OF ROICA

#### 3.1 Objectives

The long title identifies the following objects sought to be achieved by ROICA -

- to regulate the interception of certain communications;
- to monitor signals, radio frequency spectrum and the provision of communication-related information;<sup>56</sup>
- to regulate the making of application for, and the issuing of, directions authorising the interception of communications, entry warrants and the provision of communication-related information;
- to regulate the assistance to be given by postal service providers (PSPs), TSPs and decryption key holders (DKHs), in the execution of directions and entry warrants;
- to prohibit the provision of telecommunication services that do not have the capability to be intercepted;
- to provide for certain costs to be borne by certain TSPs;
- to provide for the establishment of interception centres, the Office for Interception Centres and the Internet Service Providers Assistance Fund;
- to prohibit the manufacturing, assembling, possessing, selling, purchasing or advertising of certain equipment; and
- to create offences and to prescribe penalties for such offences.

Its objectives are more far-reaching when compared with the IM Act. Unlike the IM Act, section 1 of ROICA defines ‘communication’ as including both a direct communication (non-electronic)<sup>57</sup> and an indirect communication (electronic).<sup>58</sup>

<sup>56</sup> s 1 of ROICA defines communication-related information as information that, among others, identifies the origin, destination, termination and duration of an indirect communication generated or received by a customer of a TSP, for example, information pertaining to who was called from a cellular number, where the call was made and the duration of the call.

<sup>57</sup> s 1 of ROICA defines a ‘direct communication’ as either an oral communication, other than an indirect communication between two or more persons, which occurs in the immediate presence of all the persons participating in that communication, or an utterance by a person who is participating in an indirect communication if the utterance is audible to another person who, at the time that the indirect communication occurs, is in the immediate presence of the person participating in the indirect communication. These would include face-to-face discussions between two or more persons and telephonic conversations overheard by a third party who is in the company of one of the callers.

<sup>58</sup> s 1 of ROICA defines an ‘indirect communication’ as the transfer of information, including a message or any part of a message, whether in the form of speech, music or other sounds, data, text, visual images whether animate or not, signals, or radio frequency spectrum or in any other form that is transmitted in whole or in part by means of a postal service or a telecommunication system.

Indirect communications include telephone conversations, the contents of an e-mail transmission,<sup>59</sup> facsimile, SMS, postal communication, and the downloading of information from the Internet. ROICA deals differently with the interception and monitoring of direct and indirect communications.

ROICA is aimed primarily at regulating the interception and monitoring of telecommunication surveillance of both direct and indirect communications by law-enforcement officers and agencies (as defined in section 1 of ROICA), for the purpose of gathering evidence during the investigation of crimes and in the interests of maintaining justice, public health or safety, national security or to achieve similar objectives. It stipulates the circumstances under which law-enforcement officers may apply to a designated judge for the issuance of an interception direction. It prescribes how these directions are to be executed. Section 1 of ROICA defines a designated judge as any judge of a High Court discharged from active service under section 3(2) of the Judges' Remuneration and Conditions of Employment Act, 47 of 2001, or any retired judge so designated by the Minister to perform the functions of a designated judge in ROICA.<sup>60</sup> Although only designated judges may issue directions and entry warrants, directions for archived-related information may be issued by any judge or magistrate exercising their powers under any other law, for example, section 205 of the Criminal Procedure Act, 51 of 1977.

It is clear from the objectives contained in ROICA that, although its primary focus is assisting law-enforcement officers in procuring information required to combat crime, it also regulates interception and monitoring in the private sphere. This chapter considers the business environment and the regulation of employee communications by an employer as regulated by ROICA.

### 3.2 Interception

The IM Act deals separately with interception and monitoring; ROICA deals with interception and monitoring in the same way. Section 2(1)(a) of the IM Act prohibits the interception of communications before, during and after it is in progress. The IM Act does not prohibit interception of a communication:

- if the interception is not intentional;
- if the dispatcher knows that his or her communication is being intercepted or gives prior permission for such interception (the exception applies only to the dispatcher and not the recipient or intended recipient); or
- if the communication is not electronic (ie 'transmitted by telephone or in any other manner over a telecommunications line').

The IM Act does not define 'intercept' or 'interception'. Section 1 of ROICA defines 'intercept' as 'the aural or other acquisition of the contents of any communication through the use of any means, including an interception device, so as to make some or all of the contents of the communication available to a person

<sup>59</sup> s 1 of ROICA defines 'contents' in the context of any communication as including any information concerning the substance, purport or meaning of that communication, that is, the actual communication and the contents of the intention contained in the communication.

<sup>60</sup> Since the inception of the IM Act, however, only one retired judge had been appointed for all the Divisions of the High Court and that judge has been considering all applications for interception and monitoring (SALC Report (note 5 above) para 2.3). Ostensibly, the use of retired judges for this purpose is to ensure that the judge would not be the same judge who would eventually hear the matter in the Court in which intercepted communications are sought to be produced in evidence.

other than the sender or recipient or intended recipient of that communication and includes the -

- monitoring of any such communication by means of a monitoring device;
- viewing, examination or inspection of the contents of any indirect communication; and
- diversion of any indirect communication from its intended destination to any other destination.

Interception has a corresponding meaning. A reference in ROICA to the interception of a communication does not include a reference to the interception of any indirect communication that is broadcast or transmitted for general reception.<sup>61</sup>

Section 1 of ROICA defines an interception device as ‘any electronic, mechanical or other instrument, device, equipment or apparatus which is used or can be used, whether by itself or in combination with any other instrument, device, equipment or apparatus to intercept any communication’ and includes monitoring devices. It specifically excludes:

- (a) any instrument, device, equipment or apparatus or any component thereof
  - (i) furnished to the customer by a telecommunication service provider in the ordinary course of his or her business and which is used by the customer in the ordinary course of his or her business;<sup>62</sup>
  - (ii) furnished by such customer for connection to the facilities of such telecommunication service and used in the ordinary course of his or her business;
  - (iii) being used by a telecommunication service provider in the ordinary course of his or her business; or
- (b) a hearing aid or similar device being used to correct below normal hearing to not better than normal.

The Minister of Justice and Constitutional Development may, by notice in the Government Gazette, declare any electro-magnetic, acoustic, mechanical or other instrument, device or equipment capable of being used as interception devices, as listed equipment.<sup>63</sup> As a consequence, no person is allowed to manufacture, assemble, possess, sell, purchase or advertise such listed equipment unless granted a certificate of exemption under section 46 of ROICA.<sup>64</sup> This is consistent with the approach adopted in the United States, where the manufacture, distribution, possession and advertising of wire or oral communication intercepting devices are prohibited.<sup>65</sup> In contrast, the French regulate the trade of surveillance devices by decree and provide a list of devices intended to pick up conversations at a distance. After consultation with the Conseil d’Etat, the manufacture, importation, possession, display, offering, rental or sale of such devices is listed by ministerial authorisation.<sup>66</sup>

<sup>61</sup> s 2(3) of ROICA.

<sup>62</sup> s 1 of ROICA defines a ‘customer’ as any person to whom a TSP provides a telecommunication service or who has entered into a contract with a TSP for the provision of a telecommunication service, including a pre-paid telecommunication service.

<sup>63</sup> s 44 of ROICA.

<sup>64</sup> s 45(2) read with s 46 of ROICA.

<sup>65</sup> Omnibus Crime Control and Safe Streets Act 1968, now codified as 18 USC §§ 2510-2520 (1994).

<sup>66</sup> SALC Report (note 5 above) para 2.24.

For purposes of ROICA, interception of a communication takes place in South Africa if, in the case of a direct communication, it is effected by conduct within South Africa or, in the case of an indirect communication, in the course of its transmission by means of a postal service or telecommunication system.<sup>67</sup> In respect of indirect communications, section 1(2)(b) of ROICA provides that ‘the time during which an indirect communication is being transmitted by means of a telecommunication system includes any time when the telecommunication system by means of which such indirect communication is being, or has been, transmitted is used for storing it in a manner that enables the intended recipient to collect it or otherwise to have access to it’. This provision is similar to that found in the prohibition on interception in the IM Act, which expands the ambit of interception and thus the ambit of the prohibition. It appears that the drafter intended to extend the ambit of interception and, therefore, also the ambit of the prohibition up to end-user computers.

### 3.3 Monitoring

‘Monitor’ is defined in the IM Act to include ‘recording of conversations or communications by means of a monitoring device’, and ‘monitoring device’ is defined as ‘any instrument, device or equipment which is used or can be used, whether by itself or in combination with any other instrument, device or equipment, to listen to or record any conversation or communication’. It proscribes the intentional monitoring of a conversation or a communication by way of a monitoring device so as to gather confidential information concerning any person, body or organisation.<sup>68</sup> The prohibition on monitoring, however, does not apply:

- if the monitoring is not intentional; and
- if the monitoring is for any reason other than to ‘gather confidential information’.

Section 1 of ROICA encompasses monitoring within its definition of ‘intercept’ and similarly, interception devices include all monitoring devices. ROICA does, however, extend the definition of ‘monitor’ as provided for in the IM Act to include the listening to, or recording of, communications by means of a monitoring device. Section 1 of ROICA also defines a monitoring device more precisely than the IM Act. It includes any electronic, mechanical or other instrument, device, equipment or apparatus, to listen to or record any communication. In terms of this definition, a computer would constitute a ‘monitoring device’ in that it can be used, either on its own or in combination with a modem, to ‘listen to’ or to record a communication. Most monitoring devices would also be considered as interception devices.

<sup>67</sup> s 1(2)(a) of ROICA.

<sup>68</sup> s (1) of the IM Act. The *Shorter Oxford Dictionary* defines ‘monitor’ as ‘to listen to and report on (radio broadcasts, especially from a foreign country); also to eavesdrop on (a telephone conversation)’.

<sup>69</sup> This section draws from various unpublished works authored by Lisa Thornton of Lisa Thornton, Inc.

## 4. PROHIBITION ON INTERCEPTION AND MONITORING<sup>69</sup>

### 4.1 General prohibition

Section 2(1)(b) of the IM Act provides that no person may intentionally monitor any conversation or communication by means of a monitoring device so as to gather confidential information concerning any persons, body or organisation. Thus, unlike the prohibition regarding interception, the prohibition on monitoring goes beyond electronic communication and includes direct ‘conversations’. For example, an employee’s e-mail may be monitored:

- if the monitoring is not intentional;
- if the monitoring is for any reason other than to gather confidential information concerning any persons, body or organisation;<sup>70</sup> or
- if the person is a party to the communication.

The only other exception to the prohibition on interception and monitoring explicit in the IM Act is where a judge issues a direction authorising interception and monitoring.<sup>71</sup> The Courts have also determined that the IM Act — and therefore the prohibitions on interception and monitoring — does not apply to interception or monitoring of a party to the communication or conversation (with the exception of police, defence force and intelligence personnel).<sup>72</sup>

Section 2 of ROICA provides: ‘[s]ubject to this Act, no person may intentionally intercept or attempt to intercept or authorise or procure any other person to intercept or attempt to do so, at any place in South Africa, any communication in the course of its occurrence or transmission’. Any interception in contravention of this clause may constitute a criminal offence, which carries a maximum fine of two million rands or a maximum term of imprisonment of 10 years.<sup>73</sup>

No TSP may intentionally provide any real-time or archive communication-related information to any person other than its customer to whom such information relates. To do so would be an offence in terms of ROICA.<sup>74</sup> A TSP, however, is obliged to provide such information when addressed with a real-time communication or archived communication-related written direction or upon written authorisation given by the customer. Such authorisation must be given each time such a request is made, and may be subject to any or varied conditions determined by the customer concerned.<sup>75</sup>

The aforementioned procedures do not preclude the use of any other Act, for example the Criminal Procedure Act, where applicable, to obtain information. The continued use of procedures contained in existing laws may result in the provision of ROICA being circumvented, particularly as ROICA does not repeal other laws

<sup>69</sup> In determining whether the exception applies, one should have regard to the purpose for which the monitoring occurs. See *Protea Technology Ltd and Another v Wainer* (note 6 above). Confidential information is different from information that is intended by the communicator to be private. See also *Kidson* (note 35 above).

<sup>70</sup> s 2(2) of the IM Act.

<sup>71</sup> See *S v Dube*; *S v Kidson*, and *Tap Wine Trading* (note 36 above).

<sup>72</sup> s 49(1) of ROICA.

<sup>73</sup> ss 12 and 50 of ROICA.

<sup>74</sup> ss 13 and 14 of ROICA.

<sup>75</sup> s 15(1) and (2) of ROICA.

<sup>76</sup> s 42(1) and (3) of ROICA.

that permit the retrieval of information from a telecommunication system.<sup>76</sup>

A PSP, TSP or DKH, or any of their employees, may also not disclose any information that he or she obtains in the exercise of his or her powers or performance of his or her duties in terms of ROICA.<sup>77</sup> To do so would constitute an offence in terms of section 51(1)(a)(i) of ROICA.

## 4.2 Exemptions under ROICA

Similar to the IM Act, section 3(a) of ROICA allows authorised persons to intercept any communication in accordance with an interception direction issued by a judge. Other exceptions include:

- unintentional interception;<sup>78</sup>
- interception by a party to the communications;<sup>79</sup>
- interception with the written consent of one of the parties to the communications;<sup>80</sup>
- interception of indirect (electronic) communications in the carrying on of any business;<sup>81</sup>
- interception by certain law-enforcement personnel to prevent serious bodily harm;<sup>82</sup>
- interception by certain law-enforcement personnel to determine the location of a person in an emergency;<sup>83</sup>
- interception in a prison;<sup>84</sup>
- monitoring of signals by persons responsible for installing, operating and maintaining equipment in carrying out such duties;<sup>85</sup> and
- monitoring of the radio frequency spectrum by Icasa.<sup>86</sup>

ROICA draws distinctions between parties to a communication who are law-enforcement officers and those who are not. A number of the exemptions dealing with parties to a communication who are not law-enforcement officers, are briefly discussed below with specific reference being made to the employer-employee environment.

### 4.2.1 *Interception of communication by a party to the communication*

A party to a communication may intercept any communication, unless it is being done for purposes of committing an offence.<sup>87</sup> A ‘party to a communication’ in respect of a direct communication refers to any person who participates in such direct communication or to whom such direct communication is directed or in whose immediate presence such direct communication occurs and is audible to the person concerned, regardless of whether or not the direct communication is

<sup>78</sup> s 2 of ROICA.

<sup>79</sup> s 4 of ROICA.

<sup>80</sup> s 5 of ROICA.

<sup>81</sup> s 6 of ROICA.

<sup>82</sup> s 7 of ROICA.

<sup>83</sup> s 8 of ROICA.

<sup>84</sup> s 9 of ROICA.

<sup>85</sup> s 10 of ROICA.

<sup>86</sup> s 11 of ROICA.

<sup>87</sup> s 4(1) of ROICA; s 4(2) applies in respect of law-enforcement officers.



specifically directed at him or her. In respect of an indirect communication, the party to the communication is defined in section 1 of ROICA as:

- the sender or the recipient or intended recipient of such indirect communication;
- if it is intended by the sender of an indirect communication that such indirect communication be received by more than one person, any of those recipients; and
- any other person who, at the time of the occurrence of the indirect communication, is in the immediate presence of the sender or the recipient or intended recipient of that indirect communication.

#### ***4.2.2 Interception of communication with the consent of a party to the communication***

A person may intercept any communication if one of the parties to the communication gives prior written consent to such interception, unless such communication is intercepted by such person for the purpose of committing an offence.<sup>88</sup> This provision is similar to that contained in the IM Act which provides that if a dispatcher knows that his or her communication is being intercepted or gives permission for such interception, then it is permitted.

However, unlike the IM Act, in ROICA the consent must be in writing and given prior to the interception occurring. It may be given by any one of the parties to the communication. A general consent obtained by employers as part of the terms and conditions of employment (in an employment contract, policy, practice or procedure or other relevant document in the employment environment) to intercept personal employee communications may be construed as a prior 'consent in writing' as contemplated in section 5 of ROICA. It is unlikely that the reference to 'consent in writing to such interception' in section 5 would require that consent must be obtained each time an interception is sought. However, employers who include 'a general consent for interception' as part of the conditions of employment or include such consent in an employment contract, must ensure that the scope of the consent is drafted in a manner which ensures that at the time the employee agreed to the interception the employee understands the ambit of what he or she agrees to. It is unlikely that this provision would apply in respect of police informer traps. Consent from one of the parties to the recording would not be regarded as sufficient authority to allow the interception as law-enforcement officers are compelled to procure a direction authorising such interception.<sup>89</sup>

#### ***4.2.3 Interception of communications in a business<sup>90</sup>***

Interception of communication in business has broad application. It has particular application in the work environment and the employer-employee relationship in respect of the monitoring and/or accessing of employees' e-mails, monitoring of

<sup>88</sup> s 5(1) of ROICA; s 5(2) read with s 16(5)(a) applies in respect of law-enforcement officers.

<sup>89</sup> *R v Duarte* (note 40 above).

<sup>90</sup> s 1 of ROICA defines a 'business' as any business activity conducted by any person, including the activities of any private or public body.

websites accessed by employees, and recordings of the content of telephone calls made by employees. Its application is considered with particular reference to e-mail interception.

#### 4.2.3.1 Direct communications

Under the IM Act an employee's communications may be intercepted (before it is sent/received, while being sent/received and after it is being sent/received) if:<sup>91</sup>

- Such interception is unintentional. However, it may be argued that when an employer intercepts business-related e-mails and in the process also intercepts employees' personal e-mail, he or she does not do so intentionally and, thus, does not contravene the IM Act. However, to the extent that an employee is permitted to use the business communication system for personal e-mail, it is arguable that the employer must expect that there would be personal e-mail. As such by retrieving all e-mail on a system it would, arguably, be doing so intentionally.
- The dispatcher of the e-mail knows that his or her communications are being intercepted or gives permission for such interception. The exception applies only to the dispatcher and not to the recipient or intended recipient. As such, outgoing (ie dispatched) e-mail may be intercepted if all of those who use the e-mail system are informed accordingly, but incoming e-mail may not be intercepted unless the sender can be informed prior to sending the e-mail that it may be intercepted. This, however, is unlikely to occur.
- If you are a party to the communication. Personal e-mails remain protected and unless a company completely prohibits the use of its e-mail systems for personal use and enforces this prohibition, personal employee e-mails would not be considered e-mail of the company as the company is not 'a party to the communication'.

The general prohibition contained in section 2 of ROICA applies to the interception and monitoring of direct communications that occurs in the carrying on of a business. Thus, any interception and monitoring of direct communications by an employer can take place only if the employer is party to the communication or with the prior written consent of one of the parties to the direct communication.

#### 4.2.3.2 The exemption relating to indirect communications

The interception and monitoring of indirect (electronic) communications in business is regulated by section 6 of ROICA. The purpose of section 6 appears specifically to provide an exception to the prohibition on interception allowed by employers *inter alia* to intercept the personal indirect communications of employees in certain circumstances, and where such employees have not given their prior written consent. In terms of section 6, the type of communication that may be intercepted is very wide and the conditions imposed are not very strict. Section 6 of ROICA has to some extent been modelled on the United Kingdom

<sup>91</sup> s 2(1) of the IM Act.

<sup>92</sup> s 1 2000 No 2699.

Telecommunications (Lawful Business Practice) (Interception of Communications) ('the British Regulations').<sup>92</sup>

Section 6(1) of ROICA provides the exception and section 6(2) sets out conditions that have to be met before the exception applies. Section 6(1) states that any person may, in the course of carrying on any business, monitor, intercept or examine any indirect communications. That section limits the meaning of an indirect communication:

- to the means by which a transaction is entered into in the course of that business [section 6(1)(a)];<sup>93</sup>
- which otherwise relates to that business [section 6(1)(b)];<sup>94</sup> or
- which otherwise takes place in the course of carrying on that business [section 6(1)(c)];<sup>95</sup>

in the course of its transmission over a telecommunication system.<sup>96</sup>

Although section 6(1)(a) specifically refers to communication 'by means of which a transaction is entered into' and section 6(1)(b) specifically refers to communication that 'relates' to a business, section 6(1)(c) refers generally to communication that takes place 'in the course of carrying on of that business'. It is arguable that most (if not all) personal indirect communication of employees, where such employees make use of employers' communications systems, falls within the exception set out in section 6(1)(c) of ROICA.

Section 6(2)(b) provides that a person may intercept an indirect communication as indicated above only if –

- the interception is 'for purposes of' monitoring or keeping a record of indirect communications;<sup>97</sup>
- in order to establish the existence of facts [section 2(1)(b)(i)(aa)];
- for purposes of investigating or detecting the unauthorised use of the employer's telecommunication system [section 2(1)(b)(i)(bb)], or
- where it is undertaken in order to secure, or is an inherent part of the effective operation of such system [section 2(1)(b)(i)(cc)];<sup>98</sup> or
- monitoring indirect communications made to a confidential voice-telephony counselling or support service which is free of charge, other than the cost, if any, of making a telephone call, and operated in such a way that users thereof may remain anonymous if they so choose.<sup>99</sup>

This does not place an onerous obligation on the employer, nor does it limit the exception very much. As long as an employer understands that it may intercept e-

<sup>92</sup> s 6(1)(a) of ROICA.

<sup>93</sup> s 6(1)(b) of ROICA.

<sup>94</sup> s 6(1)(c) of ROICA.

<sup>95</sup> According to s 51 of ROICA, contravention of s 6 constitutes an offence punishable by a maximum fine of two million rands or imprisonment for a period not exceeding 10 years.

<sup>96</sup> s 6(2)(b)(i) of ROICA.

<sup>97</sup> For example, detecting spam and unusual e-mail traffic, detecting hardware and software problems or errors, monitoring viruses or preventing hackers from getting into the system.

<sup>98</sup> s 6(2)(b)(ii) of ROICA.

mail only for one or more of the stated purposes, there should be no problem in meeting the condition.

Section 6(2)(a) provides that communication may be intercepted only by the system controller or with the express or implied consent of the system controller.<sup>100</sup> Section 6(2)(c) states that such interception may occur if the telecommunication system concerned is provided for use wholly or partly in connection with that business, and if the system controller has made all reasonable efforts to inform in advance all individuals using the telecommunication system that indirect communication transmitted through it may be intercepted or if such indirect communication is intercepted, it will be with the express or implied consent of the user of the system.<sup>101</sup> The consent of the system controller may be obtained through a general or specific letter of authority. It does not necessarily have to be obtained prior to the event or in writing. In fact, this condition would be complied with if the system controller made all reasonable efforts to inform the users of its communication systems of any interception or monitoring. Users can be informed by using, for example, e-mail signatures, employment contracts, and e-mail use policies.

Another means of ensuring that users are aware that the Internet usage is monitored and/or intercepted is by structuring employment contracts in a manner which includes an employee's consent to the monitoring of his or her e-mail, post and telephone conversations to the extent that it is a condition of employment. In addition, use can be made of an electronic agreement or so-called 'click-wrap agreements.' In terms of such agreements, an employee is deemed to have consented to the interception and monitoring of his or her Internet access when he or she clicks on the acceptance button (thereby accepting the terms of the click agreement) when logging onto the computer network of the business.<sup>102</sup>

Section 6 specifically deals with the interception that occurs in connection with the carrying on of a business. It may well mean that an employer is not entitled to monitor and intercept employee communications not connected with the carrying on of the business. An employer in such a case would need to obtain the employee's express written consent to be able to monitor and intercept such communications. Furthermore, section 6 does not apply once an e-mail or other message reaches its end-user as ROICA makes it clear that the interception must occur during the course of its transmission over a telecommunication system.

In light of the foregoing, it is clear that an employer may not access an employee's e-mail box without permission and unless its purpose for doing so falls within the exceptions contained in section 6. To do so otherwise would constitute an infringement of the employee's right to privacy. When permitted to do so, however, an employer, as part of its monitoring and interception, may intercept or monitor e-mail and Internet usage both in respect of the content of the communication as well as the website or e-mail address which the employee uses either for sending or retrieving information in the course of its transmission over the telecommunication system.

The British Regulations, on which section 6 was modelled, consider a

<sup>100</sup> A 'system controller' is defined in s 1 of ROICA. This definition differentiates between public and private entities but regards the chief executive officer, equivalent officer or a person duly authorised, as being the system controller.

<sup>101</sup> s 6(2)(d) of ROICA.

<sup>102</sup> These 'click-wrap' agreements have been legalised under the Electronic Communications and Transactions Act, 25 of 2002.

communication that serves as the means through which a transaction is entered into in the course of the business (or which otherwise relates to that business or which otherwise takes place in the course of the carrying on of that business) as a communication that is relevant to that business. The British Regulations list as a legitimate purpose the monitoring of communications in order to determine whether or not they are relevant to the employer's business. Thus, although section 6 does not condone the blanket monitoring of personal communication, without the employee's consent, it would allow for the interception of communications transmitted on the employer's communication system for the purpose of establishing whether or not a communication relates to the business of the employer.

It is evident from the British Regulations that:

- Interception and monitoring for purposes of crime prevention must be undertaken by law-enforcement officers. Private individuals and companies are not authorised to intercept communications under the guise of crime detection and prevention. Therefore, employers cannot justify interception of business-related communications on the basis that they are trying to prevent fraud and corruption.
- Although the British Regulations allow the monitoring of communications to ascertain compliance with regulatory or self-regulatory practices or procedures and to ascertain or demonstrate the standards that are achieved or ought to be achieved by persons using the system, ROICA does not make similar provision. IN TERMS OF ROICA, an employer cannot use this as a basis to justify the interception of employee communications without the employee's consent. Employers can, however, argue that interception for purposes of detecting unauthorised use of the system includes issues of non-compliance with business policies and regulatory practices and as such are permissible.<sup>103</sup>

The legitimate purpose provisions of ROICA are aimed at balancing employees' rights to privacy with the need for employers to prevent the misuse and abuse of telephones, e-mail and the Internet, as well as to protect their communication systems from viruses, spam, hackers and other threats. In this regard it is clear that interception of communications for purposes of detecting hardware and software problems or errors, viruses, hacking and other threats to the system would qualify as measures taken 'to secure ... the effective operation of the system' and would be regarded as a legitimate basis for intercepting and monitoring indirect communications during the course of transmission.<sup>104</sup> It is evident that section 6 permits the monitoring and interception of the e-mail of employees and others who use e-mail systems in a business for the purpose of detecting and eliminating viruses and the like, and for the purpose of maintaining control over company communications where it serves a legitimate business interest and is done in the course of carrying on a business by or under the approval of the system

<sup>103</sup> s 6(2)(b)(i) of ROICA. See T Bortz and L Louw 'The Regulation of Interception of Communications and the Provision of Communication-related Information Act 70 of 2002' *Tech Werks* (March 2003) 4-5.

<sup>104</sup> Bortz and Louw (note 102 above) 4.

controller.<sup>105</sup> Employers should inform employees, consultants and others who use their e-mail systems of the company's e-mail policy. Employees should also advise them of the circumstances under which the employer is entitled to monitor and intercept the use of its telephone, facsimile facilities, Internet and e-mail. Care should be taken to include a specific provision that informs the user that e-mail, including personal e-mail, may be monitored and intercepted by the employer. Employees should similarly be advised to inform the recipients of their e-mails that their e-mails may be monitored and intercepted. An easy method of informing users that e-mails may be monitored and intercepted is to make this information an integral part of the log-on procedures or by way of e-mail signatures informing users that the e-mail may be monitored and intercepted.

#### ***4.2.4 Interception of communications to prevent serious bodily harm***

Only law-enforcement officers may intercept communications to prevent serious bodily harm. If the law-enforcement officer is of the opinion that the communication must be intercepted urgently and it is not reasonably practicable to do so pursuant to an oral or written direction, he or she may do so without such direction.<sup>106</sup> When faced with a request, a TSP 'must' (the provision is peremptory) route the duplicate signals of the indirect communication concerned to the designated interception centre.<sup>107</sup> An interception centre is established in terms of section 32(1)(a) of ROICA for purposes of interception in terms of ROICA. Interception centres fall under the control of the Minister of Justice and Constitutional Development.

#### ***4.2.5 Interception of communications for purposes of determining locations in case of an emergency***

Section 8 of ROICA regulates the interception of communications for purposes of determining the location of a party to a communication in the case of an emergency. This type of interception can be done only by a law-enforcement officer, who would then request the necessary information from the relevant TSP, who can intercept the communication from the sender. This section is invoked when a law-enforcement officer is of the opinion that determining the location of the sender is likely to be of assistance in dealing with the emergency. If the party to the communication is not a law-enforcement officer, he or she should inform a law-enforcement officer of the matter and cannot personally make the request to determine the location of the sender. A TSP, on receipt of such a request, must comply and provide the location, together with any other information, which, in the opinion of the TSP concerned, is likely to be of assistance in dealing with the emergency.<sup>108</sup> The TSP may do so in any manner that it deems appropriate.

<sup>105</sup> s 6(2) of ROICA.

<sup>106</sup> s 7(1)(b) of ROICA.

<sup>107</sup> s 7(2) of ROICA.

<sup>108</sup> s 8(3) of ROICA.

<sup>109</sup> Defined in s 1 of the Correctional Services Act, 111 of 1998.

<sup>110</sup> s 9 of ROICA.

<sup>111</sup> Ibid.

#### 4.2.6 *Interception of communications authorised by other legislation*

Any communication may in the course of its occurrence or transmission be intercepted in any prison<sup>109</sup> if such interception takes place in the exercise of any power conferred in terms of any regulations under the Correctional Services Act.<sup>110</sup> Other exceptions to the prohibition on interception are the interception of communication in terms of other laws, for example, in terms of provisions of the Defence Act, 44 of 1957.<sup>111</sup>

#### 4.2.7 *Monitoring of signals and radio frequency spectrum*

Any person who is lawfully engaged in duties relating to the:

- installation or connection of any equipment, facility or device used, or intended to be used, in connection with a telecommunications service;
- operation or maintenance of a telecommunication system; or
- installation, connection or maintenance of any interception device used, or intended to be used, for the interception of a communication under an interception direction,

may in the ordinary course of the performance of such duties monitor a signal relating to an indirect communication where it is reasonably necessary to do so in the performance of his or her duties.<sup>112</sup>

In terms of section 11 of ROICA, an inspector appointed in terms of section 98 of the Telecommunications Act may, when engaged or performing functions relating to the management of the radio frequency spectrum, monitor radio frequency spectrum relating to an indirect communication, where it is reasonably necessary to monitor that spectrum, for purposes of identifying, isolating or preventing an unauthorised or interfering use of such frequency or of a transmission.

### 5. DIRECTIONS IN ROICA

An interception direction is a written direction issued by the designated judge on request of an applicant<sup>113</sup> authorising the interception of communication, addressed to a PSP or TSP and executed by a law-enforcement officer. Only law-enforcement officers may intercept communications on receipt of a direction from the designated judge.<sup>114</sup> An interception direction may specify conditions or restrictions relating to the interception of the communications.<sup>115</sup>

There are essentially four kinds of direction that may be issued in terms of ROICA. These authorise:

- the interception of communications;
- the provision of communication-related information as soon as it becomes available (ie real-time communication-related information);

<sup>112</sup> s 10 of ROICA

<sup>113</sup> s 1 of ROICA defines an applicant to include certain police officers, certain members of the South African National Defence Force, certain members of the National Intelligence Agency, head of the Directorate or an Investigating Director of the National Prosecuting Authority and members of the Independent Complaints Directorate in certain circumstances.

<sup>114</sup> s 1 read with s 16(1) of ROICA.

<sup>115</sup> s 16(6)(c) of ROICA.

- the provision of communication-related information stored by a TSP (ie archived communication-related information); and
- DKHs to disclose decryption keys or to provide decryption assistance in respect of encrypted information.

### 5.1 Issuing of Directions

Section 1 of ROICA provides that law-enforcement officers may apply for directions. These include the police service, the defence force, the intelligence services and the Directorate of Special Operations.<sup>116</sup>

The issuing of an interception direction always lies within the discretion of the designated judge.<sup>117</sup> Strict criteria apply and the judge may issue an interception direction only if he or she is satisfied, on the facts alleged in the application concerned, that there are reasonable grounds to believe that:

- The matter involves the commission of a serious offence.<sup>118</sup>

(Section 16(5)(a)(i) of ROICA relates to serious offences that may be committed in the future. This provision may not withstand constitutional scrutiny on the basis that it speculates on future acts that have not yet occurred. It is comparable to the decision of the Constitutional Court in *Hyundai* that a search and seizure, for purposes of a preparatory investigation, would not be constitutionally justifiable in the absence of a reasonable suspicion that an offence had been committed. Search and seizures would be analogous to interception and monitoring of communication and the decision of the Court in respect of search and seizures would be equally applicable to interception and monitoring.<sup>119</sup>)

- The information concerns an actual or potential threat to the public health or safety or national security or actual threat to compelling national economic interests of the country.<sup>120</sup>

(The use of the phrase ‘national security’ in section 16(5)(a)(ii) and (iii) of ROICA should not be interpreted so broadly that it can be used to justify any State action. If it is, it also runs the risk of being struck down by the Courts as being constitutionally overbroad.)

- The making of a request is to provide a competent authority outside South Africa with assistance in respect of organised crime or offences relating to terrorism and is in accordance with an international mutual assistance agreement or the interests of South Africa’s international relations or obligations.<sup>121</sup>

<sup>116</sup> See also s 16(3) of ROICA.

<sup>117</sup> s 16(4) of ROICA.

<sup>118</sup> s 16(5)(a)(i) of ROICA. A ‘serious offence’ would include organised crime, conspiracies or offences that are financially lucrative for those committing them, as well as the 14 offences listed in the Schedule to ROICA. These include inter alia treason, terrorism, offences that result in a loss of life, genocide, crimes against humanity, war crimes and offences for which punishment may be imprisonment for life or for at least five years without an option of a fine.

<sup>119</sup> *Hyundai* (note 31 above).

<sup>120</sup> s 16(5)(a)(ii) and (iii) of ROICA.

<sup>121</sup> s 16(5)(a)(iv) of ROICA.



- The information concerns property that is or could probably be used in the commission of a serious offence or is or could probably be the proceeds of unlawful activities.<sup>122</sup>

(In terms of the IM Act a designated judge can issue a direction on the grounds contained in the written application if the judge is convinced that the communication sought to be intercepted or monitored involved a serious offence that cannot properly be investigated in any other manner<sup>123</sup> or that it was necessary to preserve the security of the country.<sup>124</sup> As indicated above, in terms of ROICA a designated judge would need to be 'satisfied' of the aforementioned criteria before granting a direction.<sup>125</sup> In practice, the distinction between the provision contained in the IM Act and ROICA may have the effect that a judge would no longer need to be assured that the direction is essential for the purpose for which it is being sought, but can take the view that on a balance of probabilities it appears to be the case.)

- In terms of ROICA the judge must be satisfied on the facts alleged in the application that there are reasonable grounds to believe that the interception of the particular communications concerning the relevant ground referred to in section 16(5)(a) of ROICA as indicated above, will be obtained by means of such interception direction.<sup>126</sup> In addition, the judge must be satisfied that the facilities from which, or the place at which, the communications are to be intercepted are being used, or are about to be used, in connection with the relevant grounds referred to in section 16(5)(a) of ROICA (as set out in the application) are commonly used by the person or customer in respect of whom the application for the interception direction is made.<sup>127</sup>

The judge must further be satisfied, in respect of a direction being sought relating to serious offences, potential threats to the public health or safety, national security or national economic interests, requests for international mutual legal assistance relating to organised crime and terrorism, and property which is or can be used in a serious offence or is the proceeds of unlawful activity,<sup>128</sup> that other investigative procedures have been applied and

- have failed to produce the required evidence, or
- reasonably appear to be unlikely to succeed if used, or
- are likely to be too dangerous to use in order to obtain the required evidence.<sup>129</sup>

In addition, there must be reasonable grounds to believe that the offence cannot be adequately investigated or the information cannot adequately be obtained in

<sup>122</sup> s 16(5)(a)(v) of ROICA.

<sup>123</sup> s 3(6) of the IM Act. The IM Act defines a 'serious offence' with reference to Schedule 1 of the Criminal Procedure Act, 51 of 1977, ss 13(f) and 14(b) of the Drugs and Drug Trafficking Act, 140 of 1992 and offences defined in s 2 of the National Prosecuting Authority Act, 32 of 1998. It excluded specific types of murder as well as, inter alia, rape and robbery, unless these were committed on an organised basis.

<sup>124</sup> s 3(1)(b) read with s 3(6) of the IM Act.

<sup>125</sup> s 16(5) of ROICA.

<sup>126</sup> s 16(5)(b)(i) of ROICA.

<sup>127</sup> s 16(5)(b)(ii) of ROICA.

<sup>128</sup> s 16(5)(a)(i), (iii), (iv) and (v) of ROICA.

<sup>129</sup> s 16(5)(c) of ROICA.

another appropriate manner.<sup>130</sup> This, however, does not apply in respect of serious offences involving organised crime or property used as an instrument of a serious offence and which could be the proceeds of unlawful activities.

## 5.2 Written and oral applications

An application for an interception direction in terms of section 16(2) of ROICA must:

- be in writing, save where ROICA allows for oral applications;
- indicate the identity of the applicant;
- contain the identity of the law-enforcement officer who will execute the interception direction, if known and appropriate;
- contain the identity of the person or customer, if known, whose communication is to be intercepted; and
- contain the identity the PSP or TSP to whom the direction is to be addressed, if applicable.<sup>131</sup>

An applicant who applies for an interception direction may in his or her application also apply for an entry warrant or do so at any stage after the issuing of the interception direction but before the expiry of the period for which it has been issued.<sup>132</sup> The application must specify the grounds on which the direction is sought and contain full particulars of all the facts and circumstances alleged by the applicant in support of the application, including:

- a description of the nature and location and facilities from which, or the place at which, the communication is to be intercepted, if known;
- the type of communication required to be intercepted; and
- the basis for believing that the evidence relating to the grounds on which the application is made will be obtained through the interception.<sup>133</sup>

An application for a direction must further indicate the period for which the direction is required and whether any previous application had been made in respect of the same person or customer, facility or place specified in the application and, if such previous application exists, the current status thereof.<sup>134</sup> In addition, the application must comply with any supplementary directives relating to applications for interception directions that may have been issued under section 58 of ROICA.<sup>135</sup> ROICA also makes provision for the oral application for a direction or an entry warrant:<sup>136</sup>

- by an applicant who would be entitled to make such an application in writing;

<sup>130</sup> s 16(5)(c) of ROICA.

<sup>131</sup> s 16(2)(a) read with s 16(6) of ROICA.

<sup>132</sup> s 22(1) of ROICA.

<sup>133</sup> s 16(2)(b)-(d) of ROICA.

<sup>134</sup> s 16(6)(d) of ROICA. It may be issued only for a period not exceeding three months at a time, although this period may be extended on application for a further period not exceeding three months.

<sup>135</sup> s 58 provides that a designated judge or, if there is more than one designated judge, all the designated judges jointly, may, after consultation with the respective Judge-Presidents of the High Courts, issue directives to supplement the procedure for making applications for the issuing of directions or entry warrants in terms of ROICA.

<sup>136</sup> Generally, all applications, directions and requests for entry warrants must be in writing: see s 23(5) of ROICA.

- if the applicant is of the opinion that it is not reasonably practicable, having regard to the urgency of the case or the existence of exceptional circumstances, to make a written application;<sup>137</sup>
- which application must contain such information as required by ROICA for the written application; and
- which application must indicate the particulars of the urgency of the case or the exceptional circumstances which, in the opinion of the applicant, justify the oral application and must comply with any supplementary directives relating to oral applications issued under section 58 of ROICA which may exist.<sup>138</sup>

A designated judge has a discretion whether to grant an oral application and can do so only if he or she is satisfied, on the facts alleged in the oral application, that there are reasonable grounds to believe that the direction or entry warrant applied for could be issued, that such a direction is immediately necessary on any of the grounds referred to in the relevant sections of ROICA and that it is not reasonably practicable to make a written application for the issuing of a direction or entry warrant.<sup>139</sup>

The applicant, however, must submit a written application to the designated judge concerned within 48 hours after the issuing of the oral direction or entry warrant.<sup>140</sup> In instances where a judge issues an oral direction, the judge must inform the applicant orally and, if applicable, the PSP or TSP to whom it is addressed, of such an oral direction or oral entry warrant, including the contents thereof and the period for which it has been issued, and must confirm that oral direction or oral entry warrant in writing within 12 hours after issuing it.<sup>141</sup>

### 5.3 Communication-related directions

ROICA also provides specific procedures for applying for, and issuing directions for real-time, communication-related information,<sup>142</sup> a combination-type application,<sup>143</sup> archived communication-related directions,<sup>144</sup> and decryption directions.<sup>145</sup> The procedure and the requirements to be fulfilled are essentially the same as those described above.

Decryption directions, however, are directed at persons in possession of any key, mathematical formula, code, password, algorithm or any other data which is used to allow access to encrypted information or to facilitate the putting of encrypted information into an intelligible form (decryption key) for purposes of subsequent decryption of encrypted information relating to indirect communications. Such person would be directed to disclose the decryption key or provide decryption assistance in respect of encrypted information. The designated judge must consider not only the efficacy of the interception direction without the decryption

<sup>137</sup> s 23(1) of ROICA.

<sup>138</sup> s 23(2) of ROICA.

<sup>139</sup> s 23(4) of ROICA.

<sup>140</sup> s 23(4)(b) of ROICA.

<sup>141</sup> s 23(10) read with s 23(7) and (8) of ROICA.

<sup>142</sup> s 17 of ROICA.

<sup>143</sup> s 18 of ROICA. There was no similar provision in the IM Act.

<sup>144</sup> s 19 of ROICA.

<sup>145</sup> s 21 of ROICA.

key or assistance, but also any adverse effect that the decryption direction may have on the business of the DKH.

## 5.4 Entry warrants

As already stated, an applicant for a direction may in the same application apply for an entry warrant or apply at any stage after the interception direction has been issued but before the expiry of the period or extended period for which the direction has been issued. Such applications for entry warrants must be writing, unless done orally under the circumstances explained above.<sup>146</sup> The application must indicate:

- the identity of the applicant;
- the premises in respect of which the entry warrant is required to be issued; and
- the specific purpose for which the application is made.

If the application is made only after an interception direction has been issued, then proof of the interception direction must be provided. This should be done by way of an affidavit setting forth the results obtained from the interception direction from the date of its issuance up to the date on which the application for the entry warrant is made. Alternatively, a reasonable explanation for the failure to obtain the aforementioned results must be provided.<sup>147</sup>

The applicant must also indicate whether a previous application for an entry warrant for the same purpose, or in respect of the premises specified in the application, has been issued, and the status thereof. The applicant also has to comply with any supplementary directives relating to applications for entry warrants that may have been issued.<sup>148</sup>

A designated judge has a discretion whether or not to issue an entry warrant, and will do so only if he or she is satisfied, on the facts alleged in the application, that entry onto the premises concerned is necessary for the purpose of intercepting a postal article or a communication or for the purpose of installing, maintaining or removing an interception device on or from any premises. The judge must also be satisfied that there are reasonable grounds to believe that it would be impracticable to intercept a communication under the interception direction concerned otherwise than by the use of an interception device installed on the premises.<sup>149</sup>

## 5.5 Execution of directions

Only a law-enforcement officer may execute a direction issued in terms of ROICA,<sup>150</sup> and must do so in the circumstances prescribed by ROICA. An applicant for a direction may authorise any number of authorised persons<sup>151</sup> deemed necessary to assist with the execution of the direction.<sup>152</sup> The direction may

<sup>146</sup> § 22(1) of ROICA.

<sup>147</sup> § 22(2)(b)(ii) of ROICA.

<sup>148</sup> § 22(2) of ROICA.

<sup>149</sup> § 22(3) and (4) of ROICA.

<sup>150</sup> § 26(1) of ROICA.

<sup>151</sup> An 'authorised person' is defined in s 1 of the ROICA as any '(a) law-enforcement officer who may in terms of s 26(1)(a)(i) execute a direction, or (b) law-enforcement officer or other person who may, in terms of s 26(1)(a)(ii), assist with the execution of a direction.'

<sup>152</sup> § 26(2) of ROICA.

be executed at any place in South Africa and in respect of any communication in the course of its occurrence or transmission to which the direction applies.<sup>153</sup> ROICA also regulates how postal articles taken into possession in the execution of a direction are to be dealt with.<sup>154</sup> In terms of ROICA, non-compliance with an interception direction is a criminal offence. This is not the case under the IM Act.

## 5.6 Fair procedures

Similar to the IM Act,<sup>155</sup> an application for a direction must be considered and an interception direction is likely to be issued without any notice to the person or customer to whom the application applies. Such person or customer is also not given a prior hearing in respect of such application.<sup>156</sup> The lack of a prior hearing is an invariable consequence of interception and monitoring in instances where it remains the only feasible and appropriate means to investigate crimes. Circumstances may well arise where an affected person is afforded a hearing subsequent to the issuance of a direction. This may occur where it would not defeat the objectives of the direction and when the affected person seeks to challenge the procedural validity of the direction granted. A hearing might also deal with the return of postal articles or recordings or transcripts or the use to be made of them. The exclusion of a right to be heard in all circumstances may constitute an infringement of the right to fair administrative action<sup>157</sup> or the right of access to Court or another tribunal, as the case may be,<sup>158</sup> as well as an infringement of the rights to privacy and freedom of expression.

In terms of section 16(10)(a) of ROICA, a TSP to whom an interception direction relating to an indirect communication is addressed may in writing apply to a designated judge for an amendment or a cancellation of an interception direction on the basis that his or her assistance with respect to the interception thereof cannot be performed in a timely or reasonable fashion. The judge must then inform the applicant of the request and consider and give a decision in respect of such request.<sup>159</sup> ROICA does not contemplate the applicant being given a hearing prior to the judge making such a decision.

## 6. OBLIGATIONS ON THE INDUSTRY

### 6.1 Generally

A TSP is defined in ROICA as:

- a person who provides a telecommunication service under and in accordance with a telecommunication service licence issued to such person under chapter V of the Telecommunications Act, and includes any person who provides:
- a local access telecommunication service, public payphone service, Vans or PTN as defined in the Telecommunications Act, or

<sup>153</sup> s 26(3) of ROICA.

<sup>154</sup> s 26(4) of ROICA.

<sup>155</sup> s 3(a) and (b) of the IM Act.

<sup>156</sup> s 16(7) of ROICA.

<sup>157</sup> s 33 of the final Constitution read with the provisions of the Promotion of Administrative Justice Act, 3 of 2000.

<sup>158</sup> s 34 of the final Constitution.

<sup>159</sup> s 16(10) of ROICA.

- any other telecommunication service licensed or deemed to be licensed or exempted from being licensed as such in terms of the Telecommunications Act, and
- Internet service providers (ISPs).<sup>160</sup>

In terms of the IM Act, the supplier of a postal or telecommunications service is obliged to follow directions and hand over the intercepted information to the person authorised to execute the direction. The industry also has to make available the necessary facilities and devices to enable the interception and monitoring of the conversations or communications to which the direction applies.<sup>161</sup> However, the industry is reimbursed for any costs incurred as a result of any action taken in terms of the IM Act either on an agreed basis or, if there is no agreement, a reasonable remuneration has to be determined by the Minister of Communications with the concurrence of the Minister of State Expenditure, or his successor-in-law.<sup>162</sup>

ROICA imposes certain obligations on TSPs to facilitate interception and to monitor communications, including the obligation to 'store communication-related information' and to ensure that they have the capability to intercept and monitor communications.<sup>163</sup> The obligations placed on the industry by ROICA are more onerous and do not contemplate reimbursement of costs as is contemplated in the IM Act.<sup>164</sup>

In practical terms, these obligations involve a number of TSP licensees being forced to install data capturing devices at each place where customer lines terminate in order to comply with the provisions of ROICA. This is an onerous burden to place, in particular, on smaller ISPs such as universities and Internet cafés and smaller companies — all of which would have to comply with the obligations imposed on TSPs.

Under ROICA, the Minister of Communications, in consultation with the Minister of Justice and Constitutional Development and other relevant Ministers, and after consultation with Icasa and the TSP or category of TSPs concerned, must, on the date of the issuing of a telecommunication service licence, under the Telecommunications Act, issue a directive to the TSPs concerned determining -

- the manner in which telecommunications services, that are capable of being intercepted, are to be provided, and the manner in which communication-related information is to be stored;
- the security, technical and functional requirements of the facilities and devices to be acquired by the TSP to enable the interception of indirect communications in terms of ROICA, and the storing of communication-related information in terms of section 30(1)(b) of ROICA;
- the type of communication-related information that must be stored in terms of section 30(1)(b) of ROICA and the period for which such information

<sup>160</sup> s 1 of ROICA defines an ISP as any person who provides access to, or any other service related to the Internet to another person whether or not such access or service is provided under and in accordance with a telecommunication service licence issued in terms of the Telecommunications Act.

<sup>161</sup> s 5(1) of the IM Act.

<sup>162</sup> s 5(2) and (3) of the IM Act.

<sup>163</sup> s 30(1) of ROICA.

<sup>164</sup> Chapters 5 and 7 of ROICA.

must be stored, which period may, subject to section 30(8) of ROICA, not be less than three years and not more than five years from the date of the transmission of the indirect communication to which that communication-related information relates.<sup>165</sup>

In addition, the storage period for such information — that may not be less than three months and not more than six months from the date on which a directive referred to in section 30(2)(a) of ROICA is issued — must be determined and recorded in the directive concerned.<sup>166</sup> It is evident from section 30(7) of ROICA that the aforementioned provisions would apply equally to existing licence holders. In this regard the Minister of Communications must, within two months after the date of the commencement of ROICA, and in consultation with the Minister of Justice and Constitutional Development and other relevant Ministers, and after consultation with Icasa and a TSP or category of TSPs to whom a telecommunications service licence has been issued under the Telecommunications Act, prior to the commencement date issue a directive:

- determining the manner in which the TSP would provide a telecommunication service that has the capability to be intercepted and is able to store communication-related information;
- indicating the security, technical and functional requirements of the facilities and devices to be acquired by the TSP, to enable the interception of indirect communications in terms of ROICA and the storing of communication-related information;
- indicating the type of communication-related information that must be stored and the period for which such information must be stored; and
- determining a period (which may not be less than three months and not more than six months from the date on which the directive is issued) for compliance with such a directive, and the period so determined must be mentioned in the directive concerned.<sup>167</sup>

## 6.2 Costs

The implementation of ROICA has far more onerous cost implications for the telecommunication industry than that of the IM Act. The set up costs for purposes of intercepting and monitoring communications and retaining information relating to communication as contemplated in ROICA have not been calculated, but they are likely to be exorbitant for the telecommunications industry as a whole. This is particularly so as TSPs have to carry the investment, technical, maintenance and operating costs of complying with ROICA.<sup>168</sup> Notwithstanding any other law, agreement or licence, a TSP must, unless granted an exemption,<sup>169</sup> at own cost

<sup>165</sup> s 30(2)(a) of ROICA.

<sup>166</sup> s 30(2) of ROICA.

<sup>167</sup> s 30(7) of ROICA.

<sup>168</sup> s 30(5) of ROICA.

<sup>169</sup> In terms of s 46(1)(a) of ROICA the Minister of Justice and Constitutional Development may, upon application and in consultation with the relevant Ministers, exempt ISPs from complying with s 30(4) in respect of the facilities and devices as referred to in s 30(2)(a)(ii) for such period and on such conditions as the Minister determines. Such a condition may include that an ISP to whom an exemption has been granted must pay an annual contribution to the Internet Service Providers Assistance Fund established in terms of s 38(1) of ROICA.

acquire, whether by purchasing or leasing, the facilities and devices which it requires in order to provide the interception capability and storage capacity which it is directed to have in place in terms of ROICA and/or a telecommunications licence.<sup>170</sup> The forms of assistance and applicable tariffs of compensation are still to be determined. Compensation payable to a PSP, TSP or DKH for providing the prescribed forms of assistance in the execution of a direction will only be in respect of direct costs incurred in respect of personnel and administration required for providing any forms of assistance.<sup>171</sup> The compensation due is likely to be negligible in comparison to the total costs to be incurred.

In the course of executing an interception direction TSPs will be required to route any call information and/or signals of conversations or communications to a designated interception centre.<sup>172</sup> It is not clear whether this means that TSPs would have to pay for a circuit to the central facility, and whether the TSP would be responsible for decoding packet information into a recognisable format as well, or both. It is, however, contemplated that the State will pay for connections between the telecommunications systems and interception centres.<sup>173</sup>

The cost obligations contained in ROICA were vigorously opposed during the SALC public process and in ensuing public debates leading up to the promulgation of ROICA. The SALC took note of the opposing views of ROICA. The cellular service providers (Mobile Telephone Networks (MTN) and Vodacom) and Telkom were of the view that they pay their taxes and that the revenue derived from these taxes should be appropriately directed to the implementation of ROICA. This, they contended, was so, particularly as law-enforcement, for which the interception and monitoring is a primary focus, is quintessentially a function of the State. It emerged from the SALC public consultative process that the SALC approach was premised on the view that TSPs are in possession of a very productive and lucrative resource and that it is therefore appropriate in the circumstances that they should bear particular obligations in respect of the implementation of ROICA. This appears to be the rationale underlying the SALC's view that it is entirely appropriate that TSPs should bear the costs of interception and monitoring as provided for in ROICA.<sup>174</sup>

It is clear from the foregoing that it is anticipated that an overwhelming amount of the costs of implementing ROICA and creating the regime for interception and monitoring will be borne by the industry. It is evident from the definition of a TSP that it includes companies that provide Internet access to employees, universities that provide Internet access to students, and Internet cafés. Accordingly, any and every supplier of telecommunications services is obliged to ensure that their supplied services have the appropriate mechanisms in place to allow for the interception and monitoring of communications.

The SALC report concluded that the obligations placed on TSPs to some extent accord with the obligations placed on TSPs in France, Belgium, Germany, the Netherlands, Australia and the United States in that the foreign TSPs also bear the responsibility of providing telecommunication systems capable of being monitored and able to store communication-related information and to do so for

<sup>170</sup> s 30(4) read with s 30(2)(a) of ROICA.

<sup>171</sup> s 31(3) of ROICA.

<sup>172</sup> s 28(1)(b)(i) of ROICA.

<sup>173</sup> Established in terms of ss 32 and 33 of ROICA. X Kritsos 'New Legislation Regulating the Interception of Communications in South Africa' in vol 3, issue 1 (January 2003) *World Data Protection Report* 12.

<sup>174</sup> SALC Report (note 5 above) paras 12.2.9.16-12.2.9.19.



at least three years in most instances. Clearly the approach adopted is not novel, but is in line with the international trend of placing the cost burden for creating the capability to intercept and monitor on a TSP.<sup>175</sup> Although the SALC does not offer a justification for recommending that such costs be borne by the industry, it stands to reason that if it is the industry that imposes technological advancements in telecommunications, such advancements would have to be consistent with national legislation and as such be capable of interception and monitoring and be able to store information. In doing so, the State would not have to bear the responsibility and cost of creating the means to ensure that every newly developed telecommunication system can be intercepted.

The reality of these provisions is that the costs incurred will simply be passed from the industry to the consumer and will result in increased costs of telecommunications. Estimates reported for companies to implement the new monitoring and interception requirements contained in ROICA have been as high as R500 000.<sup>176</sup> Failure on the part of TSPs to comply with the provisions of ROICA could result in excessive fines and/or a licence being revoked.<sup>177</sup>

International experience has shown that the transfer of the liability of costs to the private sector is likely to have severe consequences, in particular, for smaller services providers. In the Netherlands, for example, the Telecommunications Act, 1998 imposes a similar burden on TSPs as ROICA does, and the costs for creating the interception capability are also not compensated for by the government. Certain costs were borne by the State, for example costs relating to security investigations, the costs of the installation of monitoring rooms and the rental of the communications lines to the monitoring centres, and the administrative and personnel costs relating to specific monitoring or requests for call-related information.<sup>178</sup> However, in imposing such costs on the industry, the government did not assess the probable costs and it was particularly difficult for ISPs to implement, as there was little experience in creating such capabilities in their networks. This led to an increase in the price of Internet access in the Netherlands and a mass closure of small ISPs. After much lobbying, the deadline for lawful interception implementation was delayed for ISPs.<sup>179</sup> In Australia, carriers are also obliged to develop and implement, at their own expense, an interception capability. The costs and burden upon the operators have proven more difficult and expensive than anticipated. As a result, the carriers were given both a waiver from the requirement for several years and were subsidised in respect of the costs of creating systems capable of being intercepted.<sup>180</sup>

ROICA may very well have the same effect in South Africa. However, the burdens and obligations placed on the telecommunications industry can be assessed fully only once the Minister of Communications has issued the directives contemplated by ROICA. On 30 October 2003, a notice was published in the Government Gazette inviting all TSPs to participate in the process of drafting

<sup>175</sup> SALC Report (note 5 above) para 11.4.

<sup>176</sup> Telkom, in its submissions to the Justice and Constitutional Development Portfolio Committee on the draft ROICA Bill, indicated that the costs of attempted compliance were estimated at R500 000 and that the final cost could be much higher, depending on ministerial directives.

<sup>177</sup> s 51 of ROICA.

<sup>178</sup> SALC Report (note 5 above) paras 4.7 and 4.8.

<sup>179</sup> Privacy International's submissions to the Justice and Constitutional Development Portfolio Committee on the Interception Bill dated 13 August 2001, 7-8.

<sup>180</sup> Privacy International's submissions (note 181 above).

directives anticipated by section 30 of ROICA.<sup>181</sup> Draft directives were attached and TSPs were invited to comment on or before 30 November 2003. It is contemplated that the draft directives will be the subject of public debate. As at July 2004, this process was still ongoing.

Clearly, in light of the foregoing the costs of installing the requisite equipment to implement interception and monitoring as contained in ROICA are high. This is likely to have a negative effect on the telecommunications industry and its efforts to increase access to communication in South Africa.

### 6.3 Data retention

ROICA provides for the retention of data by the TSP for a period as specified in a directive (which will be between three and five years from the date of transmission of an indirect communication).<sup>182</sup> There is concern that the retention of data that serves no business purpose imposes serious and ongoing costs on TSPs, in addition to the capital expenditure required to obtain the equipment to facilitate the interception and storage of communications. The period required for data retention by ROICA (three to five years) is considerably longer than the periods required for data retention in a number of other jurisdictions (eg the United Kingdom (six to twelve months) and the Netherlands (three months)). Also, a number of other jurisdictions, including Australia, Canada and the United States, favour targeted data preservation (the storage of a subset of data pursuant to a specific official request for such data), as opposed to the wholesale data retention required by ROICA. This is less costly and less damaging to the public confidence in communications networks whilst at the same time it adequately provides for law-enforcement goals to be met.<sup>183</sup>

The Austrian Federal Constitutional Court held that the Austrian law that compels telecommunication companies and ISPs to implement data retention measures at their own expense is unconstitutional.<sup>184</sup> As far as can be ascertained, this appears to be the only decision of this notice internationally.

Problems encountered by small ISPs attempting to comply with interception capability or storage requirements may be averted by an ISP applying for an exemption in terms of section 46(1)(a)(i) of ROICA. However, such exemptions are not available to small TSPs which are not ISPs. A condition to the granting of such an exemption is that the ISP would be expected to pay an annual contribution to the Internet Service Providers Assistance Fund established in terms of section 38 of ROICA. It is specifically contemplated that such exemptions will be granted to ISPs carrying on small businesses, in which case even though the ISP will still be subject to all the other provisions of ROICA, the law-enforcement agency that makes an application for the issuing of a direction to such ISP must make available the necessary facilities and devices to execute that direction.<sup>185</sup>

<sup>181</sup> GN 3159/2003 GG 25653 dated 30 October 2003; GN 2611/2003 GG 25597 dated 16 October 2003.

<sup>182</sup> s 30(2)(a)(iii) of ROICA.

<sup>183</sup> Kritsos *New Legislation Regulating the Interception of Communications in South Africa* (note 166 above) 12.

<sup>184</sup> Available on Quicklinks issue 268 (April 2003); available at <http://www.qlinks.net/quicklinks/ecoutes.htm>.

<sup>185</sup> s 46(2)(a) read with s 46(7) of ROICA.

## 6.4 Cellular phones and SIM-cards

ROICA also contains burdensome provisions relating to cellular phones and subscriber identity module (SIM) cards. It compels every cellular TSP and person who sells cellular phones and SIM-cards to obtain and retain information on persons to whom it contracts to provide a telecommunications service, cellular phone or SIM-card. The information required to be obtained includes the full names, identity number and addresses of the customer or the person representing a customer that is a juristic person, and the business name, address and registration number of a customer that is a juristic person. In addition, the provider of the cellular service, cellular phone or SIM-card must obtain and retain a certified copy of the identity document of the customer or person representing a customer that is a juristic person, as well as a certified copy of the business letterhead (or similar document) of a customer that is a juristic person.<sup>186</sup> Many current business practices relating to the sale of pre-paid cellular services would be inconsistent with the provisions of ROICA.

Cellular service providers must also keep records of the information described above as well as the telephone number or any other number allocated to the person concerned, and any other information that the cellular service provider may require to identify that person. Persons who sell cellular phones or SIM-cards must also retain the number of the cellular phone. TSPs who receive a request in writing to provide the information requested in terms of ROICA must comply immediately with such a request - failure to do so is a criminal offence.<sup>187</sup>

Transitional provisions contained in ROICA provide that any person who, at the time ROICA comes into force, is the owner of a cellular phone or SIM-card must provide the information described above to the person who provided the cellular phone or SIM-card to him or her. The timeframes for the provision of this information are still to be prescribed by the Minister of Justice and Constitutional Development. Given the growth of the cellular industry and the number of persons who have pre-paid cellular telecommunication services, especially in rural areas, it is not likely that compliance with this provision will be possible. This obligation would have to be widely publicised in order to have any effect and to ensure comprehensive compliance. However, non-compliance with this provision does not constitute an offence in terms of ROICA. MTN, in its written submissions to the Parliamentary Justice and Constitutional Development Portfolio Committee, indicated that there were approximately five million pre-paid users who do not have identities attached to them. Moreover, as a number of the distribution outlets in South Africa are informal suppliers (street vendors, spaza shops), it is not feasible for identities to be attached to buyers of cellular phones and cellular phone-related products. Presumably, the purpose sought to be achieved by this provision is to curb the theft of cellular phones and to be able to trace those cellular phones that are used in crime-related activities.

<sup>186</sup> s 39(1) of ROICA.

<sup>187</sup> s 39(3) and (4) read with s 51(3) of ROICA.

## Conclusion

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ROICA extensively regulates interception and monitoring of direct and indirect communication and provides the conditions that must be met in order for such interception and monitoring to occur. Although ROICA prohibits the blanket interception and monitoring of communications, it sets out in great detail the circumstances that would have to be met in order for such interception and monitoring to occur and the mechanisms that have to be invoked.

ROICA is not yet in force. Given that this process had commenced in 1995, the delay in bringing this legislation into force has been not only inordinate, but may well be an indication of the difficulties surrounding the enforcement and compliance therewith. The directives contemplated in ROICA are in the process of being drafted and have been for some time. The set up costs for enforcement on the part of government to implement ROICA may very well be a further reason for delaying its implementation. Furthermore, at the hearings before the Portfolio Committee on Justice and Constitutional Development, it was submitted on behalf of the National Director of Public Prosecutions that they had resorted to using the IM Act on only a handful of occasions. As this is the law-enforcement agency most likely to invoke ROICA for purposes of combating crime, it may be that South Africa has developed sophisticated legislation, on par with international standards, that may be excessive given its ostensible objective: crime control, and by having done is placing unnecessarily onerous burdens on a fledging and yet rapidly growing industry.

Finally, although there is currently no data protection legislation in South Africa, such legislation is in the pipeline. Once legislation is promulgated in respect thereof, ROICA and the exceptions to the prohibition on interception will have to be read together with that legislation. It may well be appropriate for both legislation to come into force simultaneously.

## Postscript

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Communications and therefore communications policy and law are ever changing. The cut-off date used for this book in respect of policy, legal and regulatory activity was June/July 2004. Since then (it is now April 2006), some things have changed. This postscript is intended to highlight some of the major changes.

Although some of the substantive detail set out in the individual chapters will no longer be accurate due to the passage of time, structurally, the chapters are sound and the majority of the information contained therein is up to date even after the passage of time. That said, any person relying on the information provided in this book must verify whether the policy or law has changed in any relevant respect. Indeed, we write this postscript knowing that once published, it will likely be out of date in certain respects.

### 1. POLICY

What has had the most impact on a changed regulatory environment for communications over the past two years is the Minister's lifting of certain restrictions that had been placed in the Telecommunications Act (the February 2005 Liberalisations).

Other activities have had less of an impact simply because the processes are not complete. However, we mention them here due to their anticipated significance to the industry. The activities include the Electronic Communications Act, the Icasa Amendment Bill and the Black Economic Empowerment Charter for the ICT Sector.

#### 1.1 February 2005 Liberalisations

Effective 1 February 2005, the Minister of Communications introduced several measures intending to usher in some liberalisation in communications regulation. The measures are set out in Notice 1924 of 2004 published in Government Gazette No 26763 dated September 3, 2004 (the Minister's Notice). The Minister's Notice lifted restrictions or obligations set out in the Telecommunications Act in relation to mobile cellular telecommunications services (MCTS), value added network services (Vans), private telecommunication network (PTN) services and public pay phone services, and introduced discounted fees and charges for Internet services for public schools and further education and training institutions.

The following specific measures were introduced by the Minister's Notice:

- The restriction on Vans licensees regarding voice was lifted. Vans licensees as of 1 February 2005, may allow their networks to be used for the carriage of voice.
- The obligation for MCTS and Vans licensees to obtain the telecommunication facilities used to build their networks from Telkom was lifted. MCTS and Vans

licensees as of 1 February 2005, may self provide the telecommunication facilities they use to build their networks or they may obtain such facilities from any other party licensed to provide such facilities, including other MCTS and Vans licensees.

- The restriction on Vans and PTN licensees, not allowing them to resell excess capacity, was lifted. Vans and PTN licensees as of 1 February 2005 may resell spare capacity on the telecommunication facilities they have obtained (whether from Telkom or any other person).
- Anyone as of 1 February 2005 may apply for a licence to provide PSTS public pay phone services.
- Public schools and further education institutions as of 18 January 2005 are entitled to a 50 percent discount on Internet connection and Internet services fees.

There has been some controversy over the Minister's Notice. This is certainly the case in respect of the question whether Vans licensees may self-provide telecommunication facilities. A press release issued by the Minister of Communications prior to February 2005 cast doubt on the proper interpretation of the Minister's Notice. In the result, Icasa had been hampered in implementing the Minister's Notice in respect of Vans because the Minister refused to approve and publish Vans regulations where the regulations referred to self-provisioning of telecommunication facilities. That impasse was finally resolved by the deletion of any mention of self-provisioning in the regulations.

The Minister's Notice has also not been implemented, most notably in respect of public pay phone services and discounts for Internet and related access services to public schools.

## 1.2 Electronic Communications Act

In December 2003, the Department of Communications presented a Draft Convergence Bill for public comment. The President has signed the legislation into law, with a name change to the Electronic Communications Act in April 2006, but it will only come into force and effect on a date yet to be proclaimed.

The Electronic Communications Act is South Africa's substantive regulatory response to convergence. It repeals most of the existing telecommunications and broadcasting legislation. Not unlike the current legislation, the objects of the Bill deal with both economic and social imperatives.

The Act sets out categories of services and deals with licensing issues. The Act also deals with the radio frequency spectrum and equipment standards and approval. It regulates with regard to rights of way and related issues for communications network services, for interconnection and facilities leasing, pricing, numbering, and universal service. It also delineates the spheres of regulation of Icasa, the independent regulator on the one hand and the Minister of Communications on the other hand.

The most significant changes that will be brought about by the Act are changes to the market structure and licensing. Under the converged regime, there will be the following types of services providers.

- Communications network service licensees

- communications service licensees; and
- broadcasting service licensees

Services providers must obtain either an individual or class licence, or be exempt from licensing. The legislation also sets out examples of each of the categories: individual, class and exempt. Individual licences include:

- Communications networks of national or provincial scale operated for profit;
- Commercial broadcasting and public broadcasting of national or provincial scale whether free to air or subscription;
- Voice telephony communications services that use numbers from the national numbering plan; and
- Communications network, communications or broadcasting services where a state entity owns more than 25 percent.

Class licences include:

- Communications networks of municipal scale operated for profit; and
- Community broadcasting and low power services whether free to air or subscription.

Exempt services include:

- Communications services provided not for profit;
- Communications services provided by resellers;
- Private communications networks (where excess capacity is not resold); and
- Local area networks.

### **1.3 Icasa Amendment Bill**

At the time of signing the Electronic Communications Act, the President sent the Icasa Amendment Bill, back to Parliament for reconsideration of the manner in which councillors are appointed.

In terms of the Bill the amendments to the Icasa Act include two major changes. First, postal matters are brought into the responsibilities of Icasa. Second, the manner in which councillors are appointed has changed, to a process where Parliament and the President are involved to one where the Minister of Communications does the appointing on the recommendation of a panel also appointed by the Minister.

The other amendments are consequential to the Electronic Communications Act or re-enact certain procedural matters that previously appeared in the Telecommunications Act or the broadcasting legislation, including the following.

- Register of licences
- Enquiries
- Confidential information
- Performance management system

- Minutes of meetings
- Appointment of experts
- Complaints and Compliance Committee
- Inspectors

## 1.4 Black Economic Empowerment Charter for the ICT Sector

The final draft of the Black Economic Empowerment Charter for the ICT Sector is dated May 2005. It was presented to cabinet for approval in June 2005. It is intended, at some point, to be published in the Government Gazette as a Code of Good Practice for the ICT Sector in terms of the Broad-Based Black Economic Empowerment Act.

It deals with, among other things, the ICT Sector's commitments to the following.

- Access to ICTs
- Development of ICT enterprises
- Procurement
- Skills Development
- Employment
- Management
- Ownership

## 2 LICENSING

### 2.1 USALs

From the applications submitted in the first round of USAL licensing, the following licences have been awarded.

- Thinta Thinta Telecomms (Pty) Ltd (DC 21 Ugu District, KwaZulu-Natal)
- Bokone Telecoms (Pty) Ltd (DC 35 Capricorn District, Limpopo)
- Ilizwi Telecommunications (Pty) Ltd (DC 15 OR Tambo District, Eastern Cape)
- Kingdom Communications (Pty) Ltd (DC 26 Zululand District, KwaZulu-Natal)
- Karabo Telecoms (Pty) Ltd (DC 38 Central District, North West)
- Bokamoso Consortium (Pty) Ltd (DC 18 Lejweleputswa District, Free State)
- Amatole Telecommunications Services (Pty) Ltd (DC 12 Amatole District, Eastern Cape)

The Minister of Communications published an Invitation to Apply (Notice 20 of 2005 published in Government Gazette 27166 dated 11 January 2005) for USALs for the following additional USAL areas.

- Limpopo (CBDC 4 Bhele District Municipality and DC 34 Vhembe District Municipality)
- KwaZulu-Natal (DC 27 Umkhanyakude and DC 29 King Shaka)
- Eastern Cape (DC 13 Chris Hani and DC 14 Ukwahlamba)
- Free State (DC 20 Northern Free State and DC 19 Thabo Mafutsanyana)



- Gauteng (CBDC 2 Metsweding and CBDC 8 Westrand)
- Mpumalanga (DC 31 Nkangala and DC 30 Eastvaal)
- North West (DC 39 Bophirima and DC 37 Bojanala Platinum)

The Minister of Communications published an Invitation to Apply (Notice 192 of 2006 published in Government Gazette 28478 dated 7 February 2006) for USALs for the following additional USAL areas:

- Limpopo (DC 47 Sekhukhune and DC 33 Mopani)
- KwaZulu-Natal (DC 22 Umgungundlovu, DC 23 Uthekela, DC 24 Umzinyathi and DC 28 Uthungula)

## **2.2 SNO**

The PSTS licence was finally awarded to the SNO on 9 December 2005. SNO Telecommunications (Pty) Ltd, the licensee, is owned as follows.

- Nexus Connexion (Pty) Ltd (19 percent)
- SepCo (51 percent)
  - Tata Africa Holding (SA) (Pty) Ltd (1 percent)
  - Videsh, Sanchar, Nigam Ltd (25 percent)
  - Two Telecom Consortium (Pty) Ltd (12.5 percent)
  - CommuniTel Telecommunications (Pty) Ltd (12.5 percent)
- SoeCo (30 percent)
  - Transnet Ltd (15 percent)
  - Eskom Enterprises (Pty) Ltd (15 percent)

## **2.3 Vans**

Following the Minister's Notice liberalising the regulatory environment for, inter alia, Vans, Icasa made and the Minister approved and published, new regulations for Vans, covering licensing, licence and application fees and empowerment requirements. The Vans regulations are published in No R 490 published in Government Gazette 27608 dated 20 May 2005.

Icasa had de facto placed a moratorium on processing applications for Vans licences, which was lifted after the publication of the regulations. More than 200 licences have been issued in terms of the new regulations.

## **2.4 Pending Policy Proceedings regarding Licensing**

There are several pending noteworthy proceedings recently initiated by Icasa in respect of licensing issues.

First, Icasa issued a notice of an enquiry into a proposed licensing framework for satellite services (Notice 295 of 2006 published in Government Gazette No 28540 dated 21 February 2006).

Second, Icasa issued notice of its proposal to use channel 65 (822–830 MHz) currently in the broadcasting frequency band plan for telecommunication services (Notice 315 of

2006 published in Government Gazette No 28547 dated February 2006).

Third, Icasa issued notice of an enquiry into the use of the frequency band 5735–5875 MHz for broadband fixed wireless access (Notice 221 of 2006 published in government Gazette No 28600 dated 8 March 2006).

### 3 INTERCONNECTION

Two pending proceedings are noteworthy in respect of interconnection and facilities leasing. First, Icasa has begun proceedings to replace the existing interconnection guidelines (Notice 59 of 2005 published in Government Gazette No 27187 dated 19 January 2005) and facilities leasing guidelines (Notice 58 of 2005 published in Government Gazette No 27186 dated 19 January 2005).

Second, Icasa issued a notice of its intention to include any licensee with market share of at least 35 percent in the category of Major Operator in terms of the Interconnection Guidelines, thereby requiring them to provide Essential Services at cost based prices (either LRIC or FAC). Currently, this proceeding has been halted by a court application (Case No 22938/05 TPD).

### 4 PRICING

#### 4.1 Rate Regime Regulations for Telkom

Icasa made, and the Minister approved and published, new Telkom Price Control Regulations (No R 675 published in Government Gazette No 27772 dated 6 July 2005 and amended by No R 799 published in Government Gazette No 27875 dated 4 August 2005 to replace those regulations made in 2002.

The major changes include:

- Changing the productivity factor from 1.5% to 3.5%;
- Changing the CPI to the CPI for the month of September to the month of April;
- Adding a formula for variable component price increases;
- Adding home ADSL services to the residential sub-basket;
- The limitations with regard to Telkom changing basket services have been changed; and
- New provisions have been made with regard to changes in prices within a price control year.

#### 4.2 Pending Policy Proceedings regarding Pricing

The issue of the high costs of communications in South Africa has been on the regulatory agenda, due to, among other things, the president's state of the nation address in 2005. Several noteworthy activities have taken place or are underway.

First, the Department of Communications convened a Colloquium on the Pricing of Telecommunications in South Africa in July 2005 with the industry. A second Colloquium on Telecommunications Pricing was held in October 2005. The intended outcome of the public consultation processes was a set of recommendations to the

Ministry of Communications on ways to lower telecommunications prices.

Second, Icasa issued findings and conclusions in its enquiry into whether and how MCTS handset subsidies should be regulated, indicating that it will draft regulations necessary to protect consumers from non-transparent pricing, to protect pre-paid customers from discriminatory terms and to require contracts to be offered for periods other than 24 months (notice 227 of 2006 published in Government Gazette No 28516 dated 17 February 2006).

Third, Icasa began an enquiry (Notice 1327 of 2005 published in Government Gazette No 27854 dated 28 July 2005) into MCTS prices, indicating that there may be a need to more rigorously regulate MCTS pricing.

## **5 OTHER TELECOMMUNICATIONS REGULATIONS**

Two other regulations significant for the communications industry have been promulgated, on carrier pre-selection and on number portability.

### **5.1 Carrier Pre-selection**

The Regulations on Carrier Pre-Selection appear in Notice 975 of 2005 published in Government Gazette No 27717 dated 24 June 2005.

### **5.2 Number Portability**

The number portability regulations appear in No R 963 published in Government Gazette No 28091 dated 30 September 2005.

## **6 INTERCEPTION LEGISLATION**

The Regulation of Interception of Communications and Provision of Communication-Related Information Act came into force on 30 September 2005, with the exception of sections 40 and 62(6), which will come into effect on 30 June 2006. These dates were fixed by the President in No R 55 of 2005 published in Government Gazette No 28075 dated 30 September 2005 as amended by No R 67 of 2005 published in Government Gazette No 28282 dated 29 November 2005.

Certain regulations have been made in terms of the interception legislation. The Minister of Communications has made directives in respect of telecommunication services providers in Notice 1325 of 2005 published in Government Gazette No 28271 dated 28 November 2005. The Minister of Justice and Constitutional Development declared certain instruments listed equipment in terms of the legislation in No R 1263 of 2005 published in Government Gazette No 28371 dated 29 December 2005.

**Lisa Thornton,**  
**Director, Lisa Thornton Inc,**  
**April 2006**



## Acronyms

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COA/CAM	Chart of Accounts and Cost Allocation Manual
CPE	customer premises equipment
CSOs	community service obligations
CSTs	community service telephones
DOC	Department of Communications
ECT Act	Electronic Communications and Transactions Act, 25 of 2002
FAC	fully allocated costs
Gats	General Agreement on Trade in Services
Gatt	General Agreement on Trade and Tariffs
GMPCS	global mobile personal communications by satellite services
GSM	Global System for Mobile communications
IBA	Independent Broadcasting Authority
Icasa	Independent Communications Authority of South Africa
Icasa Act	Independent Communications Authority of South Africa Act
ICT	information, communications and technology
IEC	Independent Electoral Commission
ISP	Internet services provider
ITA	invitation to apply
ITU	International Telecommunication Union
JED	joint economic development
LAN	Local Area Network
LRIC	long-run incremental cost
MAN	metropolitan area network
MCTS	mobile cellular telecommunication services
MFN	Most Favoured Nation
MPCCs	multi-purpose community centres

NRF	National Revenue Fund
PAIA	Promotion of Access to Information Act, 2 of 2000
PAJA	Promotion of Administrative Justice Act, 3 of 2000
PFMA	Public Finance Management Act, 1 of 1999
POP	point of presence
PSTN	public switched telecommunication network
PSTS	public switched telecommunication services
SABC	South African Broadcasting Corporation
Sacba	South African Call Back Association
SACSA	South African Council for Space Affairs
SADC	Southern Africa Development Community
SALC	South African Law Review Commission
SAPO	South African Post Office
SATCC	Southern Africa Transport and Communications Commission
Satra	South African Telecommunications Regulatory Authority
Sava	South African Vans Association
Sita	State Information Technology Agency (Pty) Ltd
SLA	service level agreement
SMME	small, medium and micro enterprises
SMS	short message service
SNO	Second National Operator
USA	Universal Service Agency
USALs	under-serviced area licences
USF	Universal Service Fund
Vans	value-added network services
VPN	virtual private network
WAN	wide area network
WTO	World Trade Organisation
WWW	World Wide Web

## Profiles of Authors and Editors

**Anton Alberts** was born in Johannesburg, South Africa. He is an advocate specialising in the legal fields of entertainment law, ICT and space law. Anton regularly acts as legal counsel to foreign ICT firms investing in South Africa, ICT firms active in Canada, and several film and television production houses operating in South Africa, Canada and the United States. His career path includes lecturing in Criminal, Corporate and International Law at Technikon SA (now part of Unisa) and Rand Afrikaans University (now the University of Johannesburg), acting as head of legal affairs for M-Net, acting as legal manager at Internet Solutions (part of Dimension Data) and Shaw Communications (Canada) and later at Mobile Data Solutions Incorporated (a Vancouver-based ICT firm) for whom he still performs legal counselling. On occasion Anton provides legal services to South African-based satellite projects, ie SUNSAT. Anton received his legal education at the University of Johannesburg where he obtained the degrees, BA (Law), LLB, and LLM (International Law (Cum Laude)). He has published several legal works, most notably the Entertainment Law edition of Butterworths' Forms and Precedents and a chapter in the Internet law publication, *Cyberlaw@SA*.

**Nazreen Bawa** was born in Cape Town, South Africa. She graduated with a Bachelor of Business Science in 1993 and a Bachelor of Law (LLB) in 1995 from the University of Cape Town. In 1996/1997 Nazreen worked as a researcher at the Constitutional Court of South Africa. She was also employed as a researcher at the University of Queens, Belfast. Since 1998, Nazreen Bawa has been practising as an advocate and is a member of the Cape Town Bar. She is involved predominantly in human rights, constitutional and administrative law litigation and advises in areas of inter alia government policy, local and provincial laws, environmental law, access to information and medical negligence and legislative drafting.

**Mike Brierley** was born in Cape Town, where he attended Bishops College and UCT, obtaining a BSc Degree in Civil Engineering. Mike worked as a programmer and business analyst for Dow Chemical in Germany and Dow in Louisiana in the USA. He returned home to work for Dow South Africa in 1985, as its IT Manager. He subsequently held a number of IT management positions with listed companies, Cargo Carriers and Sappi, before joining Times Media Limited (now Johnnic Publishing) as IT Manager in January 1992. He was a founding Director of Johnnic e-Ventures and was initially responsible for the re-launch and growth of Ananzi, South Africa's leading search portal. During this period, he acquired and sold a number of small start-up businesses, which culminated in the acquisition of the ISP company Citec, which Mike now manages as his core responsibility. He is currently the Chief Executive Officer of MTN Network Solutions (Pty) Ltd.

**Yasmin Carrim** was born in Pretoria, South Africa. She graduated with a BSc LLB from UCT and completed her articles at Webber Wentzel Bowens. After working as a

researcher at the Constitutional Court Yasmin became a partner at Cheadle Thompson & Haysom. She was subsequently appointed as an Icasa Councillor and thereafter as Group Executive Regulatory Affairs at MTN. She currently serves as a full-time member on the Competition Tribunal of South Africa.

**Kerron Edmunson** was born in Durban, South Africa. She is an attorney of the High Court of South Africa and a solicitor of the Supreme Court of England and Wales. Her expertise covers new technology and communications ventures, commercial and corporate transactions in utilities, financing, and regulation. She has acted, as part of a team, for various public bodies, including the Government of the Bahamas, States of Guernsey and the telecommunications regulator in Bulgaria and Ireland in relation to privatisation of state resources and utilities and revising the telecommunications legal and regulatory framework. This has included preparing policy, legislation and licences. She has also worked in a team advising various banks and suppliers on the vendor and project financing of new utility projects. Kerron previously worked in the in-house legal department at MTN (Pty) Ltd and then worked at London law firm Denton Wilde Sapte for four years and in-house at Royal Mail plc for a year. Since her return to South Africa in January 2004, Kerron has advised on the commercial, regulatory and legal aspects of telecommunications and broadcasting in South Africa at Ashira Consulting (Pty) Ltd and Edward Nathan, where she is currently based.

**Shumani Gereda** was born in Venda, South Africa. He holds B.Luris and LLB degrees from the University of the North. Shumani was admitted as an attorney in February 2002 after serving a two-year period of articles of clerkship at the Legal Resources Centre. During 2001, Shumani completed an LLM degree focusing on Telecommunications and IT Law at the University of the Witwatersrand. In 2002, he joined the Constitutional Court and served as a law clerk to Justices Zak Yacoob and Barend Du Plessis. He was awarded an Ishmael Mohammed Scholarship to pursue an LLM degree at the University of Toronto, in Canada. In 2003, Shumani joined the Media & Technology Department of Webber Wentzel Bowens Attorneys where he practised as an attorney. In August 2003, he left South Africa to pursue an LLM degree focusing on Regulatory Laws i.e. telecommunications, intellectual property, information technology and competition law at the University of Toronto, which degree he completed in 2004. Upon his return to South Africa in 2004, Shumani joined the Competition Commission of South Africa.

**James Hodge** was born in the UK and raised in South Africa. He received his bachelors degree in business science and economics from the University of Cape Town in 1990. He then worked at Andersen Consulting in Johannesburg for a number of years before returning to the University of Cape Town in 1994 to complete his masters degree in economics. After a year teaching within the School of Economics at UCT, he took up a research post within the Development Policy Research Unit. In January 2000, he rejoined the economics department as a senior lecturer in the School of Economics. His research and teaching has focused on the economics of regulation, including the increasing inclusion of regulatory requirements in international trade agreements. Aside from publishing in a number of academic journals, James continues to do policy-



orientated research and training for the World Bank, UNCTAD, National Treasury, Department of Trade and Industry and the Competition Commission.

**Joy-Marie Lawrence** was born in South Africa. She was accepted to study the accelerated BA LLB degree, and graduated with a BA in political science and Roman Dutch law in 1994 and an LLB in 1996 from the University of Cape Town, studying both degrees concurrently. She also obtained her LLM from the University of Witwatersrand in 2002 focusing on Media and the Constitution, Space and Satellite Law, Telecommunications law and Broadcasting law. Joy-Marie completed her articles at Webber Wentzel Bowens and was admitted as an attorney in 1999. She continued working at Webber Wentzel Bowens in the Media and Technology department. In September 2000, she joined MTN as a commercial legal advisor to the MTN Group. Thereafter she worked at the SABC as the senior legal advisor attending to both regulatory and commercial legal work in the broadcasting environment. She relocated to the Western Cape and is presently the senior legal advisor for Business Connexion (formerly Comparex Africa) for the Western Cape, Port Elizabeth and East London regions. Joy-Marie also co-lectured in the Master's law class in Space and Satellite law at the University of Witwatersrand.

**Mandlesilo (Mandla) Msimang** was born in Lusaka, Zambia. She graduated with a BA in Africana Studies (magna cum laude) from Cornell University, New York in 1998. She also obtained an MSc Regulation (Utilities) from the London School of Economics in 2004. Mandla initially worked as an Assistant to the Deputy Chairperson of the South African Telecommunications Regulatory Authority (Satra). Thereafter, following the merger between SATRA and the Independent Broadcasting Authority (IBA) to form the Independent Communications Authority of South Africa (Icasa), Mandla took up a position as Senior Manager, Policy Analysis and Development, in the Telecommunications Division of Icasa, focusing on the areas of research, financial and economic analysis and competition. Mandla is currently Senior Manager: Regulatory Affairs at Cell C (Pty) Ltd. She has also done some independent consulting work including work for the International Telecommunications Union and authored a chapter on universal service best practice in ITU's Trends 2003 Report.

**Lerato Mokgosi** was born in South Africa. She has a BProc Degree from Vista University (Soweto Campus) and an LLB from the University of South Africa. She completed her articles at Maluleke Msimang and Associates (Johannesburg). She was admitted in January 2001. She then joined Madhlopa Attorneys where she focussed on telecommunications law. She subsequently worked at Simpson Thacher & Bartlett (New York) as an International Associate and JP Morgan (New York) in the Global Corporate Finance Department. She is currently working for Stanbic Africa Credit Department.

**Patric Mzolisi Mtshaulana** was born and grew up in Mount Frere, South Africa. He has a B.Luris (UFH) from the University of Fort Hare, and Meester in De Rechten (Mr) Vrije Universiteit (Amsterdam). He was admitted as a member of the Johannesburg Bar in November 1996. He has worked with the Constitutional Litigation Unit of the Legal

Resources Centre (1996), lectured at the University of the North (human rights and international law) (1993-6), served as a research assistant to Justice Chaskalson, President of the Constitutional Court (1995), and worked as a public prosecutor in Bizana (1976). He now runs his own practice as an advocate at Fountain Chambers, Sandton.

**Kameshni Pillay** was born in Durban, South Africa. She is a practising advocate of the High Court and a member of the Johannesburg Bar. Before joining the Bar, Kameshni was employed as an attorney and acting-Director of the Constitutional Litigation Unit of the Legal Resources Centre. Kameshni obtained her BA in 1994, an LLB in 1996, and an LLM (by Coursework) in 2000 from the University of the Witwatersrand.

**Pippa Reyburn** was born in South Africa. She Graduated from UCT with a BA in 1988, and an LLB (cum laude) in 1993, and obtained an LLM from the University of Toronto in 1999, in Constitutional Law. Pippa completed her articles of clerkship in Cape Town and was admitted as an attorney and conveyancer in 1996. She worked at a law firm in Cape Town from 1994 to 1996, and at the Constitutional Court during 1997 and 1998, as a researcher to Justice O'Regan. After completing her Masters degree, Pippa worked for Edward Nathan and has been there since. She works on both the constitutional and the commercial aspects of public sector transactions. This includes public sector procurement and financial management, alternative service delivery mechanisms, all aspects of regulatory law, legislative drafting, administrative justice and access to information issues, as well as contractual drafting and the commercial aspects of public private partnerships and government restructuring.

**Matthews Suping (Oupa)** was born in Johannesburg, South Africa. He obtained his BProc degree from the University of the North West. He served his articles of clerkship with Versfeld Nkosi Inc. where he was introduced to Cyber Law, under the Commercial Law Department. Oupa completed his articles in 2001 and was then appointed at the same firm of attorneys as the Manager of the Cyber Law Department and co-manager of the Commercial Law Department. In October 2002, he moved to Ncube Inc and started the ICT Law Department, which he managed as well as the Commercial Law Department. In 2004 he opened up Suping Consulting (Pty) Ltd., a consulting firm specialising in corporate and/or commercial and information, communications and technology law services.

**Lisa Allen Thornton** was born in Kentucky, USA. She graduated magna cum laude with a BA in political science and business from Georgetown College in 1985 and a JD from Georgetown University Law School in 1989. Since 1994, she has lived and worked in Africa. She has done volunteer work for the Institute for Democracy in South Africa, and has worked for the South African Independent Electoral Commission, the United Nations Operation Mozambique, and the Centre for Human Rights and served as a law clerk at the Constitutional Court of South Africa for Justice Kriegler. Lisa graduated from the University of the Witwatersrand with an LLB in 1999 (with honours in international law) and opened Lisa Thornton Inc (LTI) in 2001 as a full-service practice for the communications and media industries. Ms Thornton has been named as the

leading lawyer in the area of technology, media and communications in South Africa by Global Counsel 3000 and is included in The International Who's Who of Regulatory Communications Lawyers.

**Keith Weeks** was born in South Africa. He studied economics and econometrics at RAU and graduated cum laude with an MCom in economics in 2000. After a short period in academia, Keith moved to the Policy and Research division of the Competition Commission where he conducted research on competition policy issues and assisted with economic analysis in the investigation of mergers and acquisitions before the Commission, as well as providing economic assistance in cases heard before the Competition Tribunal. Keith was later appointed to the position of senior investigator (economist) in the Enforcement and Exemptions division of the Commission where he was responsible for managing a number of investigations into complaints of anti-competitive conduct. Keith has worked as a consultant economist at Deneys Reitz, where he assisted with economic analysis of competition law related matters, and is currently a consultant economist at the Competition Commission.

**Seena Yacoob** was born in Durban South Africa. She graduated with a BMus from the University of Durban Westville in 1996 and an LLB from the University of Cape Town in 2000. She worked as a researcher for Thornton & Morris Attorneys (now Lisa Thornton Inc) for six months, and at the Land Claims Court for two years, before becoming an advocate at the Johannesburg Bar.

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