

**IN THE MATTER HEARD BEFORE THE INDEPENDENT COMMUNICATIONS
AUTHORITY OF SOUTH AFRICA (ICASA) IN TERMS OF SECTION 100 OF THE
TELECOMMUNICATIONS ACT NO. 103 OF 1996, ON THE 31 JANUARY
2002**

TELKOM SA LIMITED	COMPLAINANT
INTERNET SOLUTIONS (PTY) LTD	RESPONDENT

RULING

1 INTRODUCTION

- 1.1 The complainant, Telkom SA Limited ('Telkom'), a duly incorporated company registered with limited liability in terms of the company laws of South Africa, filed a complaint with ICASA ('the Authority') on the 21st of December 2000, in terms of section 100 (1)(a) of the Telecommunications Act 103 of 1996, as amended ('the Act').
- 1.2 The respondent is Internet Solutions (Pty) Ltd ('IS'), a duly incorporated private company with limited liability in terms of the company laws of South Africa and a Value Added Network Service (VANS) licensee which provides Internet access services to its customers in terms of section 40 of the Act. IS responded to Telkom's complaint on 15 February 2001.
- 1.3 In terms of section 17 of the ICASA Act, the Council of the Authority established a Special Committee to consider and analyse submissions made with regard to the complaint lodged by Telkom against IS. The Council also delegated the power to make the final decision on the complaint to the Special Committee and that such decision shall be the final decision on behalf of the Authority.
- 1.4 Telkom alleged in its complaint that IS is making its telecommunications facilities available to customers through a service called IP-Net for the purpose of data communication between two points, thus constituting a private telecommunication network

(PTN). The provision of a PTN is, in Telkom's view, dependent on the use of facilities provided by a public switched telecommunications service (PSTS), which, prior to 7 May 2002, only Telkom was licensed to provide. In the event that such a service (provision of telecommunications facilities) is provided by a value-added network service (VANS) like IS, that practice conflicts with section 40(4) of the Act.

- 1.5 In its complaint, Telkom also alleged that IS was providing a private international link from the United Kingdom to KWV Ltd on the IS network. Telkom alleged that by doing this, IS was making telecommunication facilities available to KWV, which IS had leased from Telkom for the purpose of providing KWV with data communication facilities. In this manner, Telkom alleged that IS 'resells' the bandwidth it leases from Telkom in contravention of section 40(4)(a) of the Act.
- 1.6 In its response, IS stated that the IP-Net service is an enhanced Internet service which in addition to providing a customer with access to the Internet also provides security and performance through the utilisation of Multiprotocol Label Switching (MPLS) software.
- 1.7 IS denied that it makes telecommunication facilities available to a PTN or that it cedes or assigns or sublets or parts with control of or otherwise disposes of facilities in violation of section 40(4) of the Act. IS stated that it allows its IP-Net customers to make 'due and proper use' of the telecommunication facilities leased from Telkom in accordance with section 40(4) of the Act.
- 1.8 IS also denied Telkom's allegation with respect to KWV Ltd. IS stated that it provides KWV with an Internet access service and not a 'private international link'. IS denied that this involved any resale of bandwidth in contravention of section 40(4)(a) of the Act.
- 1.9 On 15 October 2001 Telkom and IS attended a second pre-hearing meeting at which the parties agreed that matter would proceed as follows:

- 1.9.1 On 7 December 2001 both Telkom and IS would exchange witness statements and all supporting documentation that they intended to rely upon.
 - 1.9.2 On 21 January 2002 Telkom would prepare and provide ICASA and IS with a bundle of documents. In addition, both parties would exchange a list of issues in dispute and not in dispute.
 - 1.9.3 On 22 January 2002 the parties would hold a pre-hearing conference.
 - 1.9.4 On 29 January 2002 the parties would submit heads of arguments and a joint document to ICASA.
 - 1.9.5 The hearing before ICASA would take place on 31 January 2002.
- 1.10 Following the exchange of witness statements, IS prepared its statement on issues in dispute on 18 January 2002 and Telkom made its statement of issues on 21 January 2002.
- 1.11 Both parties produced a joint statement of the issues in dispute on 28 January 2002, following a meeting between the parties on 22 January 2002. In terms of the joint statement:

"7. Telkom also contends that the central issue is whether IS, as part of the service which it offers to KWV is providing a point-to-point telecommunication service enabling direct point-to-point communication between the KWV office in London and the KWV office in Cape Town, and whether that telecommunication service is a VANS.

Telkom contends that the service offered to KWV:

- 7.1. Contravenes section 32 and 36 of the Act;
- 7.2. Is in contravention of IS's VANS licence in that the service permits the carrying of voice between the Cape Town offices and the London office of KWV;
- 7.3. The access granted to KWV in respect of its Cape Town office and its London office to the IS Internet backbone enables voice communication between the two KWV offices and thus constitutes a contravention of section

40(3) of the act in that the service permits the carrying of voice between the respective offices.”

8. “The factual issues in dispute are reflected in Telkom’s Statement of Issues filed on 21 January 2002 annexed hereto marked “E”
9. “IS contends that:
 - 9.1. It is the holder of a VANS licence;
 - 9.2. Both the service offered to KWV and the intended IP-Net service are VANS;
 - 9.3. Both the service offered to KWV and the intended IP-Net service falls within the ambit of IS’s licence;
 - 9.4. IS does not permit the service provided to KWV (or the intended IP-Net service) to be used for the carrying of voice.”

2 THE ISSUES RAISED BY THE COMPLAINT

- 2.1 As pointed out above, the original issues raised by the complaint were
 - 2.1.1 whether the IP-Net service offered by IS was a PSTS or a VANS, and
 - 2.1.2 whether IS violated section 40(4)(a) of the Act by reselling KWV telecommunications facilities leased from Telkom.
- 2.2 In the course of the complaint proceedings, and on the basis of the evidence proposed to be given by Mr Stone, Telkom added a third issue, namely whether IS had contravened section 40(3) of the Act by allowing KWV to use the IS Network for the carriage of voice.¹

¹ Telkom’s statement of issues. Record pp vol 1 95-6 para 3.10. Telkom’s heads of argument p2 para 1.4

- 2.3 Although there was some suggestion in submissions by Telkom that the IP-Net service, alternatively the service provided by IS to KVV, constituted an unlicensed Private Telecommunications Network, this suggestion never formed part of the subject matter of the Telkom complaint.²
- 2.4 At the hearing Telkom adduced no evidence whatsoever to substantiate any of these complaints. As pointed out above, the only evidence proposed to be led by Telkom was the evidence of Mr Stone. From the statement of Mr Stone's proposed evidence, it was clear.
- 2.4.1 That Mr Stone would provide no evidence relating to either of the original Telkom complaints, and
- 2.4.2 That the evidence of Mr Stone would be of marginal relevance to the belated third complaint of Telkom because it related not to the carriage of voice over the IS network by KVV at the time of the complaint, but to the carriage of voice over the IS network by an unrelated company, Skyways, which carriage of voice had ceased approximately six months before the Telkom complaint against IS was lodged.³
- 2.5 In the event, despite earlier suggestions that Mr Stone would be called by Telkom as a witness,⁴ Mr Stone was not called and his proposed evidence accordingly did not materialize.
- 2.6 In the absence of any evidence of their own in respect of the original issues raised in their complaint, Telkom was forced to rely on their counsel's cross examination of IS witnesses, Mr Lawrie and Mr Rehmet to make out their case. However, neither Mr Lawrie, nor Mr Rehmet gave evidence under cross examination which could substantiate the two original complaints by Telkom.

² see for example Joint statement of issues vol 1 p3 paras 7.1 – 7.3, Telkom statement of issues vol 1 pp92-5.

³ Statement of evidence of Stone. Record vol 1 pp49-52

⁴ See summary statement of evidence of Telkom's witnesses. Record vol 2 p96

2.7 The essence of the evidence of Mr Lawrie and Mr Rehmet was the following:

2.7.1 The proposed IP-Net service was an Internet service with MPLS,⁵ and a range of additional enhanced service features.⁶

2.7.2 MPLS is an enhanced Internet service which provides for

2.7.2.1 Additional security,⁷

2.7.2.2 More efficient routing,⁸

2.7.2.3 Traffic shaping so that particular capacity can be reserved for e-mail or other type of traffic,⁹ and

2.7.2.4 Prioritisation of certain types of traffic.¹⁰

2.7.3 The service provided by IS to KWV is an Internet access service that

2.7.3.1 Can be used by KWV to connect to anywhere on the Internet,¹¹ and

2.7.3.2 Does not depend on a single IS telecommunication circuit between London and Cape Town, but rather makes use also of IS's rights to route traffic via the United States on other provider's networks.¹²

2.7.4 The service provided by IS to KWV has not been configured to make it more conducive for KWV to carry voice,¹³ nor has IS ever given KWV permission to carry voice. On the

⁵ Transcript of Lawrie p25 lines 3-9

⁶ Rehmet statement vol 1 p56 para 3.5.3 read with Transcript of Rehmet p119 lines 14-16

⁷ Rehmet statement vol 1 pp55 para 3.5 read with Transcript of Rehmet p119 lines 14-16

⁸ Transcript of Lawrie p38 line 12 – p39 line 5.

⁹ Rehmet statement vol 1 p56 para 3.5.2.2 read with Transcript of Rehmet p119 lines 14 – 16.

¹⁰ Rehmet statement vol1 p56 para 3.5.2.3 read with Transcript of Rehmet p119 lines 14 – 16, Transcript of Lawrie p38 line 21 to p39 line 9.

¹¹ Transcript of Rehmet p122 line 15 to p123 line 23.

¹² Transcript of Rehmet p126 lines 1-21, p138 lines 12-17, p161 line 11- p164 line 8.

¹³ Transcript of Rehmet p130 lines 4-8.

contrary, their contract with KWV prohibits the carriage of voice.¹⁴

2.8 Notwithstanding the assertions of Telkom's counsel there was no evidence at the hearing of how KWV was using the Internet access service provided by IS. In particular, there was no evidence that KWV used this service.

2.8.1 Exclusively to transfer data between its London and Cape Town offices and to connect to other Internet sites,¹⁵ or

2.8.2 To carry voice.

2.9 Nor was there any evidence before the hearing to suggest that IS had effectively "resold" to KWV bandwidth which it leases from Telkom.

3 THE ISSUE OF VOICE AND THE EVIDENCE OF MR STONE

Telkom submits in its papers that the service which IS provides to KWV permits the carrying of voice between the Cape Town office and the London office of KWV. Telkom submits that the statement of evidence by Mr. Stone establishes that IS provided to Skyway Management Ltd a service similar to that which it currently provides to KWV for the specific purpose of voice communication. Telkom submits that as a matter of probability KWV is either using the service for voice communication or at the very least that the service is one which permits the carrying of voice as contemplated in section 40 (3) of the Telecommunications Act.

These allegations were, however, not tested under oath for the reason that Telkom did not call Mr. Stone to testify. The rationale used by Telkom seems to be that the e-mail of Mr. Vester, an employee of IS, was sufficient. In that e-mail, Mr. Vester expressed an opinion that it was in order for someone to use the IS backbone for voice communication because on the first phase of the first part of the access line it would be voice on a leased line and therefore legal. Telkom therefore requests the Authority to accept that as a matter of probability KWV is either using the service for voice communication or at the very least the service is one which permits the carrying of voice.

¹⁴ Transcript of Rehmet p167 line 19 to p168 line 5.

¹⁵ Transcript of Rehmet p135 lines 17-22.

There was no oral evidence placed under oath before the Authority by Mr. Stone that could be tested by way of cross examination by the respondent. The evidence of Mr. Stone as it appears on the papers would seem to have made its way to the bundle of documents through some unconventional means as it was submitted late and was not canvassed at all in the Telkom's founding papers. From this perspective it would seem to be inadmissible. However, the Authority would like to deal with the substance of such evidence rather than the mere technicality of its admissibility.

IS pointed out that the agreements they conclude with their customers specifically prohibit the carrying of voice on the Internet service being provided. A copy of an example of their agreement was included in the documentation.¹⁶ In Schedule 1 to the Agreement, item 5.5, on page 155, it clearly states the need for the subscriber to comply and familiarise itself with South African law.

Telkom's counsel argued that this is not good enough and that it requires monitoring by IS. It is easy for subscribers to obtain the required software and to add it to the system. Only modems connecting to the PSTS are type approved but they are transparent as far as information carriage is concerned. The relevant software to participate in the Internet and all the applications involved is located in the computers on the other side of the modem. There is no prohibition on the possession of computer equipment and software, although the latter is subject to copyright law. The claim by Telkom for IS to police the computer systems and software of all their Internet subscribers is unfounded.

Having looked at this evidence the Authority is of the view that a personal opinion expressed by an employee of IS cannot without evidence be translated to be the view of IS as a company. Quite clearly it would be absurd to take the position that views and opinions expressed by members of a company can without any evidence showing a causal link be taken to be the views of the company. It is in the nature of circumstantial evidence that a conclusion reached by an adjudicating tribunal must be the one that is greatly supported by the evidence adduced or the only one that can be inferred from adduced evidence.

¹⁶ Document Bundle X, pages 151 - 158

Since no such evidence was adduced by Telkom there is no legal basis upon which it can be said that the probability reached must therefore be the one that supports the contention by Telkom. The evidence of Mr. Stone even if admitted is insufficient to support the contention that KVV is using the service for voice communication

4 INTERNET SERVICE PROVISION AND VALUE-ADDED NETWORK SERVICES

Neither a value-added network service (VANS) nor Internet service provision are defined in the Act. Section 40(2) of the Act lists a number of VANS activities as examples. This list is not exhaustive. Section 40(2) of the Act reads as follows:

‘Section 40(2) A licence to provide any value-added network service, including, but not limited to, electronic data interchange, E-mail, protocol conversion, access to a database or a managed data network service, shall contain a condition that the service in question shall be provided by means of telecommunication facilities provided by Telkom or made available to Telkom as contemplated in section 44 until a date to be fixed by the Minister by notice in the Gazette’.

Telkom’s licence similarly contained a list of VANS activities which includes reference to Internet service provision. The definition in Telkom’s VANS licence is as follows:

‘Value Added Network Services’ means all those value added services provided by the Licensee immediately before the commencement of the Act, including, without limitation-

- (a) electronic data interchange;
- (b) electronic mail
- (c) protocol conversion;
- (d) access to a data base or a managed data network service;
- (e) voice mail;
- (f) store-and-forward fax;
- (g) videoconferencing;
- (h) telecommunication related publishing and advertising services;
- (i) electronic information services, including Internet service provision;

and any other telecommunication service (excluding Mobile Telecommunication Service and Public Switched Telecommunication Service) and in respect of which conveyance of is no more than is incidental to, and necessary for, the provision of that service’.

The Telecommunications Amendment Act, Act No. 64, 2001 contains a definition of VANS as follows:

‘value-added network service means 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-

- (a) 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;
- (b) the provision of authorised access to, and interaction with, process for storing and retrieval of text and data;
- (c) managed data network services.’

Both section 40(2) and the VANS definition in Telkom’s VANS licence refer to protocol conversion as a value-added network service and make it clear that the list of examples of VANS cited is not exhaustive.

The definition of VANS in the Telecommunications Amendment Act, 2001 also makes reference to technological interventions that act on the protocol of the signals as value added network services.

Mr Lawrie’s evidence contained a lengthy explanation of the operations of the TCP/IP protocol that enables Internet service providers to access the Internet over telecommunications facilities leased from Telkom. It was apparent that there would be no access to the Internet without the utilisation of the TCP/IP protocol and that this was a basic distinguishing element of Internet service provision as opposed to the provision of public switched telecommunication services. It is clear that the utilisation of the TCP/IP protocol is a sine qua non for the existence of an Internet service and this was not contested by Telkom’s counsel. It is also not disputed that the manipulation of protocols is a VANS as indicated by the references to protocol conversion in section 40(2) of the Act.

Even though no evidence was led with respect to protocol conversion specifically by Mr Lawrie, his explanation of the use of the TCP/IP protocol

in the provision of Internet services was such that the Committee is of the view that the use of TCP/IP protocol is a critical element of Internet service provision and should be regarded as a value added service. The Committee is also of this view in that the list of VANS examples is not exhaustive and the manipulation of protocol is properly a value added service, whether Telkom makes use of TCP/IP protocol in the provision of its public switched telecommunications service or not.

This conclusion directly affects Telkom's argument that Internet Solutions is illegally involved in the conveyance of data to KVV which in Telkom's view is a public switched telecommunications service. Internet Solutions is providing a service to KVV that involves the utilisation of the Internet which in turn is dependent on the utilisation of TCP/IP protocol. The moment TCP/IP protocol is utilised, any conveyance of data which may occur falls outside the realms of Telkom's PSTS rights and falls within the right of VANS licensees to provide, because the utilisation of TCP/IP protocol is integral to offering an Internet service and is not integral to offering a PSTS service.

Telkom's counsel also argues that, in terms of the VANS definition in the Telecommunications Amendment Act, because no restructuring of the content of the information conveyed between KVV's Cape Town office and its London office by Internet Solutions, that therefore no value was added and only data was conveyed.¹⁷ This argument omits to make reference to the issue that it is not only the content of the signals that the technological intervention acts on but also the format or protocol of the signals. In other words, the action of the protocol is a determinant feature of a value added network service which restructures the information in order for it to be transmitted or received by the customer via the Internet. As was demonstrated in the evidence of Mr Lawrie, the activity of the TCP/IP protocol in adding headers to the block of data being transmitted is an integral part of the Internet service being provided and restructures the information during transmission and reception. The content may not change but the information is changed and reassembled by an elaborate technological intervention requiring the sophisticated use of computer software and hardware, involved in the packetising of information.

¹⁷ Transcript p191

IS's counsel made reference to electronic data interchange to further describe the service IS provides to KVV.¹⁸ Telkom did not lead any evidence to distinguish data conveyance from electronic data interchange. Electronic data interchange is listed as one of the permitted VANS in section 40(2) of the Act and Telkom's VANS licence. It would appear that if IS is providing electronic data interchange between KVV's Cape Town office and its London office, there is nothing to suggest that the content of the information should be changed and added to or made different.

This is also the case with e-mail. No change is made to the content of e-mail messages but a substantial technological intervention involving the activity of computer protocols such as TCP/IP is required to send an e-mail from A to B, or for that matter from KVV's Cape Town office to its London office.

E-mail is also listed as a value added network service in section 40(2) of the Act and Telkom's VANS licence.

It is the conclusion of the Authority that the utilisation of a protocol such as TCP/IP is integral to the operations of an Internet service and as such is a value added network service. Data may be conveyed over a value added network service in various forms including e-mail and electronic data interchange. The moment a technological intervention is applied by way of the action of a protocol on the signals transmitted or received by the customer, the telecommunications service thus provided is a value added service. There is nothing in the Act that contradicts this position.

5 ADVANCED INTERNET SERVICES SUCH AS MPLS AND IP-NET

5.1 Summary of Internet functionality arising from the evidence given

The Internet is a packetised communication system between a worldwide network of computers, owned and operated by different entities, of which some contain information databases from which information may be extracted or through which business transactions may be effected, while the other computers wish to access those with

¹⁸ Transcript p206

databases to obtain information or conduct business transactions or wish to pass e-mail messages to one another.

The communication between the computers, to convey e-mail or data files, is conducted in a packetised data format according to the TCP/IP structure where each e-mail and data file is broken down into a number of separately encoded data packets that is sent sequentially over the worldwide web of interconnected Internet Service Provider (ISP) networks.

Such a sequence of data packages constitutes, on a discontinuous basis, over a limited period of time, a virtual private line or circuit between the sender and the receiver of the e-mail and data file. The virtual line is created at the beginning of the sequence of data packets and disappears when the last packet is received. The individual data packets of the e-mail and the data file may take different routes through the interconnected ISP networks and may arrive out of sequence at the destination, including the possibility of the loss of some packets. The received packages are at the destination put back in proper sequence, missing packets are requested to be resent and all the packets are decoded in order to reconstruct the original e-mail and data file. Such a data file may include any or all of text, graphics, still pictures, audio or video.

All the interconnected ISP networks will use telecommunications facilities obtained from the local PSTS licensee and from other providers or self-providers in countries where licences for the latter may be granted.

There are two distinctive processes involved in the provision of Internet services:

- (a) Data communication between a massive network of information providing transactional and user computers, equipped to operate on the Internet and connected through ISPs, which communicate by means of data file transfers and e-mail. These are examples included in the description of a VANS in Section 40(2) in the Act.

- (b) The conveyance of Internet data packets by means of telecommunication facilities provided by PSTS licensees (including other licensees in countries where this is permitted) who provide leased and dial-up lines between the user computers and the ISPs and between the various ISPs for this purpose. In this way the necessary telecommunications facilities are provided between the different physical locations of the various computers. This is in accordance with section 40(2) of the Act.

The Internet activities to access databases and send e-mail between computers, which occur in digital data packets according to the TCP/IP structure, are grouped and routed by ISPs to be conveyed in common data streams through the appropriate and available telecommunications facilities. Such telecommunication facilities will convey the data streams according to demand and according to agreements between the ISP and PSTS operators and would be accepted by the carrier and delivered in agreed signal protocols. The PSTS operator would operate on any appropriate protocol within its own telecommunications facilities which suites itself best and which is irrelevant to the ISPs and or Internet subscribers.

5.2 **Advanced Internet Services**

By adding additional data processing technology on computers in the Internet, an advanced Internet service through the use of MPLS can be provided which has a higher level of security and for which the conveyance of e-mail or data files will receive priority over others not enjoying this service. This adds further value in the context of VANS and is done within the overall framework of an Internet service.

Inevitably the perception is created that a secure private circuit is established between any two such points on the Internet where the additional technology is applied. The difference between the data communications with the additional technology applied, and that where it is not applied, is only that with the former a higher level of security against unauthorized access to the data is obtained and that delivery is better as a result of priority given. This does not detract from the fact that it is still an Internet service.

When such data communication with the application of additional technology takes place between two points on the Internet there appears to be a virtual private circuit between the two points while the data communication is occurring.

This kind of data communication over the Internet, with or without added security, occurs abundantly and randomly, and cannot be classified as constituting a PTN as referred to in Section 41 of the Act.

Although the worldwide web has millions of computers attached to it, that can all communicate with one another, in reality communication with a particular computer only occurs according to the needs of the particular user for which there is no specified minimum level. This communication may involve only one or two other computers. These do not constitute a PTN even though they are perceived to be virtual private circuits when such communication occurs to convey the required e-mail and data file.

IP-Net as intended to be provided by IS is an advanced Internet service utilising MPLS and is a VANS in terms of section 40 of the Act. IP-Net does not constitute a PTN in terms of section 41 of the Act.

6 CONCLUSION

The Authority finds that:

- 6.1 IS offers a legitimate Internet access service as a VANS licensee in terms of section 40 of the Act;
- 6.2 IS is not in violation of s32 and s36 of the Act;
- 6.3 IS is not operating a PTN in terms of section 41 of the Act;
- 6.4 The service IS delivers to KWV Ltd is a VANS service and not a PSTS service;
- 6.5 IS is not permitting the service provided to KWV Ltd to be utilised for the carrying of voice;
- 6.6 The intended IP-Net service is a VANS service in terms of section 40 of the Act.

The Authority therefore dismisses Telkom's complaint as unfounded.

**SIGNED BY THE CHAIRPERSON OF THE ICASA SPECIAL COMMITTEE DULY AUTHORISED
TO DISPOSE OF THE MATTER AT SANDTON ON 14 JUNE 2002**

**COUNCILLOR WILLIAM CURRIE
(CHAIRPERSON)**