

**VODACOM (PROPRIETARY) LIMITED**

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**REFERENCE INTERCONNECTION OFFER ("RIO")**

**(As required by the Call Termination Regulations, 2014 published in  
Government Gazette No. 38042 dated 30 September 2014 (the  
"Regulations"))**

## **1. GENERAL LEGAL PRINCIPLES**

### **1.1 Application of this RIO**

This RIO is limited to wholesale termination services on the network used by Vodacom of voice calls originating in the Territory.

### **1.2 Definitions of Terms and Abbreviations**

- 1.2.1 **"Accounting Period"** is the period of 1 (one) calendar month, terminating as close as is reasonably practicable to 23h59 on the last day of each calendar month, the first such Accounting Period commencing, unless otherwise agreed in writing between Vodacom and the entity requesting interconnection, on the Commercial Date;
- 1.2.2 **"Commercial Date"** is the date from which voice calls shall be routed between the respective Electronic Communications Networks used by Vodacom and the entity requesting interconnection for commercial purposes, which date shall be agreed in writing between Vodacom and the entity requesting interconnection;
- 1.2.3 **"EC Act"** is the Electronic Communications Act, 2005 (Act No. 36 of 2005) and includes any amendments thereto;
- 1.2.4 **"Electronic Communications"** has the meaning ascribed thereto in the EC Act;
- 1.2.5 **"Electronic Communications Network"** has the meaning ascribed thereto in the EC Act;
- 1.2.6 **"Electronic Communications Network Service"** has the meaning ascribed thereto in the EC Act;
- 1.2.7 **"ICASA"** is the Independent Communications Authority of South Africa as established by the Independent Communications Authority of South Africa Act, 2000 (Act No. 13 of 2000) or any successor body;

- 1.2.8        **"Information"** for purposes of this RIO includes, without limitation, any technical, commercial, scientific information, know-how, trade secrets, processes, machinery, technical specifications and data in whatever form relating to interconnection, communicated to or acquired by the receiving party during the course of negotiations or the receiving party's association with the disclosing party;
- 1.2.9        **"Interconnection Fees"** are the fees payable by Vodacom and the entity requesting interconnection to one another in terms of the interconnection agreement to be concluded between Vodacom and the entity requesting interconnection related to the conveyance of interconnected voice calls, which fees are based on the Interconnection Rates;
- 1.2.10       **"Interconnection Rates"** are the applicable per minute rate, as specified in the Regulations, payable by Vodacom to the entity requesting interconnection and *vice versa*;
- 1.2.11       **"Interconnection Regulations"** are the Interconnection Regulations published in Government Gazette No. 33101 dated 9 April 2010;
- 1.2.12       **"IP"** is Internet Protocol;
- 1.2.13       **"Point of Interconnection"** or **"POI"** is the point at which Electronic Communications from the Electronic Communications Networks used by Vodacom are handed over and carried to the Electronic Communications Network used by the entity requesting interconnection and *vice versa*;
- 1.2.14       **"Point of Interconnection Links"** is a physical link over which voice calls shall be conveyed between the Electronic Communications Network used by Vodacom and the Electronic Communications Network used by the entity requesting interconnection;
- 1.2.15       **"Point of Presence"** or **"PoP"** is a point at a physical location, which provides network connectivity back to the core of an Electronic Communications Network used by Vodacom and the entity requesting interconnection and also serves as a POI; and
- 1.2.16       **"Territory"** means the geographical area of the Republic of South Africa as constituted from time to time.

### **1.3 Requirements Concerning the Exchange and Use of Information for the Purpose of Interconnection**

- 1.3.1 Any Information communicated to or acquired by either Vodacom or the entity requesting interconnection for the purposes of interconnection is a valuable, special and unique asset proprietary to the disclosing party.
- 1.3.2 The receiving party
  - 1.3.2.1 shall not utilize, employ, exploit or in any other manner whatsoever use the information disclosed for any purpose without the prior express written consent of the disclosing party; and
  - 1.3.2.2 accepts that the unauthorized disclosure of the information to a third party may cause irreparable loss, harm and damage to the disclosing party.
- 1.3.3 The receiving party undertakes not to use the information for any purpose other than the reason for which such information is disclosed, communicated or acquired.
- 1.3.4 The receiving party may disclose the information only to its officers, employees and professional advisors and then only on a strictly need-to-know basis.

### **1.4 Data Exchange Formats**

All exchanged Information shall be conveyed in electronic format, unless there is a specific requirement for data to be exchanged in any other format as agreed between Vodacom and the entity requesting interconnection.

## **2. INITIATING NEGOTIATIONS AND PROPOSING AMENDMENTS**

- 2.1 A written request for interconnection must be addressed to the Managing Executive: Wholesale and Carrier Services and must include the information specified in paragraph 2.2 of this RIO. Requests for the amendment of agreements, once concluded and implemented, shall be made in a similar manner and relevant information shall be provided on request by Vodacom.

## **2.2 General Information**

2.2.1 A copy of the licence(s) of the entity requesting interconnection; and

2.2.2 Copies of the corporate registration documents of the entity requesting interconnection.

2.2.3 Financial Information including *inter alia*

- copies of its latest audited financial statements;
- a cancelled cheque, if available;
- a copy of its VAT certificate;
- copies of identity documents of its directors or managing members; and
- a business plan indicating projected call volumes.

2.2.4 Technical Information including *inter alia*

- In respect interconnection utilizing TDM technology, the Signalling Point Code allocated by ICASA;
- In respect of interconnection utilizing IP technology, the Public IP Address;
- a copy of the official numbering allocation, as allocated by ICASA; and
- a basic network diagram depicting the infrastructure to be rolled out, including the required Points of Interconnection.

## **3. DESCRIPTION OF INTERCONNECTION SERVICES TO BE PROVIDED**

Mobile and Fixed wholesale voice call termination services as defined in the Regulations shall be provided by Vodacom.

## **4. SCHEDULE OF CHARGES FOR INTERCONNECTION SERVICES**

### **4.1 General Financial Matters**

4.1.1 Vodacom shall, in its determination of economic feasibility, determine if any request for interconnection

- contributes to the efficient use of the existing transmission capacity of the Electronic Communications Network used by Vodacom;
- does not result in additional requirements for capacity above or in excess of its budgeted spend; and
- does not cause material adverse financial consequences to Vodacom due to overloading of the Electronic Communications Network.

4.1.2 In the event that Vodacom ascertains that the provision of the interconnection service is not economically feasible, Vodacom may, in order to render the service economically feasible, impose a floor charge of R100, 000.00 (one hundred thousand Rand) per month. Interconnection Fees in respect of any Accounting Period shall only be paid to the extent that such Fees exceed the Floor Charge, if imposed, for such Accounting Period.

4.1.3 Payment for interconnection services offered by Vodacom shall be on a post-payment basis and the following shall be required:

4.1.3.1 Credit vetting shall be conducted by Vodacom on the entity requesting interconnection, which may involve an assessment of *inter alia* the following:

- trading history of the entity requesting interconnection;
- risk profile of the entity requesting interconnection, which will consider *inter alia* the following:
  - strength of the entity requesting interconnection based on its balance sheet, or such other financial documents as may be necessary;

- ability of the entity requesting interconnection to absorb losses;
- cash flow position of the entity requesting interconnection;
- profitability of the entity requesting interconnection;
- civil judgements granted against the entity requesting interconnection, including civil judgements granted against its Directors or Managing Members; and
- parentage and shareholding of the entity requesting interconnection.

4.1.3.2 Dependent on the outcome of the credit vetting, Vodacom may require a bank guarantee, the value of which shall be R1, 000, 000.00 (one million Rand) or 3 (three) month's forecast traffic terminating on the Electronic Communications Network used by Vodacom, whichever is greater;

4.1.3.3 A bank guarantee, the value of which shall be R1, 000, 000.00 (one million Rand) or 3 (three) month's forecast traffic terminating on the Electronic Communications Network used by Vodacom, whichever is greater, shall be required in the following circumstances:

- civil judgements granted against the entity requesting interconnection or its Directors or Managing Members;
- where available, a poor credit rating in the name of the entity seeking interconnection, its holding company or majority shareholder;
- if the entity requesting interconnection is not a public or private company; and
- if either the entity requesting interconnection, its holding company or majority shareholder, has a trading record for a period of less than 2 (two) years from the date of formal request for interconnection.

4.1.3.4 Vodacom may review the credit vetting on the entity requesting interconnection as and when required.

4.1.4 In the event of late payment of Interconnection Fees and other charges due to Vodacom for interconnection services, Vodacom shall

- charge and receive interest from the entity requesting interconnection at the prime overdraft rate charged by the Standard Bank of South Africa Limited from time to time, plus 2% (two percent) from the date that payment was due to the actual date of payment in full; and
- impose a bank guarantee or increase the bank guarantee, as the case may be.

## **4.2 Billing Procedures, Payment Terms and Conditions**

4.2.1 Vodacom and the entity requesting interconnection shall be required to measure and record, at their own cost and expense, the duration of calls destined for the Electronic Communications Network used by Vodacom.

4.2.2 Vodacom shall submit a tax invoice in relation to the Interconnection Fees and other charges due to Vodacom by the entity requesting interconnection during the Accounting Period immediately following the Accounting Period during which traffic was conveyed and such invoice shall be payable within 30 (thirty) calendar days.

## **4.3 Wholesale Voice Call Termination Rates**

Vodacom shall charge the following wholesale voice call termination rates to a mobile and fixed location, irrespective of the technology utilized to terminate the voice call:

### **4.3.1 Interconnection Rates for all Mobile Voice Call Termination Services**

(a) Rates applicable for the period from 1 October 2014 to 30 September 2015

<b>Applicable Hours</b>	<b>Rate per minute (excluding VAT)</b>
All hours	R0.20



(b) Rates applicable for the period from 1 October 2015 to 30 September 2016

<b>Applicable Hours</b>	<b>Rate per minute (excluding VAT)</b>
All hours	R0.16

(c) Rates applicable for the period from 1 October 2016 to 30 September 2017

<b>Applicable Hours</b>	<b>Rate per minute (excluding VAT)</b>
All hours	R0.13

#### 4.3.2 Interconnection Rates for all Fixed Voice Call Termination Services

##### 4.3.2.1 Interconnection Rates for all Fixed Geographic Voice Call Termination Services

(a) Rates applicable for the period from 1 October 2014 to 30 September 2015

<b>Applicable Hours</b>	<b>Rate per minute (excluding VAT) Within ON Area Code</b>	<b>Rate per minute (excluding VAT) Between ON Area Code</b>
All hours	R0.18	R0.21

(b) Rates applicable for the period from 1 October 2015 to 30 September 2016

<b>Applicable Hours</b>	<b>Rate per minute (excluding VAT) Within ON Area Code</b>	<b>Rate per minute (excluding VAT) Between ON Area Code</b>
All hours	R0.15	R0.16

(c) Rates applicable for the period from 1 October 2016 to 30 September 2017

<b>Applicable Hours</b>	<b>Rate per minute (excluding VAT) Within ON Area Code</b>	<b>Rate per minute (excluding VAT) Between ON Area Code</b>
All hours	R0.12	R0.12

#### 4.3.2.2 Interconnection Rates for all Fixed Non-Geographic Voice Call Termination Services

(a) Rates applicable for the period from 1 October 2014 to 30 September 2015

<b>Applicable Hours</b>	<b>Rate per minute (excluding VAT)</b>
All hours	R0.21

(b) Rates applicable for the period from 1 October 2015 to 30 September 2016

<b>Applicable Hours</b>	<b>Rate per minute (excluding VAT)</b>
All hours	R0.16

(c) Rates applicable for the period from 1 October 2016 to 30 September 2017

<b>Applicable Hours</b>	<b>Rate per minute (excluding VAT)</b>
All hours	R0.12

## 4.4 **Charges in Respect of Point of Interconnection Links**

4.4.1 Where Vodacom and the entity requesting interconnection are able to agree on a supplier or suppliers from whom to procure Point of Interconnection Links, whether such is either Vodacom or the entity requesting interconnection or a third party, all charges pertaining to the procurement and use of such Point of Interconnection Links, including installation and rental charges as well as any associated charges incurred in the process of establishment,

cancellation, cut-back or relocation of links, shall be borne equally between Vodacom and the entity requesting interconnection, with the understanding that either Vodacom or the entity requesting interconnection shall pay the required installation, rental and other charges, whereafter it shall invoice the other party for its 50% (fifty percent) share of the costs of the Point of Interconnection Link(s). All installation, rental and other charges shall be invoiced on a pass through basis and neither Vodacom nor the entity requesting interconnection shall seek to recover any amounts in addition to the 50% (fifty percent) share contribution to the cost of procuring the Point of Interconnection Link(s).

- 4.4.2 Where Vodacom and the entity requesting interconnection are unable to agree on a supplier or suppliers from whom to procure Point of Interconnection Links, Vodacom and the entity requesting interconnection shall each be responsible for procuring the agreed capacity from its supplier of choice and all costs associated thereto.

## **5. TECHNICAL CHARACTERISTICS**

### **5.1 Points of Interconnection**

#### **5.1.1 TDM Interconnection**

- 5.1.1.1 The table below details the route, capacity in terms of 2 Mbit/s transmission systems, signalling system, trunk group direction and Vodacom site name of the Points of Interconnection to be established between the Vodacom and the entity requesting interconnection.

<b>[entity requesting interconnection] Switch</b>	<b>Vodacom STP/GMSC</b>	<b>Capacity (2 Mbit/s Systems)</b>	<b>Signalling System</b>	<b>Trunk Group Direction</b>	<b>Vodacom Site Name</b>
TBA	CBA GMSC	2	CCS #7	Bothway	Cape Town Barrack Street
TBA	CTG GMSC	2	CCS #7	Bothway	Cape Town Tygerberg
TBA	DNE GMSC	2	CCS #7	Bothway	Durban New Germany
TBA	DTH GMSC	2	CCS #7	Bothway	Durban Taj Mahal

<b>[entity requesting interconnection] Switch</b>	<b>Vodacom STP/GMSC</b>	<b>Capacity (2 Mbit/s Systems)</b>	<b>Signalling System</b>	<b>Trunk Group Direction</b>	<b>Vodacom Site Name</b>
TBA	JBA GMSC	2	CCS #7	Bothway	Johannesburg Braamfontein
TBA	JDO GMSC	2	CCS #7	Bothway	Johannesburg New Doornfontein
TBA	SJD STP	N/A	CCS #7	N/A	Johannesburg New Doornfontein
TBA	PBR GMSC	2	CCS #7	Bothway	Pretoria Bronberg
TBA	PPO GMSC	2	CCS #7	Bothway	Pretoria Proes Street
TBA	SPP STP	N/A	CCS #7	N/A	Pretoria Proes Street

5.1.1.2 Call control shall be via CCS #7 between Vodacom's and the entity requesting interconnection signalling transfer points (STPs) carried on mutually agreed timeslots within the 2 Mbit/s transmission links indicated in the table above. Vodacom shall provide the means for multiplexing and routing the signalling to/from Vodacom's STPs. The 2 Mbit/s transmission links in the table above carrying CCS #7 circuits shall be on a paired basis, with provisioning for additional Point of Interconnection Links to be considered with regard to factors such as traffic growth, the dispersion of the entity requesting interconnection customer base, the technical and economic feasibility for the establishment of POIs and capacity requirements for traffic.

#### 5.1.2 IP Interconnection

The following table indicates the initial Signalling Gateways and/or STPs for the Interconnection to be established.

<b>[entity requesting interconnection] SGW/STP</b>	<b>Vodacom STP</b>	<b>Vodacom Site Name</b>
TBA	SJD	STP Johannesburg Doornfontein
TBA	SPP	STP Pretoria Proes Street

### 5.1.3 Public Internet Exchange Points

The table below indicates the Public Internet Exchange Points.

<b>Name</b>	<b>Location</b>
Teraco	Isando (Gauteng)
Teraco	Rondebosch, Cape Town (Western Cape)
Teraco	River Horse, Durban (Kwa-Zulu Natal)
JINX	Rosebank, Johannesburg (Gauteng)
CINX	Bree Street, Cape Town (Western Cape)

## 5.2 **Routing Principles**

### 5.2.1 TDM Interconnection

#### ITU-T Recommendation Q705

- Under normal conditions Vodacom and the entity requesting interconnection shall route all calls across the Point of Interconnection in accordance with the predefined routing arrangements;
- The re-routing of traffic under abnormal conditions shall be according to the alternate routing indicated in the routing tables supplied by Vodacom and the entity requesting interconnection. Vodacom and the entity requesting interconnection shall inform each other of such re-routing undertaken in the event of the severance of routes; and
- In the event that the predefined routing arrangements for abnormal conditions cannot be implemented, due to exceptional circumstances, details of alternative arrangement that are to be implemented must be supplied by Vodacom and the entity requesting interconnection.

### 5.2.2 IP Interconnection

- No dynamic routing protocol shall be used. Static routing shall be used to advertise IP routes, bi-directionally, between Vodacom and the entity requesting interconnection. Vodacom and the entity requesting interconnection shall ensure that all IP addresses used for the purposes of Interconnection are not disclosed to any third party in any form whatsoever;
- Calls from within the network used by Vodacom shall be routed via a PoP to the network used by the entity requesting interconnection in accordance with the Vodacom Network routing plan and the Regulations; and
- Vodacom bound Calls from within the network used by the entity requesting interconnection shall be routed via a PoP as elected by the entity requesting interconnection, to the network used by Vodacom.

## 5.3 **Route Diversity and Security Arrangements**

### 5.3.1 TDM Interconnection

#### ITU-T Recommendation Q705

- For reliability, signaling links shall be provisioned over physically diverse transmission paths where such diversity exists. Any deviation from this rule shall be negotiated between Vodacom and the entity requesting interconnection;
- All 2 Mbit/s systems carrying CCS #7 signalling links between switches shall be clearly marked in the switching and transmission equipment rooms so as to prevent any unnecessary maintenance activities; and
- The minimum number of links per link-set shall be 2 (two). Any number of links per link-set, exceeding 2 (two), shall be negotiated between Vodacom and the entity requesting interconnection. All circuit conditioning equipment such as PADS, voice compression equipment and echo cancellers must be removed from signaling links.

### 5.3.2 IP Interconnection

- For reliability, Peering Connections shall be provisioned over physically diverse paths where such diversity exists. Any deviation from this condition shall be negotiated and agreed in writing between Vodacom and the entity requesting interconnection;
- Vodacom and the entity requesting interconnection shall have at least 2 (two) geographically redundant PoPs in each region that complement each other by offering route and equipment diversity and each PoP shall have a unique single demarcation IP. All packets (signalling and user information) shall terminate on single demarcation points;
- Each “physical link” shall be related to 1 (one) each of the demarcation IPs specified in bullet point 2; provided that any deviation from this condition shall be negotiated and agreed between Vodacom and the entity requesting interconnection and provided further that where the Vodacom and the entity requesting interconnection fail to agree on such deviation, no deviation shall be permitted;
- “Keep-Alive” messages (SIP Options) shall be exchanged and positively acknowledged (200 OK) between all demarcation points so that failover can be managed appropriately in the event of an outage; and
- The entity requesting interconnection shall share the traffic load terminating on the Electronic Communications Network used by Vodacom equally across the 2 (two) regional Vodacom PoPs.

## 5.4 **Numbering**

### 5.4.1 Calls Originating on the Electronic Communications Network used by the Entity Requesting Interconnection and Terminating on Vodacom

#### 5.4.1.1 TDM Interconnection

- The POIs shall be configured to forward pass Numbers in the format 0 NN X, where
  - “NN” is the national destination code allocated to and utilized by either

Vodacom or the entity requesting interconnection; and

- "X" can be any digit, i.e. any numeral from 0 (zero) to 9 (nine), not exceeding 10 (ten) digits (closed national dialing numbering plan).
- All dialled digits, excluding leading "0" (NADI indicator), shall be passed across the POIs.

#### 5.4.1.2 IP Interconnection

- The PoPs shall be configured to forward pass numbers in the E.164 format +CC NDC SN, where
  - "CC" is the country code 27 (twenty seven);
  - "NDC" is the national destination code or geographical area code allocated to and utilized by either Vodacom or the entity requesting interconnection (national significant '0' excluded); and
  - "SN" can be any digit, i.e. any numeral from 0 (zero) to 9 (nine), and any number of digits (refer to Numbering Plan Regulations published in Government Gazette No. 35737 dated 2 October 2012, which shall for purposes of this RIO, include any subsequent regulation).
- All dialled digits, excluding leading "00" (NADI indicator), shall be passed across the PoPs.

#### 5.4.2 Other Calls

5.4.2.1 In the event of any other calls passed across the POI, deviating from the numbering convention, Vodacom and the entity requesting interconnection shall consult with each other in order to agree on the format of the numbers to be forward passed.

5.4.2.2 In respect of ported numbers, when either Vodacom or the entity requesting interconnection is handling an Electronic Communication and determines that the called number is ported and also determines the identity of the third party operator currently



serving that called ported number, Vodacom or the entity requesting interconnection handling such Electronic Communication shall add a number portability routing code prefixed to the called number.

#### 5.4.3 Calling Line Identification

5.4.3.1 The entity requesting interconnection shall forward to Vodacom across the Points of Interconnection the individual subscriber numbers of their subscribers, irrespective of whether their subscribers have restricted the forwarding thereof.

5.4.3.2 The Calling Line Identification (CLI) format shall be in accordance with ITU-T Recommendation E.164.

5.4.3.3 Vodacom and the entity requesting interconnection shall ensure that their subscriber's CLI information does not alter from the point of entry to the point of exit of the Network used by Vodacom and the entity requesting interconnection; save in accordance with the instructions of the subscribers of Vodacom and the entity requesting interconnection. Where Vodacom or the entity requesting interconnection is not capable of ensuring that the CLI information remains consistent, the CLI information shall not be presented to the called subscriber.

#### 5.4.4 Equal Treatment

Vodacom and the entity requesting interconnection shall each ensure that a voice call originating on

5.4.4.1 the Electronic Communications Network used by such party and destined for the Electronic Communications Network used by the other party; and

5.4.4.2 the Electronic Communications Network used by the other party and destined for the Electronic Communications Network used by such party, when passed to it across a Point of Interconnection,

is treated no less favourably than a voice call originating on and destined for the Electronic Communications Network used by either Vodacom or the entity requesting interconnection and that the interconnection is seamless across the Point of

Interconnection.

## **5.5 Requirements to ensure Network Security or Integrity**

### **5.5.1 Protection of the Electronic Communications Network**

Vodacom and the entity requesting interconnection shall not do or permit to be done or omit or permit the omission of anything in relation to the Electronic Communications Network used by such party that may reasonably be expected to

- cause any damage to the Electronic Communications Network used by the other party;  
or
- materially interfere, in any way whatsoever, with the proper and normal operation of such Electronic Communications Network.

### **5.5.2 Safety**

Vodacom and the entity requesting interconnection shall not endanger the health and safety of any party including, without limitation, to one another's employees, agents, directors, sub- contractors and subscribers, and in this respect the entity requesting interconnection and Vodacom shall each be responsible for the safe operation of the equipment compromising the Electronic Communications Network.

## **6. ARRANGEMENTS FOR ESTABLISHMENT OF INTERCONNECTION**

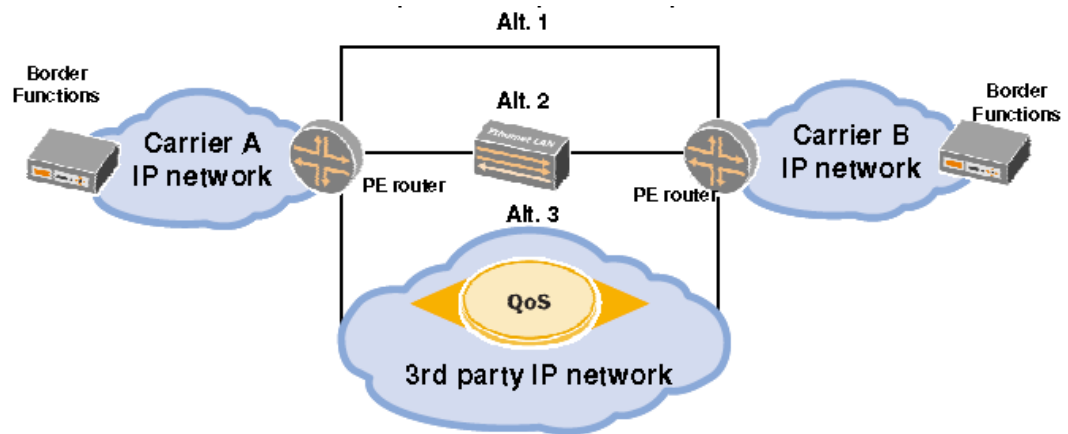
### **6.1 TDM Interconnection**

6.1.1 2Mbps/s E1 links will initially be installed at the agreed Points of Interconnection.

6.1.2 Both links will be used simultaneously in a load sharing configuration to guard against any outages on Vodacom's part. Accordingly, the speech circuits will be connected to the two gateways, and the signalling links will be connected to two STP's. In this way service is always guaranteed, even in the event of a STP or gateway failure.

- 6.1.3 Database configuration of the signalling and speech circuits in a load sharing configuration would ensure that during a failure, all traffic will be forced over the remaining working link.

## 6.2 IP Interconnection



The connectivity diagram above shows a connectivity between two network operators, with the three options of connection between Provider Edge routers, Alt.1 one being a layer 1 connection, Alt.2 a layer 2 connection and Alt.3 a layer 3 connection. The connection between the two PE routers shall be an ethernet connection. A Border Function or Session Border Controller (SBC) at both provider network edges, amongst others the SBC, shall provide the following key function:

- Topology hiding and NAT/NAPT translation.

- 6.3 Traffic forecasting has to be supplied by the entity requesting interconnection for the agreed Points of Interconnection.
- 6.4 Subsequent to installation, the links are configured and tested. Testing includes *inter alia* the following:
- 6.4.1 transmission;
- 6.4.2 signalling and Integrated Services Digital Network User Part ("ISUP");
- 6.4.3 Message Transfer Part ("MTP") Level 2;
- 6.4.4 MTP Level 3; ISUP Level 4; and

- 6.4.5 billing validation. Signalling and ISUP testing shall be performed in accordance with Q.781, Q.782, Q.783, Q.784 and Q.785 recommendations of the Telecommunications Standardization Sector of the International Telecommunications Union.
- 6.5 Signalling and ISUP testing shall be performed in accordance with Q.781, Q.782, Q.783, Q.784 and Q.785 recommendations of the Telecommunications Standardization Sector of the International Telecommunications Union.
- 6.6 Upon successful testing, information is exchanged between Vodacom and the entity requesting interconnection in respect of the switching and transmission interfaces. Such information includes *inter alia* the following:
- Signalling and traffic routing details between Vodacom and the entity requesting interconnection;
  - Exchange name;
  - Signalling Point Code as allocated by ICASA;
  - Public IP Addresses;
  - Official number allocations, as allocated by ICASA and address information;
  - Timeslot for signalling; and
  - A basic network diagram depicting the infrastructure to be rolled out, including the required Points of Interconnection.
- 6.7 A Network Management Center (NMC) procedure (Inter ISD) document is created, establishing the following procedures for fault management:
- 6.7.1 Vodacom and the entity requesting interconnection shall be required to establish an interconnection service desk ("ISD") to address any malfunctioning of the interconnection in order that such be rectified promptly and efficiently. All matters relevant to the proper functioning of the interconnection (generally of a technical nature)

are to be reported to the ISD. Each ISD shall

- 6.7.1.1 be staffed on a 24-hour basis and equipped with the necessary infrastructure to facilitate efficient communication;
  - 6.7.1.2 offer its full assistance for the rectification of interconnection outages and other faults;
  - 6.7.1.3 be responsible for processing reported interconnection outages and other faults;
  - 6.7.1.4 function as the traffic controlling party for the circuit on which it loads outgoing traffic; and
  - 6.7.1.5 be used as the contact point for any inter-service assistance required.
- 6.7.2 Upon detection of an unplanned interconnection outage, the ISDs of Vodacom and the entity requesting interconnection shall immediately notify each other. At the time of notification the outage could have ceased to exist or could still be persisting. In cases where the outage has ceased to exist, the ISDs shall note the occurrence, duration and details of the failure. In cases where the outage is persisting, immediate action shall be taken to localize the fault causing the failure and to identify the party responsible for clearing the fault (should this have been unclear at first). The ISDs shall thereafter and until full restoration of service inform each other every 15 (fifteen) minutes, or at mutually agreed upon intervals, of the progress of the repair. Once full service has been restored the ISDs shall note the outage duration and details of the failure.
- 6.7.3 Planned interconnection outages shall be kept to an absolute minimum and shall not be carried out during busy traffic times. The party planning such an outage shall inform the other party's ISD 14 (fourteen) days in advance (by mutual agreement this time scale may be reduced) and agree upon a suitable time and expected duration for such an outage. If the planned outage does not directly affect the other party, such other party's ISD shall nevertheless be informed of the planned time and duration of the outage. During a planned outage the responsible party shall, at regular intervals and until full restoration of service, inform the other party's ISD of the progress. Once full service has been restored the ISDs shall note the outage duration. If full service is not restored within the expected duration, the outage shall be regarded as an unplanned outage (occasioned by a planned outage).

- 6.7.4 Vodacom and the entity requesting interconnection shall each maintain records, preferably in electronic format, containing details of all interconnection outages and other faults and the corresponding restoration times which were handled between it and the other party's ISD for a running 12 (twelve) month period. These records should be used to assess the fault performance of interconnection once implemented.
- 6.7.5 It is accepted that certain scheduled and unscheduled maintenance actions shall be carried out by Vodacom and the entity requesting interconnection on the items comprising the interconnection. Where such actions could affect the proper functioning of the interconnection, e.g. when work is to be performed on critical centralized equipment, the other party's ISD shall be informed accordingly. In the case of scheduled maintenance, the schedule of critical activities shall be made available to the other party's ISD in advance. However, it shall not be necessary to inform such ISD of the completion of such activities.
- 6.7.6 Vodacom and the entity requesting interconnection shall supply each other with test numbers to be used for test calls in order to do routine testing of the interconnection circuits. Artificial traffic generators shall be used in such a way so as not to unduly load the POIs.
- 6.7.7 Vodacom and the entity requesting interconnection shall each communicate to each other's generic system and circuit identification for mapping to its own generic system and circuit identification scheme.
- 6.7.8 Vodacom and the entity requesting interconnection may, where required, exchange records of utilization and call connection performance over the interconnection interface to ensure that the service over this interface is maintained at satisfactory levels. Information regarding planned dates for route augmentation shall also be exchanged between Vodacom and the entity requesting interconnection whenever necessary.
- 6.7.9 Authorized malicious call tracing may be requested by the ISDs of either Vodacom or the entity requesting interconnection and the other party shall give priority to such a request.
- 6.7.10 In all cases of interconnection outages or interaction between Vodacom and the entity requesting interconnection concerning operation and maintenance activities, an agreed escalation procedure shall apply.

6.7.11 Whenever required, but not less frequently than every 6 (six) months, meetings are to be held between the ISDs of Vodacom and the entity requesting interconnection in order to review the general performance of the interconnection, information exchanges, the procedures provided for herein and/or any other relevant matters.

6.8 Vodacom and the entity requesting interconnection shall, prior to implementation of the interconnection service, agree to a switching test plan.

## **7. OTHER LEGAL AND PROCEDURAL ISSUES**

### **7.1 Review, Amendment and Termination**

7.1.1 Either Vodacom or the entity requesting interconnection may at any time request a review or amendment of the agreement.

7.1.2 The provisions relating to the suspension or termination of the agreement as contained in the Interconnection Regulations shall apply.

### **7.2 Limitation of Liability and Indemnification**

Vodacom and the entity requesting interconnection shall be required to indemnify the each other against all liability, damages or loss arising directly from (and any reasonable cost, charge or expense incurred in connection with) any action, claim, suit or demand by any person, pursuant to

7.2.1 any unlawful act or omission of it or its employees, sub-contractors, directors or agents in connection with the agreement; or

7.2.2 a breach by it of any of the terms of the agreement,

provided that it shall not be liable for any indirect, special and/or consequential damages.

## **8. DISPUTE RESOLUTION**

Disputes arising from the agreement that are not capable of being amicably resolved may be referred for resolution to ICASA in terms of relevant provisions of the EC Act and the

Interconnection Regulations or to arbitration or to the High Court of South Africa.