

## **SCHEDULE 2**

### **ORIGINATION, TERMINATION AND TRANSIT (O/T/T)**

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## **SCHEDULE 2 - GENERAL**

### **ORIGINATION, TERMINATION AND TRANSIT (O/T/T)**

1. This Schedule 2 sets out the terms and conditions under which the Parties will provide the Call Origination Service, the Call Termination Service and the Call Transit Service to each other.
2. In this Schedule, the Party supplying the Call Origination Service, the Call Termination Service or the Call Transit Service shall be known as the Supplier and the Party acquiring the Service shall be known as the Acquirer.
3. This Schedule is comprised of the following sections:
  - Schedule 2A - Call Origination Service
  - Schedule 2B - Call Termination Service
  - Schedule 2C - Call Transit Service

**SCHEDULE 2A**  
**CALL ORIGINATION SERVICE**

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**CALL ORIGINATION SERVICE**

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## **SCHEDULE 2A**

### **CALL ORIGINATION SERVICE**

#### **1. GENERAL**

- 1.1 The Supplier will supply the Call Origination Service from the Supplier's Network in accordance with clause 11.1 of the main body of the RIO Agreement in respect of the Call Types for which the process in clause 3 has been followed and, in the case where SingTel is the Acquirer, in respect of the Call Types specified in Annex 2A-4 (**Originating Interconnected VoIP Calls**).
- 1.2 Notwithstanding the Interconnection of the SingTel Network and the Requesting Licensee's Network, the Supplier shall have no obligation to provide the Call Origination Service in respect of Calls of any type other than Originating Interconnected VoIP Calls.
- 1.3 The Supplier will only be required to provide the Call Origination Service to the Acquirer to the extent that the Acquirer has complied with Schedule 1 and this Schedule 2A.
- 1.4 The Acquirer shall provide and maintain the Interconnection Links for the conveyance of Originating Interconnected VoIP Calls. In the event that the Acquirer no longer provides and maintains Interconnection Links for the conveyance of Originating Interconnected VoIP Calls, the Supplier shall cease to supply the Call Origination Service for all Call Type(s) implemented pursuant to this Schedule. The Acquirer shall be liable for the costs incurred by the Supplier for the cessation in accordance with the Charges as specified in Schedule 9 for ceasing the supply of the Call Origination Service.

#### **2. CUSTOMER REGISTRATION, BILLING & DEBT**

- 2.1 The Acquirer is responsible for tariffing, Customer billing, collection and bad debts in respect of the provision of telecommunications services to its Customers using the Call Origination Service.

#### **3. CALL TYPES**

- 3.1 This clause 3 applies where the Acquirer wishes to extend the use of the Call Origination Service provided by the Supplier to a Call Type in respect of which

the process in this clause 3 has not already been undertaken or, in the case where SingTel is the Acquirer, has not been specified in Annex 2A-4.

- 3.2 The Acquirer shall notify the Supplier by means of the request form set out in Annex 2A-1 of its request to extend the use of the Call Origination Service to a particular Call Type.
- 3.3 Following receipt of a request form under clause 3.2, the Supplier shall assess that request and notify the Acquirer within five (5) Business Days that either:
  - (a) the implementation of the request in respect of the requested Call Type involves only Network Conditioning in the Supplier's Network, in which case the Negotiation Period shall be fifteen (15) Business Days; or
  - (b) the implementation of the request in respect of the requested Call Type involves work in addition to or as an alternative to Network Conditioning in the Supplier's Network, in which case the Negotiation Period shall be sixty (60) Business Days.
- 3.4 The Parties shall negotiate in good faith the requirements, implementation charges and timetable for extending the use of the Call Origination Service provided by the Supplier to the requested Call Type for the Negotiation Period notified in clause 3.3, failing which either Party may commence the Dispute Resolution Procedure in accordance with Schedule 11.
- 3.5 Where the Parties have reached an agreement in accordance with clause 3.4 above, the Supplier will commence implementation in accordance with the agreed timetable.
- 3.6 The Acquirer shall be liable for the costs incurred by the Supplier in processing and implementing the Acquirer's request to extend the use of the Call Origination Service to a particular Call Type in accordance with the applicable Charges set out under Schedule 9.
- 3.7 If the Supplier reasonably believes that, in performing the Acquirer's request in accordance with clause 3.6, any work, operation or use by the Acquirer in relation to the extension of use of the Call Origination Service will cause the Supplier to incur additional costs beyond those costs incurred in the normal provisioning of the Call Origination Service (**Additional Costs**), the Supplier shall notify the Acquirer of the Additional Costs, including, but not limited to, reasonable costs associated with the Supplier's:

- (i) additional processing and implementation of the Acquirer's request;
- (ii) extension of use of the Call Origination Service to a particular Call Type or termination of the Call Origination Service in respect of a Call Type;
- (iii) additional project study costs;
- (iv) additional labour costs;
- (v) additional equipment and software (including information system and software modification) costs; and
- (vi) additional software and hardware testing costs.

3.8 The Supplier's notification under clause 3.7 shall only be valid for a period of five (5) Business Days from the date of receipt by the Acquirer.

3.9 Within five (5) Business Days of receipt of the notification under clause 3.7, the Acquirer shall provide its agreement to proceed with the Acquirer's request and pay the Additional Costs to be incurred by the Supplier in implementing the Acquirer's request to extend the use of the Call Origination Service to a particular Call Type. If the Acquirer does not respond within this period or informs the Supplier that it is unwilling to incur the Additional Costs or informs the Supplier of its intention to withdraw the request, the Supplier shall not be obliged to proceed with the implementation of the Acquirer's request nor to incur any of the Additional Costs set out in clause 3.7 and the Acquirer's request to extend the use of the Call Origination Service to a particular Call Type will be deemed to be withdrawn. The Acquirer shall be liable for any Additional Costs that the Supplier has incurred in connection with implementing the Acquirer's request until the date of withdrawal of the request. Any dispute in respect of determining the Additional Costs set out in the Supplier's notice shall be resolved in accordance with Schedule 11 of the RIO Agreement and the Acquirer's request shall be considered suspended until resolved.

3.10 Nothing in this clause 3 requires the Supplier to perform any changes in its Network or to commence the supply of Call Origination Services for a Call Type until the Parties have completed the Change Process for that Call Type and all Network Conditioning Charges have been agreed to by the Acquirer.

3.11 The Acquirer may, at any time, request the Supplier cease to supply the Call Origination Service in respect of a Call Type, in which case the Supplier shall

cease to supply the Call Origination Service in respect of that Call Type as soon as reasonably practicable or at such later time as specified by the Acquirer. The Acquirer shall pay the Supplier the Charges as specified in Schedule 9 for ceasing the supply of the Call Origination Service in respect of that Call Type.

#### **4. CHARGING PRINCIPLES**

- 4.1 For any Originating Interconnected VoIP Call that originates from the Supplier's Network, the Supplier will collect the Origination Charge from the Acquirer.
- 4.2 For any Call Origination Service that transits through another Licensee's Network, the Supplier will collect the Origination Charge from the Acquirer and recover any Transit Charge from the Acquirer for such Charges that the Supplier pays to the other Licensee's Network who provides a call transit service. Each Party shall, for those Originating Interconnected VoIP Calls for which it is providing or receiving (as the case may be) a Call Origination Service, collect a Call record for each individual Originating Interconnected Call on a CDR basis and process such records in accordance with clause 5.
- 4.3 The Call records collected by the Supplier in accordance with this clause 4 shall be the source of the data used by the Supplier to invoice for the Call Origination Service it provides under this RIO Agreement.
- 4.4 The calculation of Charges for Call Origination Service will be based on the number of Call Durations recorded on the basis of the applicable Billing Unit, and in accordance with the applicable rates set out in Schedule 9.
- 4.5 Calls shall be charged based on the duration of the Call, commencing upon the transmission of the SIP INVITE message initiating the Call and concluding upon the receipt of the corresponding SIP BYE message terminating the same Call. All Calls, regardless of whether they are successful or unsuccessful, are chargeable. The Charges shall be accounted in per second blocks.
- 4.6 The Parties shall agree that if a Chargeable Call Duration extends over two (2) or more Charge rate periods, the Call shall be recorded as a single Call in the Charge rate period which applies at the commencement of the Call and the Chargeable Call Duration will be determined by adopting the applicable rate set out in Schedule 9 for the applicable charging period in which the Call is answered.
- 4.7 The Parties agree that for Calls that cross over to the next Billing Period, the Calls shall be billed in the Billing Period in which those Calls end.

**5. BILLING VERIFICATION INFORMATION**

- 5.1 The Supplier shall use its reasonable endeavours to provide Billing Verification Information for the Call Origination Service in accordance with the format set out in Annex 2A-2 within fourteen (14) Calendar Days from the end of each Billing Period, together with the invoice for the Call Origination Service to be issued in accordance with Schedule 9.
- 5.2 In addition to the obligation in clause 5.1, when there is a dispute in relation to invoices issued for the Call Origination Service, the Parties shall exchange the Detailed Billing Verification Information set out in Annex 2A-3.
- 5.3 In the event that the Supplier cannot record Billing Verification Information for the Call Origination Service due to a system error or other fault, upon the request of the Supplier, the Acquirer shall provide Billing Verification Information to the Supplier.
- 5.4 Where the Billing Verification Information collected by the Acquirer is not available under clause 5.3, the Parties shall negotiate in good faith alternative Billing arrangements, such as an estimation based on the previous three (3) months' Billing Verification Information, that are appropriate in the circumstances.

## **ANNEX 2A.1: REQUEST FORM FOR INTRODUCING NEW CALL TYPE (CALL ORIGINATION SERVICE)**

### **1. GENERAL**

#### **1.1 Call Type Name and Description**

*The Acquirer is to provide a general description of Call Type.*

#### **1.2 Date to be Introduced (Proposal)**

*The Acquirer is to indicate the preferred implementation date for access to be available.*

### **2. NUMBER RELATED INFORMATION**

*The Acquirer is to specify the service code or number range for the Call Type (e.g. 00x, 15xy) as well as the number length.*

### **3. NETWORK CONFIGURATION**

#### **3.1 Network Configuration/Routing Information**

*The Acquirer is to indicate the Network configuration (with a diagram) through which the Call Type is to be conveyed.*

#### **3.2 Trunk Group (SIP Trunk Configuration)**

*The Acquirer is to indicate how traffic to the Call Type will be routed, as well as which Trunk Groups are to be used at the IGSs and SGSs.*

#### **3.3 Not Used**

### **4. PROTOCOL HANDSHAKING**

*Regardless of the Call Type, the Acquirer shall comply with the Internet Engineering Task Force SIP standards.*

### **5. TESTING**

*The Acquirer is to specify the testing requirements, such as testing configuration, test numbers, etc. The preferred testing timeframe is also to be indicated.*

**6. BILLING AND CHARGING REQUIREMENT**

**6.1 Customer Billing**

*The Acquirer is to specify which Party is to bill the Customer and how settlement is to occur.*

**6.2 Operator Billing**

*The Acquirer is to indicate how inter-operator Billing and settlement is to occur.*

**7. BILLING INTEGRATION**

*Both Parties are to look at the downstream billing requirements to cater for the settlement between the Parties. Both Parties have to ensure that the agreed arrangements for Customer and operator Billing and settlement can be implemented and establish timetables for their implementation.*

**8. OTHER REQUIREMENTS**

*The Acquirer may specify any other requirements for Call Type to be delivered.*

**ANNEX 2A.2: BILLING VERIFICATION INFORMATION FOR CALL ORIGINATION SERVICE**

**BILLING INFORMATION FOR THE SUPPLIER**

<b>Call Description</b>	<b>Time Zone</b>	<b>Call duration (in secs)</b>	<b>Call charges (in S\$)</b>
<b>Originating from the Supplier's Network terminating to the Acquirer's Network (Origination Charge)</b>	<b>Peak</b>	<b>xxxx</b>	<b>\$xxx.xx</b>
	<b>Off Peak</b>	<b>xxxx</b>	<b>\$xxx.xx</b>
<b>Total</b>		<b>xxxx</b>	<b>\$xxx.xx</b>

**ANNEX 2A.3: DETAILED BILLING VERIFICATION INFORMATION**

**1. Billing Verification for Supplier IGS**

S/N	ExchID	System	Time Zone	Terminating to Acquirer's Network	
				(Originating from Supplier's Network)	
				Originating Charge payable by Acquirer	
				Attempts	Duration (in secs)
1	IGS1	FBO001	Peak	xxx	xxxx
			Off Peak	xxx	xxxx
2	IGS1	FBO002	Peak	xxx	xxxx
			Off Peak	xxx	xxxx
3	IGS2	FBO001	Peak	xxx	xxxx
			Off Peak	xxx	xxxx
4	IGS2	FBO002	Peak	xxx	xxxx
			Off Peak	xxx	xxxx

**2. BILLING VERIFICATION FOR SUPPLIER SGS**

S/N	ExchID	System	Time Zone	Terminating to Acquirer's Network	
				(Originating from Supplier's Network)	
				Originating Charge payable by Acquirer	
				Attempts	Duration (in secs)
1	SGS1	SBO001	Peak	xxx	xxxx
			Off Peak	xxx	xxxx
2	SGS1	SBO002	Peak	xxx	xxxx
			Off Peak	xxx	xxxx
3	SGS2	SBO001	Peak	xxx	xxxx
			Off Peak	xxx	xxxx
4	SGS2	SBO002	Peak	xxx	xxxx
			Off Peak	xxx	xxxx

#### **ANNEX 2A.4: LIST OF CALL TYPES FOR CALL ORIGINATION SERVICE**

SingTel International Direct Dial “001” Service

SingTel International Direct Dial “011” Service

SingTel Standard Trunk Dial “020” Service

SingTel International Budget Call “013” Service

SingTel Phone to Phone IP “019” Service

SingTel International Toll Free “800” Service

Postal Enquiry “1605” Service for SingPost

SingTel Business Telephone Enquiries and Applications “1606” Service

SingTel Telephone Fault Reporting “1608” Service

SingTel Residential Telephone Enquiries and Applications “1609” Service

Customer Enquiry “1610” Service for SingNet

Customer Enquiry “1622” Service for MobileOne

Customer Enquiry “1626” Service for SingTel Mobile

Customer Enquiry “1627” Service for MobileOne

SingTel Customer Service and Billing Enquiries “1688” Service

SingTel Local Toll Free “1800” Service