

APPENDIX 6

DIRECTED MODIFICATIONS TO SCHEDULE 4A

SCHEDULE 4A
EMERGENCY CALL SERVICE

NOTE: UNLESS OTHERWISE SPECIFIED BY IMDA, IMDA CONDITIONALLY APPROVES THE PROPOSED CHANGES BY SINGTEL IN THIS DOCUMENT.

SCHEDULE 4A

EMERGENCY CALL SERVICE

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SCHEDULE 4A

EMERGENCY CALL SERVICE

1. GENERAL

- 1.1 In addition to the conveyance of Interconnected VoIP Calls pursuant to Schedule 2, SingTel will convey, in accordance with clause 11.1 of the main body of this RIO Agreement, Emergency Calls that are handed over to SingTel at a POI by the Requesting Licensee, for which the process in clause 2 has been followed, to the appropriate Emergency Service Organisation (**Emergency Call Service**).
- 1.2 For the avoidance of doubt, the process in clause 2 must be initiated by the Requesting Licensee if it wishes to acquire the Emergency Call Service in respect of Emergency Calls from Requesting Licensee origins not previously covered by a request under clause 2.
- 1.3 Notwithstanding the Interconnection of the SingTel Network and the Requesting Licensee's Network, SingTel shall have no obligation to provide the Emergency Call Service in respect of Calls of any type other than Emergency Calls.
- 1.4 SingTel will only be required to provide the Emergency Call Service to the Requesting Licensee to the extent that the Requesting Licensee has complied with Schedule 1 and this Schedule 4A.
- 1.5 The Requesting Licensee shall provide and maintain sufficient bandwidth in the Dedicated Emergency Call Interconnection Trunk Group for the conveyance of Emergency Calls. In the event that the Requesting Licensee no longer provides and maintains sufficient Dedicated Emergency Call Interconnection Trunk Group for the conveyance of Emergency Calls, SingTel shall cease to supply the Emergency Call Service for all Call Type(s) implemented pursuant to this Schedule. The Requesting Licensee shall be liable for the costs incurred by SingTel for the cessation in accordance with the Charges as specified in Schedule 9 for ceasing the supply of the Emergency Call Service.
- 1.6 The Requesting Licensee will route Emergency Calls to POIs in accordance with specifications notified to that Requesting Licensee by SingTel from time to time.
- 1.7 The Requesting Licensee must provide SingTel with CLI for all Emergency Calls for the purpose of enabling an Emergency Service Organisation to locate and identify the Calling Party of, and trace an Emergency Call.

- 1.8 The Requesting Licensee shall co-operate with the Emergency Service Organisation to assist in the investigation to locate and identify the Calling Party of, and trace an Emergency Call as and when required.
- 1.9 The Requesting Licensee shall be responsible to order sufficient Interconnect Bandwidth under Schedule 1 to enable the Emergency Calls to be carried across the Dedicated Emergency Call Interconnection Trunk Group to SingTel's Network.
- 1.10 The Requesting Licensee shall not conduct any testing of Emergency Calls unless with the prior arrangement and express permission from the Emergency Service Organisation and SingTel.
- 1.11 The Requesting Licensee shall pay to SingTel the Charges for the conveyance of Emergency Calls handed over at the Interconnect Gateway Switch as provided in Schedule 9.

2. CALL TYPES

- 2.1 Unless the Parties are otherwise directed by the Authority, this clause 2 applies where the Requesting Licensee wishes to extend the use of the Emergency Call Service provided by SingTel to a Call Type in respect of which the process in this clause 2 has not already been undertaken.
- 2.2 The Requesting Licensee shall notify SingTel by means of the request form set out in Annex 4A-1 of its request to extend the use of the Emergency Call Service to a particular Call Type.
- 2.3 Following receipt of a request form under clause 2.2, SingTel shall assess that request and notify the Requesting Licensee 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 SingTel'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 SingTel's Network, in which case the Negotiation Period shall be sixty (60) Business Days.
- 2.4 The Parties shall negotiate in good faith the requirements, implementation Charges and timetable for extending the use of the Emergency Call Service provided by

SingTel to the requested Call Type for the Negotiation Period notified in clause 2.3, failing which either Party may commence the Dispute Resolution Procedure in accordance with Schedule 11.

- 2.5 Where the Parties have reached an agreement in accordance with clause 2.4 above, SingTel will commence implementation in accordance with the agreed timetable.
- 2.6 The Requesting Licensee shall pay to SingTel a Charge for processing and implementing the Requesting Licensee's request to extend the use of the Emergency Call Service to a particular Call Type as set out in Schedule 9.
- 2.7 Nothing in this clause 2 requires SingTel to perform any changes in its Network or to commence the supply of Emergency Call 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 Requesting Licensee.
- 2.8 The Requesting Licensee may, at any time, request SingTel to cease to supply the Emergency Call Service in respect of a Call Type, in which case SingTel shall cease to supply the Emergency Call Service in respect of that Call Type as soon as reasonably practicable or at such later time as specified by the Requesting Licensee. The Requesting Licensee shall pay SingTel the Charges as specified in Schedule 9 for ceasing the supply of the Emergency Call Service in respect of that Call Type.

3. CHARGING PRINCIPLES

- 3.1 For any Emergency Calls terminating into SingTel's Network, SingTel will collect the Emergency Charge from the Requesting Licensee. For the avoidance of doubt, the Emergency Call Service is not provided for termination of Calls to Third Party Networks.
- 3.2 SingTel shall collect a Call record for each individual Emergency Call it receives on a CDR basis and process such records in accordance with clause 4.
- 3.3 The Call records collected by SingTel in accordance with this clause 3 shall be the source of the data used by SingTel to invoice for the Emergency Call Service it provides under this RIO Agreement.
- 3.4 The calculation of Charges for the Emergency Call 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.

CLAUSE 3.5 – MODIFICATION REQUIRED

- 3.5 Calls shall be charged for the duration of use of the Data Link for the Call. Duration of use of a Data Link shall start at the time Data Link first transmits any data related to the Call and shall end at the time the Data Link ceases entirely to transmit any data related to the same Call. All Calls, regardless of whether they are successful or unsuccessful, are chargeable. The Charges shall be accounted in per second blocks.

IMDA Directed Modifications: One respondent to the public consultation enquired how to define the start and end time of the Data Link utilisation related to a Call. For clarity, IMDA directs Singtel to propose modifications to clause 3.5 herein to specify the Session Initiation Protocol (“SIP”) request methods which would signal the start and end time of a Call, as well as to make reference to Call Duration as defined under Schedule 12 Dictionary.

- 3.6 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.
- 3.7 The Parties shall 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.

4. BILLING VERIFICATION INFORMATION

- 4.1 SingTel shall use its reasonable endeavours to provide Billing Verification Information for the Emergency Call Service in accordance with the format set out in Annex 4A-2 within fourteen (14) Calendar Days from the end of each Billing Period, together with the invoice for the Emergency Services to be issued in accordance with Schedule 9.
- 4.2 In addition to the obligation in clause 4.1, when there is a dispute in relation to invoices issued for the Emergency Services, the Parties shall exchange the Detailed Billing Verification Information set out in Annex 4A-3.
- 4.3 In the event that SingTel cannot record Billing Verification Information for the Emergency Call Service due to a system error or other fault, upon the request of SingTel, the Requesting Licensee shall provide Billing Verification Information to SingTel.

- 4.4 Where the Billing Verification Information collected by the Requesting Licensee is not available under clause 4.3, the Parties shall negotiate in good faith such alternative Billing arrangements, such as an estimation based on the previous three (3) months' Billing Verification Information, that are appropriate in the circumstances.

ANNEX 4A.1: REQUEST FORM FOR INTRODUCING NEW CALL TYPE (EMERGENCY CALL SERVICE)

1. GENERAL

1.1 Call Type Name and Description

The Requesting Licensee is to provide a general description of Call Type.

1.2 Date to be Introduced (Proposal)

The Requesting Licensee is to indicate the preferred implementation date for access to be available.

2. CALL ORIGINS

The Requesting Licensee is to indicate which Call origins (eg types of Calling subscribers) from its Network the Call Type is required from and which origins from its Network the Call Type is not required from (e.g. Requesting Licensee international incoming Calls, Requesting Licensee operator Calls; Requesting Licensee PSTN/ISDN Calls).

3. NETWORK CONFIGURATION

3.1 Network Configuration/Routing Information

The Requesting Licensee 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 Requesting Licensee 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 Requesting Licensee 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 Requesting Licensee is to specify which Party is to bill the customer and how settlement is to occur.

6.2 Operator Billing

The Requesting Licensee 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 Requesting Licensee may specify any other requirements for Call Type to be delivered.

ANNEX 4A.2: BILLING VERIFICATION INFORMATION FOR EMERGENCY CALL SERVICE**Billing Information for SingTel**

Call Description	Time Zone	Call Duration (in secs)	Call Charges (in S\$)
Emergency Calls originating from the Requesting Licensee's Network terminating to SingTel's Network (Emergency Charge)	Peak	xxx	\$xxx.xx
	Off Peak	xxx	\$xxx.xx
Total		xxxx	\$xxx.xx

ANNEX 4A.3: DETAILED BILLING VERIFICATION INFORMATION (EMERGENCY CALL SERVICE)

1. Billing Verification for SingTel IGS

S/N	ExchID	System	Time Zone	Originating From Requesting Licensee's Network	
				(Terminating to SingTel's Network)	
				Emergency Charge payable by the Requesting Licensee	
				Attempts	Duration (in secs)
1	IGS1	FBO001	Peak	xxx	xxx
			Off Peak	xxx	xxx
2	IGS1	FBO002	Peak	xxx	xxx
			Off Peak	xxx	xxx
3	IGS2	FBO001	Peak	xxx	xxx
			Off Peak	xxx	xxx
4	IGS2	FBO002	Peak	xxx	xxx
			Off Peak	xxx	xxx

2. Billing Verification for SingTel SGS

				Originating From the Requesting Licensee's Network	
				(Terminating to SingTel's Network)	
				Emergency Charge payable by the Requesting Licensee	
S/N	ExchID	System	Time Zone	Attempts	Duration (in secs)
1	SGS1	SBO001	Peak	xxx	xxx
			Off Peak	xxx	xxx
2	SGS1	SBO002	Peak	xxx	xxx
			Off Peak	xxx	xxx
3	SGS2	SBO001	Peak	xxx	xxx
			Off Peak	xxx	xxx
4	SGS2	SBO002	Peak	xxx	xxx
			Off Peak	xxx	xxx