



VIVA Bahrain

Reference Interconnection Offer (RIO)

Annex B, Schedule 2

SMS Termination Service

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Schedule 2 SMS Termination Service

1. General

1.1 SMS is a messaging system representing an alphanumeric sequence of text, which uses the CCITT No. 7 MAP protocol and generally conforms to GSM Technical Specifications of GSM 03.40, GSM 04.11 and GSM 09.02 (as amended from time to time).

1.1 The SMS Termination Service is applicable to SMS Messages which terminate to Subscribers in the Kingdom of Bahrain.

1.2 This Schedule applies to the supply of the SMS Termination Service where the Other Licensed Operator's Subscriber is directly connected to the Other Licensed Operator's Network and the SMS Message terminates on the relevant device of VIVA's Subscriber.

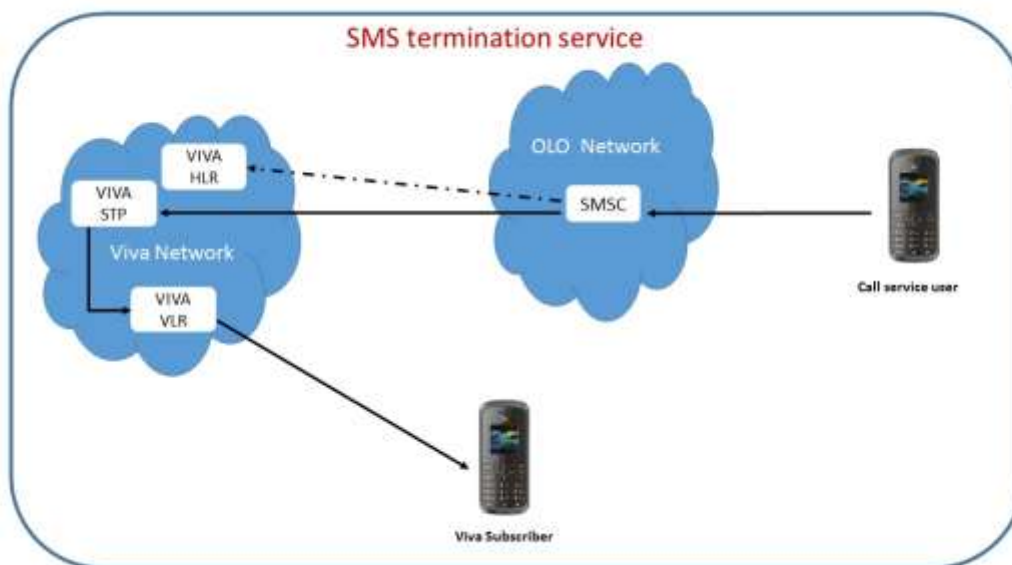
1.3 VIVA shall supply the SMS Termination Service in accordance with Clause 4 of the Supply Terms.

1.4 VIVA shall only be required to provide the SMS Termination Service to the Other Licensed Operator to the extent that the Other Licensed Operator has complied with Annex F (*Operations and Maintenance*) and this Schedule 2.

2. Service Outline

Interconnection Service offered by VIVA	Definition
SMS Termination Service	A service for the transmission of SMS Messages

	<p>originated on or transiting through an Other Licensed Operator Network at an agreed Point of Interconnection to a mobile device associated with a Subscriber on VIVA's Network.</p>
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3. Description of Service

- 3.1 VIVA shall convey SMS Messages at the same standard and quality of service as VIVA conveys similar SMS Messages within the VIVA Network.
- 3.2 The Parties shall agree in advance all necessary technical requirements, including protocol and sequences, for the conveyance of SMS Messages pursuant to this Clause 3 of this Schedule.
- 3.3 The terms and conditions for establishing the Interconnection Link are provided in Annex B, Schedule 4 for Interconnection Link.



The pricing terms of the Interconnection Link are to be negotiated on a commercial basis. Such terms shall be fair, reasonable and non-discriminatory.

- 3.4 Each Party shall locate and correct faults that occur in its Network which affect the conveyance of SMS Message traffic in accordance with such Party's normal engineering practices. For the avoidance of doubt, neither Party warrants that its Network is, or will be, free from faults.
- 3.5 For the conveyance of SMS Messages by VIVA the Other Licensed Operator shall pay VIVA a charge calculated in accordance with the rate for such an SMS Message specified from time to time in Annex C (*Price List*).
- 3.6 The principle of SMS hand-over shall be that SMS messages originating from or transiting through the Other Licensed Operator's Network are to be received by VIVA with all required signalling traffic (e.g. SS7) to enable VIVA to convey and terminate the SMS messages on the VIVA Network.
- 3.7 The SMS Termination Service is limited to a message length of 160 characters. In addition, VIVA's SMSC supports concatenated SMS Messages.
- 3.8 With regard to unsolicited SMS Messages or spamming, VIVA considers that the transmission of unsolicited SMS Messages from the Other Licensed Operator's Network to a significant number of customers on VIVA's Network in a manner which is likely to annoy the recipient customers is undesirable. The Other Licensed Operator shall use its reasonable endeavours to discourage the transmission of unsolicited SMS Messages where commercially and technically feasible.
- 3.9 The Parties shall negotiate in good faith the technical requirements and timetable for the use of the SMS Termination Service in accordance with the



Other Licensed Operator's request. In the event that agreement is not reached either Party may commence the Dispute Resolution Procedure in accordance with Clause 19 of the Supply Terms.

3.10 Where the Parties have reached an agreement, VIVA will commence implementation in accordance with the agreed timetable.

3.11 VIVA will not perform any changes in its Network or commence the supply of the SMS Termination Service until the Parties have completed all necessary Data Management Amendments required for the SMS Termination Service and all SMS Interconnection Links are in place and the associated Price List has been agreed to by the Other Licensed Operator.

3.12 The Other Licensed Operator may, at any time, request VIVA to cease supplying the SMS Termination Service and VIVA shall cease supplying the SMS Termination Service as soon as practicable or at such later time as specified by the Other Licensed Operator in accordance with the terms and conditions specified in Clause 20 (*Breach, Suspension and Termination*) of the Supply Terms.

4. **Numbering**

4.1 The Other Licensed Operator shall transmit an accurate A-number with each SMS Message handed over to VIVA.

4.2 For the avoidance of doubt, the Other Licensed Operator shall not have complied with Clause 4.1 if it transmits a modified A-number to VIVA.

4.3 In respect of any SMS Message handed over from the Other Licensed Operator's Network to VIVA's Network, there shall be no charge to VIVA for the provision



by the Other Licensed Operator of any number information provided by the Other Licensed Operator, including the A-number.

5. **Forecasts**

5.1 Forecasts shall be supplied in accordance with the processes detailed in Annex F (*Operations and Maintenance*).

5.2 If the other Party agrees with the number of SMS Interconnection Links forecast by the first Party in accordance with Annex F (*Operations and Maintenance*) and the timing for the provision of those SMS Interconnection Links, then each Party shall use its reasonable endeavours to provision every alternate SMS Interconnection Link in accordance with the terms of the commercial agreement for those SMS Interconnection Links.

5.3 The Parties agree to provide to each other forecasts of SMS Message traffic in accordance with the procedures detailed in Annex F (*Operations and Maintenance*). The content of the traffic forecasts will cover:

- a) the average number of SMS Messages per day and the peak number of SMS Messages per busy hour; and
- b) the number of SMS Interconnection Links required, including the speed of each SMS Interconnection Link requested by the forecasting Party.

6. **Charging**

6.1 VIVA will for those terminating SMS Messages collect a Call Detail Record (CDR) for each individual SMS Message and process such records in accordance with this Clause 6.



- 6.2 The CDRs collected by VIVA in accordance with this Clause 6 shall be the source of the data used by VIVA for Billing Verification as per this Clause 6 and to invoice for the SMS Termination Service provided under this Schedule.
- 6.3 The calculation of charges for the SMS Termination Service will be based on the number of SMS Messages in accordance with the applicable rates set out in Annex C (*Price List*).
- 6.4 The Other Licensed Operator shall pay to VIVA the relevant charges for each Chargeable SMS Message as described in Clause 5.4 of the Supply Terms.
- 6.5 For the avoidance of doubt, an SMS handed over from the Other Licensed Operator to VIVA shall not be a Chargeable SMS where that SMS Message is handed over to VIVA during the period of any suspension of the SMS Termination Service under Clause 20(*Breach, Suspension and Termination*) of the Supply Terms.

7. **Billing Information**

- 7.1 VIVA shall use its reasonable endeavours to provide the Interconnection Usage Report for the SMS Termination Service in accordance with the format set out in Annex D (*Billing Processes and Procedures*) within ten (10) Business Days from the end of each Billing Period together with the invoice for the SMS Termination Service in accordance with Annex D(*Billing Processes and Procedures*).
- 7.2 In addition to the obligation in Clause 7.1, when there is a Dispute, as defined in Annex D(*Billing Processes and Procedures*), in relation to invoices issued for the SMS Termination Service, then the Dispute Resolution procedures laid out in Clause 4 of Annex D(*Billing Processes and Procedures*) and Clause 19 of the Supply Terms will be followed.

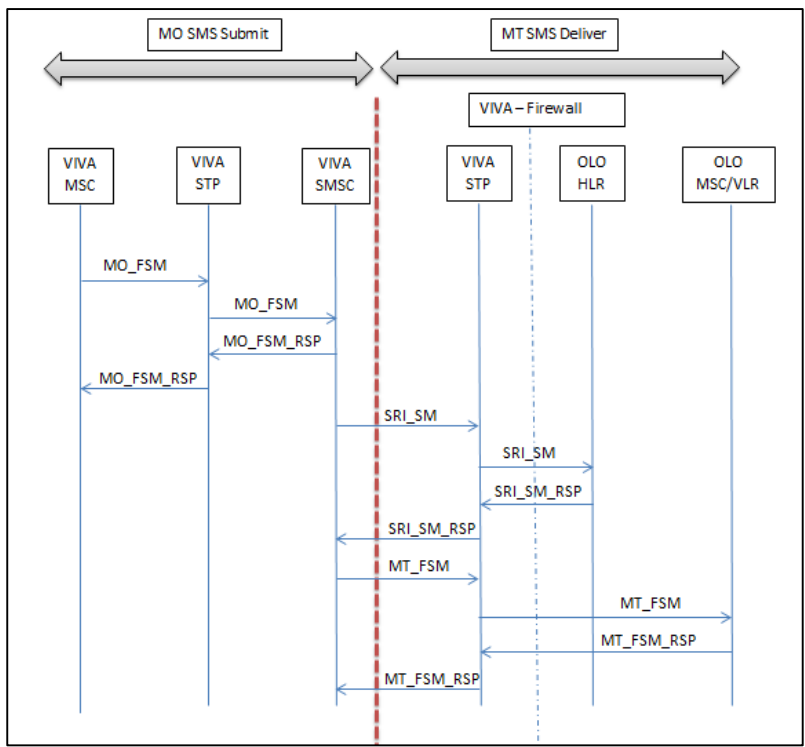


7.3 In the event that VIVA cannot record Billing Information for the SMS Termination Service due to a system error or other faults the Other Licensed Operator will be requested to provide the appropriate Billing Information to VIVA in accordance with the procedure set out in Annex D(*Billing Processes and Procedures*).

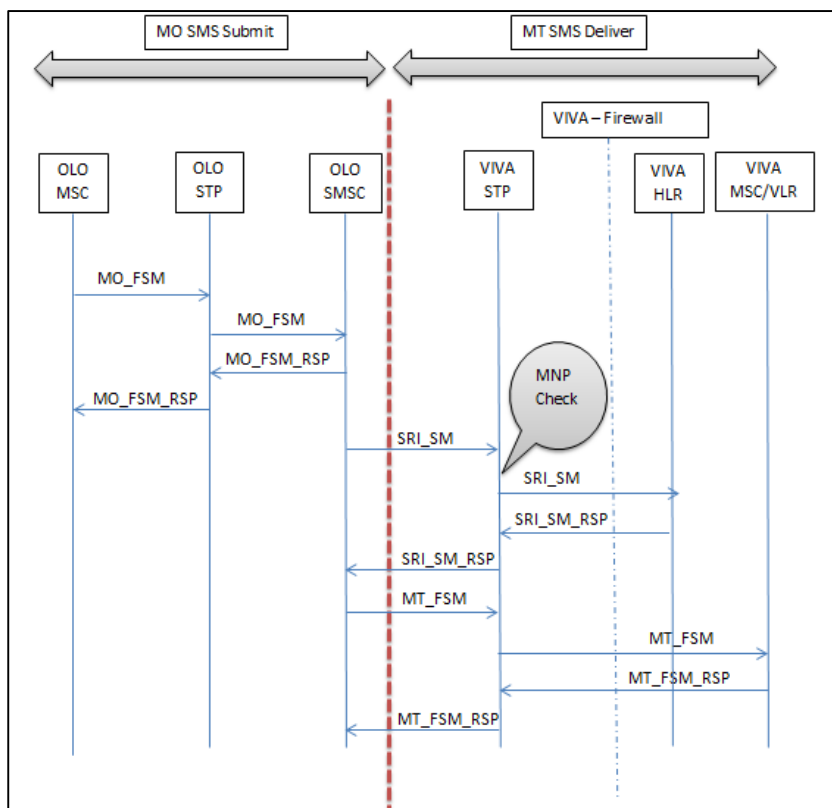
7.4 Where the Billing Information collected by the Other Licensed Operator is not available under Clause 7.3 and the procedure set out in Annex D(*Billing Processes and Procedures*), the Parties shall negotiate in good faith such alternative billing arrangements, such as an estimation based on the previous three (3) Calendar Months Billing Periods' Billing Information in accordance with the procedure set out in the procedure set out in Annex D(*Billing Processes and Procedures*) and as appropriate in the circumstances.

8. **Routing**

8.1 The conveyance of SMS Messages shall be in accordance with the signalling routing principles to be agreed upon between VIVA and the Other Licensed Operator. Such agreement will form part of the Network Plan.



SMS from VIVA TO OLO Subscriber



SMS from OLO TO VIVA Subscriber



Document History and Version Control

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