

# **SAUDI TELECOM COMPANY**

## **Reference Interconnection Offer (RIO)**

### **Annex I**

## **Quality of Service Measures**

Version number:	Draft 2.2
Version date:	November, 2006
Date of original Issue:	23 <sup>rd</sup> April 2005
Authority for issue :	GM, Regulatory Affairs
Next scheduled review date:	April, 2007

**DOCUMENT HISTORY & VERSION CONTROL RECORD**

<b>Name of document</b>	Quality of Service Measures
<b>Author</b>	Director, Carrier Services
<b>Authorised Officer</b>	GM, Regulatory Affairs
<b>Description of document</b>	Contains the Quality of Service parameters for the Interconnection Services provided by STC.
<b>Approved by</b>	CITC
<b>Date of approval</b>	To be approved by CITC
<b>Assigned review period</b>	Annual
<b>Date of next review</b>	April, 2007

Version Number	Version Date	Authorised Officer	Amendment Details
1.0	23/04/2005	GM, Regulatory Affairs	Original issue of STC Reference Interconnection Offer – Quality of Service Measures.
2.0	April,2006	GM, Regulatory Affairs	<ul style="list-style-type: none"> <li>- Additional Clause 1.3.2 to state that addition availability of Interconnection Links can be made on Interconnection Routes if additional capacity is installed.</li> <li>- In Clause 1.3.1, Interconnect Link availability changed to 99.5 % from 99%</li> <li>- In Clause 1.3.3, Transmission Link availability changed to 98.5% from 98%.</li> <li>- In Clause 1.2.2, Delivery time for the New Interconnection Links to an existing POI changed to 24 weeks .</li> <li>- In Clause 1.2.3, Delivery time for the New Transmission Links where Equipment is required at one or both ends is changed to 24 weeks .</li> <li>- Clause 1.3.4 , Grade of Service changed from 3% to 2% .</li> </ul>
2.1	April,2006	GM, Regulatory Affairs	<ul style="list-style-type: none"> <li>- Clause 1.5, Transmission link repair times added and also the repair times for the remaining 15% of the cases indicated.</li> <li>- Overall availability clause 1.3.4 added.</li> </ul>

Version Number	Version Date	Authorised Officer	Amendment Details
2.2	November, 2006	GM, Regulatory Affairs	<ul style="list-style-type: none"> <li>- Clause 1.1.4 and 1.2.2 modified to include Data Local Access and ISI Interconnect Links.</li> <li>- New Clauses 1.2.3 and 1.2.5 and 1.3.4 added regarding the delivery times &amp; availability for ISI and Wholesale Data Leased Circuits.</li> </ul>

## TABLE OF CONTENTS

Clause	Page number
1 Annex I: Quality of Service Measures.....	6
1.1 Service Level Requirements .....	6
1.2 Delivery Lead Times .....	7
1.3 Performance.....	9
1.4 Interconnect Link Fault Repair .....	11
1.5 Repair Times .....	11

## 1 ANNEX I: QUALITY OF SERVICE MEASURES

### 1.1 Service Level Requirements

1.1.1 STC will provide Call Conveyance Interconnection Services as set out in Annex G (*Service Schedules*) to the Other Licensed Operator at the same level of quality as for its own customers.

1.1.2 Both STC and the Other Licensed Operator will be responsible for regularly measuring and monitoring the traffic and Quality of Service on the Interconnect Links between their networks, and will be able to do so in real time or as close to real time as is possible. STC and the Other Licensed Operator will work jointly to achieve this goal in accordance with general standards and methods specified by ITU and the processes outlined below.

1.1.3 This Annex sets out the target service levels by which the capacity and traffic characteristics of the Interconnection Services provided by STC to the Other Licensed Operator will be measured and assessed. It also sets out the Quality of Service Measures to which STC commits for the provision and maintenance of Interconnection Services under an Interconnection Agreement formed pursuant to this Reference Interconnection Offer (RIO).

1.1.4 Targets are set for a number of specific service level attributes.

- Delivery Lead Times:
  - Interconnect Links
  - Transmission Links
  - Data Local Circuits
- Performance
  - Interconnect Links
  - Transmission Links
  - Data Local Circuits
  - Network

- Fault repair time for Interconnect Links
  - Service-affecting faults
  - Non-Service-affecting faults

1.1.5 The service level attributes listed in Clause 1.1.4 above will apply except in the circumstances defined in Clause 23 (Force Majeure) of the Primary Document. For the avoidance of doubt, STC will make all reasonable efforts to comply with the terms of the service level attributes.

1.1.6 An unreasonable delay caused by the Other Licensed Operator's non-fulfilment of its obligations arising out of the Interconnection Agreement will result in the non-applicability of all or part of STC's undertakings contained in these Quality of Service Measures. Such obligations include, but are not limited to, access to sites for survey or provision of information required for service provisioning or fault resolution.

1.1.7 STC will provide traffic and Quality of Service reports upon request from CITC, in accordance with its Licence obligations.

## **1.2 Delivery Lead Times**

1.2.1 STC's commitment to deliver within the lead times outlined below, will only apply to services ordered in accordance with the procedure for ordering and provisioning as set out in Annex H (*Operations and Maintenance Manual*), and within the forecast provided by the Other Licensed Operator under the procedure set out in Annex E (*Forecasting*).

### **Delivery of Interconnect Links**

1.2.2 The table below details the delivery lead times applicable to Customer Sited (CS) Interconnect Links ordered within the agreed forecast by the Other Licensed Operator, starting from the end of the order negotiating period:

<i><b>Order Type</b></i>	<i><b>Delivery Lead Time</b></i>
New CS Interconnect Link to a new Point of Interconnect (POI)	24 weeks
Additional CS Interconnect Link to an existing POI where capacity is available	12 weeks

1.2.3 The delivery lead times as applicable to In Span Interconnection Links will be determined on a case by case basis .

#### **Delivery of Transmission Links**

1.2.4 The table below details the delivery lead times applicable to Transmission Links ordered within the agreed forecast by the Other Licensed Operator, starting from the end of the order negotiating period:

<i><b>Order Type</b></i>	<i><b>Delivery Lead Time</b></i>
New Transmission Link where transmission equipment is available at both ends	12 weeks
New Transmission Link where transmission equipment is required at one or both ends but not involving civil engineering work	24 weeks

#### **Delivery of Data Local Access circuits**

1.2.5 The table below details the delivery lead times applicable to Data Local Access circuits ordered within the agreed forecast by the Other Licensed Operator, starting from the end of the order negotiating period:



<b><i>Order Type</i></b>	<b><i>Delivery Lead Time</i></b>
New Data Local Access circuit where transmission equipment is available at both ends	12 weeks
New Data Local Access circuit where transmission equipment is required at one or both ends but not involving civil engineering work	24 weeks

### **Delivery of Collocation facilities**

1.2.6 Delivery lead times will depend on the outcome of the site surveys, and will therefore be determined on a site-by-site basis.

## **1.3 Performance**

### **Availability of Interconnect Links**

1.3.1 Each Interconnect Link will have a target availability of 99.5% which is the amount of time over one quarter (that is to say three (3) months in the Hijra calendar) during which the link is fully functional and available for the conveyance of traffic.

1.3.2 A higher level of availability on individual interconnection routes may be obtained if the Other Licensed Operator and STC agree to install additional Interconnection Link capacity and implement alternative routing.

### **Availability of Transmission Links**

1.3.3 Each Transmission Link will have a target availability of 98.5% which is the amount of time over one quarter (that is to say three (3) months in the Hijra calendar) during which the link is fully available.

#### **Availability of Data Local Access circuits**

1.3.4 Each Data Local Access circuit will have a target availability of 98.5% which is the amount of time over one quarter (that is to say three (3) months in the Hijra calendar) during which the link is fully available.

#### **Overall Availability**

1.3.5 For the overall performance of the Interconnection , Transmission Links and Data Local Circuits , the availability should meet the performance target of 99.5% on average yearly.

#### **Grade of Service for switching network**

1.3.6 Grade of Service (GoS) measurements will be carried out in each of the relevant STC Exchanges as applicable in order to monitor the overall quality of service.

The following Grade of Service parameters will be measured:

- Total number of call attempts
- Total number of successful calls (calls set up successfully), which comprises:
  - total number of answered calls
  - total number of calls to busy subscribers
  - total number of unanswered calls
- Total number of unsuccessful call attempts which comprises:
  - congestion due to non availability of common resources
  - technical faults in the network

On the basis of the measurements as set out in Clause 1.3.6, STC will calculate the Grade of Service (GoS) during the busy hour on any Interconnect Link. The Grade of Service is the percentage of unsuccessful calls of the total call attempts during the network busy hour.

Interconnect Links will be dimensioned so that the GoS for the network busy hour is less than two percent (2%), which constitutes the Target Grade of Service for any route.

- 1.3.7 STC and the Other Licensed Operator will cooperate and take joint action to address any issue arising from the result of the above measurements. In particular, in the event of extended breach of the Grade of Service on a particular Link, STC and the Other Licensed Operator will consider alternative traffic routing away from the congested Link or increasing capacity on the Interconnect Path. These changes will be agreed as part of a review of the Network Plan as outlined in Annex D (*Management of Interconnection*).
- 1.3.8 If an agreement cannot be reached during the review of the Network Plan, either STC or the Other Licensed Operator will have the right to ask CITC to intervene and make a determination on the requirement for re-routing or additional capacity.

#### **1.4 Interconnect Link Fault Repair**

- 1.4.1 STC or the Other Licensed Operator will report to the other party any fault related to interconnect links, in accordance with the procedure described in Annex H (*Operations and Maintenance Manual*).
- 1.4.2 In the event of the Other Licensed Operator's failure to report a fault in accordance with the appropriate procedure, STC will not be bound by the terms of this Annex, including the target repair time and any applicable penalties.
- 1.4.3 Both STC and the Other Licensed Operator will co-operate in any investigation and follow up action required for the resolution of the fault.

#### **1.5 Repair Times**

- 1.5.1 Repair times are dependent on the nature of the fault (Service-Affecting or Non-Service-Affecting).
- 1.5.2 When a fault has been reported and both Parties agree that the fault is Service Affecting in accordance with the terms of Annex H (*Operations and Maintenance Manual*), STC will address Service-Affecting faults as priority.

1.5.3 STC will address reported faults within the timescales as detailed in the table below:

<i>Type of fault</i>	<i>Target Repair Time for Interconnection Links</i>	<i>Target Repair Time for Transmission Links</i>
Service-affecting fault	85% within 10 hours of receipt of Fault Report	85% within 20 hours of receipt of Fault Report
Non-service-affecting fault	85% within 36 hours of receipt of Fault Report	85% within 72 hours of receipt of Fault Report

The target repair times for the remaining 15% of the cases on average are 5 working days in case of Service affecting faults and 20 working days in case of non-service affecting faults.

## 1.6 Review and Update

1.6.1 The Quality of Service Measures will be reviewed after consultation with the OLOs, based on technical and operational capabilities and updated as appropriate.