

## **OPERATION AND MAINTENANCE MANUAL**

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This Operations Manual sets out the processes and principles by which JT and the Licensee shall maintain and operate the capacity and traffic that makes up the Network Interconnection between their respective Networks.

## **1. NETWORK TRAFFIC MANAGEMENT PRINCIPLES**

- 1.1 JT and the Licensee shall be responsible for monitoring and controlling the flow and routing of traffic in real time or as close to it as is possible to maximise the effective use of their own network.
- 1.2 JT and the Licensee shall carry out monitoring activities at regular intervals and at various levels of the network hierarchy to optimise the use of network capacity and the quality of service. JT and the Licensee shall, in accordance with the terms of the Interconnection Agreement between them, deploy resources to carry out all activities required to monitor and maintain the quality of service.
- 1.3 Either Licensee can also carry out specific monitoring activities on a case-by-case basis at its discretion or in response to a request from the other Licensee where this is technically and economically feasible.
- 1.4 A JT telephone number is available on a 24hrs basis to receive network traffic management queries from the interconnected Licensee (Contact Points shall be listed in the Network Plan).
- 1.5 Either Licensee shall use reasonable endeavours to notify the other Licensee when major problems occur which are likely to affect interconnect traffic. To that effect, the Licensee shall provide a 24hr contact point to receive network traffic management information. In the event of major service failure in particular, Licensees shall share information in accordance with Clause 1.5.2 of the Main Document in order to resolve the problem and restore service. Under no circumstances however shall the Licensees be required to provide commercially sensitive information, nor shall the information supplied be used for any other purpose than network traffic management.

## **2. TRANSMISSION MANAGEMENT**

- 2.1 The JT technical team monitors the performance of the JT Transmission Network and is able to monitor the Bit Error Rate (BER) on a specified Transmission Link by putting it under test for a certain period of time (15 minutes to 24 hours).
- 2.2 Other types of tests which may be carried out at JT's initiative or upon request from the Licensee include:
  - Remote Loop tests
  - Random signal tests

2.3 JT will also monitor the following alarms:

- Remote alarm indication error
- Multi frame alarm indication error
- Loss of signal
- Alarm indication signal
- Out of frame error

### **3. INTERCONNECT TRAFFIC MANAGEMENT**

#### *3.1 Routing Management*

3.1.1 All routing should be carried out in accordance with the National Numbering Plan, as published by TRC and amended from time to time.

3.1.2 National numbers shall not be passed in the international format.

3.1.3 Each Licensee shall manage the routing of outgoing calls up to the network boundaries and incoming calls from the network boundaries to their destination.

3.1.4 JT and Licensee shall, in good faith, cooperate to minimize the impact of congestion in its network on the other Licensee's network. However, the affected network shall use all efforts to reduce the impact of excessive traffic typically, for example, by call gapping, alternative routing and prioritisation techniques.

3.1.5 Either Licensee shall be able to require the other to deliver incoming traffic to their networks on specific interconnect links and to request the use of proportional routing or other traffic management techniques.

3.1.6 Each Licensee shall pass onto the other the full CLI and CLIR for all calls, to the extent that the CLI and CLIR are available.

#### *3.2 Routing of JT traffic towards the Licensee*

3.2.1 JT will pass calls to the Licensee for termination. These include traffic to the Licensee-owned local/national numbers, customer care access code and other service covered by a specific Schedule pursuant to acceptance of this Offer:

#### *3.3 Routing of the Licensee traffic towards JT:*

3.3.1 The Licensee shall convey traffic to JT of the type described in the relevant Service Schedules included in the Interconnection Agreement pursuant to this Offer.

- 3.3.2 In order to ensure correct routing and accounting, the following table defines the minimum number plan required to be implemented in the Licensee's digit analysis:

| <b>Traffic type</b>   | <b>Access code</b>        | <b>Comments</b>  |
|-----------------------|---------------------------|--|
| INTERNATIONAL ACCESS  | 00                        |  |
| National termination  | 02, 03, 05, 06            |  |
| National transit      | 07                        |  |
| Special services      | 08                        | Free phone, fixed cost, shared cost, Dial-up Internet Access |
| Premium rate services | 09                        |  |
| Directory Enquiries   | 121                       |  |
| Operator Assistance   | 0132, 0133                |  |
| Emergency services    | As per the Numbering Plan |  |

#### 3.4 Changes to Call Routing

- 3.4.1 Changes to call routing shall be detailed in the Network Plan.

#### 3.5 *Traffic Controls*

- 3.5.1 There are two main types of traffic control; 'Expansive', typically re-routes, and 'Protective', typically call-gapping.
- 3.5.2 Either Licensee may request a control from the other in instances where it may be necessary to re-direct or reduce the volume of traffic to the network of the Licensee.
- 3.5.3 A re-route control may mean that the traffic affected shall be carried over a Licensee's network for a greater distance than normally expected before being offered to the Licensee's network. Providing contractual agreement has been reached, re-routes may be 'set-up' in data at all interconnect units. The Licensees shall activate and remove the re-route option for each incident.
- 3.5.4 Overflow from the primary route(s) should only be to pre-designated alternative interconnect routes, as detailed in the Network Plan.
- 3.5.5 Either Licensee may request re-routing of traffic or overflow from primary routes to pre-designated alternative routes. Such arrangements are subject to agreement between the two Licensees and should be documented in their Network Plan.
- 3.5.6 Protective controls prevent switching units being put in jeopardy due to excessive call attempts, problems and overloads in the other Licensee's network. The protective call-gapping control should mean that traffic

destined for the Licensee's network may be restricted by the application of the control which would normally be applied on the receipt of a formal request from one Licensee to the other (Exchange Overload Handling procedure in accordance with ITU recommendations).

- 3.5.7 Protective measures such as call-gapping maybe requested by one Licensee to prevent overloads in the other Licensee's network. Such measures however shall only be applied to emergency or exceptional circumstances and after information has been exchanged and discussions held between JT and the Licensee.
- 3.5.8 When taking such measures unilaterally, either Licensee should inform the other immediately. Advice of removal of the control should also be given without unnecessary delay.
- 3.6 *Mass Call Events*
  - 3.6.1 Mass Call Event is defined as a planned period of high call volumes to a specific destination or set of destinations, e.g. a 'phone-in' to a 'telethon' type of event, or Tele-Voting.
  - 3.6.2 The Licensees shall establish procedures to coordinate Mass Call Events with their large Users who may host them. Such procedure shall be agreed upon between the two parties in the Interconnect Agreement.
  - 3.6.3 Either Licensee planning a Mass Call Event shall provide the other party where possible with reasonable advance notice.
  - 3.6.4 The Licensees shall cooperate to ensure that, either additional capacity is provided on a temporary basis, or that traffic controls in accordance with clause 3.5 are applied in order to maintain the service.
- 3.7 *New Numbering Blocks*
  - 3.7.1 Prior to opening new numbering blocks on its network, either Licensee should notify the Interconnected Licensee in writing at least one (1) month in advance of the activation of such numbers.

#### **4. INTERNET TRAFFIC MANAGEMENT**

- 4.1 *Configuration*
  - 4.1.1 Any of the routes are allowed over /30 subnets only.
  - 4.1.2 The choice of route over which the Licensee's traffic will be passed shall be at JT's discretion.
  - 4.1.3 If the Licensee does not have an AS number JT will assign a private number to enable BGP. This AS will be extracted when advertising the

prefixes to the Internet, thus the Licensee's subnets will have JT's AS attached.

#### 4.2 *Routing Principles*

4.2.1 The Licensee shall advertise only its own prefixes registered under its name in the RIPE database. The Licensee's traffic will be passed onto the JT network only if the announced prefix is recorded in the RIPE database.

4.2.2 The Licensee shall notify JT of any new prefixes. Notification shall be made by e-mail to the JT NOC at least [x] hours prior to activation of the prefixes.

4.2.3 Provider Independent (PI) prefixes may be allowed through the Licensee if they are registered in RIPE database under the name of the customer.

4.2.4 Provider Assigned (PA) prefixes of a Licensee will not be announced if they are coming through another local Licensee.

4.2.5 The Licensee shall announce prefixes with the maximum summarization possible

4.2.6 JT will announce only summarized prefixes not longer than /24.

4.2.7 A few /32 prefixes will be allowed, upon request from the Licensee for the purpose of "black holing", i.e. to block Denial of Service (DoS) traffic targeted towards a victim address inside the Licensee's network.

4.2.8 The Licensee may pass BGP communities, subject to agreement between JT and the Licensee. Subsequent routing will be carried out at JT's discretion.

4.2.9 The ISP has the option to have a default route sent to him via BGP or the full BGP table. In the latter case, it is the responsibility of the Licensee to do any specific filtering on BGP routing table.

4.2.10 JT will not enable any other routing protocol except BGP v.4 and will not enable HSRP or any other redundancy or load balancing protocol. Static routes and default static routes are not allowed.

4.2.11 The Licensees must endeavour to adopt best industry practice and any recommendations issued by relevant bodies in Jordan and worldwide.

#### 4.3 *Performance Monitoring*

4.3.1 Jordan Telecom gives access to a web server available 24x7x365 providing online statistics to "ISPs". The following data are presented by day, week, month, and year:

- Graph of traffic in Mbps (in and out).

- Graph of traffic volume in Giga Octets (in and out).
- Capacity utilization rate in %.
- Packet drop rate in % on access line (in and out).

4.3.2 The Licensee may use out of band management equipment to remotely control its collocated routers in the event that the backhaul transmission facilities are interrupted. The equipment and the telephone line are the responsibility of the Licensee.

## **5. QUALITY OF SERVICE MEASURES**

### *5.1 General Statement*

5.1.1 Jordan Telecom shall provide call conveyance Interconnection Services to the Licensee at same level of quality as for its own customers.

5.1.2 Both Licensees shall be responsible for regularly measuring and monitoring the traffic and Quality of Service on the Interconnect links between their networks, and shall be able to do so in real time or as close as it is possible.

5.1.3 Jordan Telecom and the Licensee shall work jointly to achieve this goal in accordance with general standards and methods specified by ITU, and the processes outlined in this Operations and Maintenance Manual.

5.1.4 JT shall provide traffic and Quality of Service reports upon request from TRC, in accordance with its Licence obligations.

### *5.2 QoS for Transmission Network*

5.2.1 When commissioning a new Interconnect path, JT shall carry out Bit Error Rate (BER) tests over 24 hours.

5.2.2 JT Transmission Network Management Centre monitors the performance of the JT transmission network and may carry out Bit Error Rate tests on specific links over a certain period of time (15 minutes or 24 hours) to monitor the quality of service on these links. The Licensee may request BER tests to be carried out.

5.2.3 Applicable standards for BER are detailed in the statement of Service Level Offer.

### *5.3 QoS for switching network*

5.3.1 Grade of Service measurements are carried out in each of the JT exchanges in order to monitor the overall quality of service. The following grade of service parameters are measured



- Total number of call attempts
- Total number of successful calls which includes:
  - total number of answered calls
  - total number of calls to busy subscribers
  - total number of unanswered calls
- Total number of unsuccessful call attempts which includes:
  - incomplete dialling
  - calls to unallocated numbers
  - technical faults in the network

5.3.2 On the basis of the above measurements JT calculates the Grade of Service during busy hour on any Interconnect Link. The Grade of Service during busy hour is the percentage of calls blocked during network busy hour, where:

$$\text{Blocking probability} = \text{Unsuccessful call attempts} / \text{Total call attempts}.$$

5.3.3 For the avoidance of doubt, the network is dimensioned based on a Grade of Service (GoS) in the busy hour in normal days, therefore excluding specific events such as but not limited to religious fests, Tawjihi results and TV competitions. Where possible those events should be subject to Traffic Control or treated as Mass Call Events under the terms of the RIO.

5.3.4 The target Grade of Service for Interconnect Links is set out in the Service Level Offer.

5.3.5 The parameters are also used to calculate the Answer Seize Ratio (ASR) for incoming international traffic, where:

$$\text{ASR} = \text{Successful incoming international calls} / \text{Total incoming international call attempts}, \text{ where successful calls} = \text{answered calls} + \text{busy calls} + \text{unanswered calls}.$$

5.3.6 The standard ASR on Interconnect Links is set out in the Service Level Offer.

5.3.7 JT shall report on the above measurement to the Licensee on a regular basis on the form supplied in Appendix 6 of this Operation and Maintenance Manual. The scope and frequency of the report shall be agreed between JT and Licensee, who should compare their measurements.

5.3.8 JT and the Licensee shall 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, JT and the Licensee should consider alternative traffic routing away from

the congested Link or increasing capacity on the route. These changes should be documented in a reviewed Network Plan.

- 5.3.9 If an agreement cannot be reached during the review of the Network Plan, either Licensee shall have the right to ask TRC to intervene and make a determination on the requirement for re-routing or additional capacity.
- 5.4 *QoS for International Internet Capacity*
  - 5.4.1 Packet loss is measured on the JT network from the Licensee's port interface up to and including the last JT router hop. JT shall not be responsible for packet loss due to congestion on the ISP transmission link.
  - 5.4.2 Packet loss is measured by sending at least one thousand (1000) Cisco-style pings of sixty-four (64) bytes each during each hour of the measured twenty-four (24) hour period across the JT Internet backbone network to any Internet host.
  - 5.4.3 In order to collect appropriate packet loss statistics, JT will ping from the ISP access router in the JT backbone to the last JT router in the path closest to the Internet host(s), and identified in the ISP's trouble report.
  - 5.4.4 JT-confirmed packet loss is the measurement of packet loss attributable to the JT Internet backbone network, i.e., from the ISP's port interface on the JT Internet backbone network up to and including the last JT router hop
  - 5.4.5 The guaranteed average packet loss is stated in the Service Level Offer.
  - 5.4.6 For International Internet Capacity, packet loss observed by the Licensee and confirmed by JT that exceeds 12% (twelve percent) on average for one thousand (1000) pings and persists for at least eight (8) hours will be considered a service outage and shall be treated as a Service Affecting Fault. Packet loss observed by the ISP and confirmed by JT that is equal to 100% (one-hundred percent) at any time also will be considered a Service Outage.
  - 5.4.7 Packet loss that is observed by the ISP and confirmed by JT as greater than 1% (one percent) and lower than 12% (twelve percent) should be considered a service degradation and be treated as a Non Service Affecting Fault.
  - 5.4.8 Round trip delay will be measured by computing the average round trip delay for one thousand (1000) Cisco-style pings of sixty-four (64) bytes each (Cisco-style pings are only sent subsequent to an acknowledgment being received for the previous ping).

## **6. FAULT MANAGEMENT**

6.1 *Principles*

- 6.1.1 Each Licensee shall maintain its own fault reporting centre which shall be responsible for handling the fault between Networks, coordinating fault clearance (including escalations) within its own Network and subsequently reporting the clearance of the fault to the other Licensee.
- 6.1.2 Each Licensee shall provide twenty –four (24) hour designated point of contact for fault reporting.
- 6.1.3 The details of designated Points of Contact for each Licensee shall be included in the Network Plan.
- 6.1.4 Licensees detecting a fault which may affect Interconnection Services shall endeavour to inform other Licensees immediately (within 15 minutes), regardless of the nature and ownership of the fault, and of the fault reporting procedure outlined below.
- 6.1.5 The Licensee that detects a possible fault shall process the fault report internally before requesting the assistance of the other party in providing diagnostic support. Each Licensee shall make every effort to determine whether the fault is genuine and to identify the location of the fault.

6.2 *Fault report processing*

- 6.2.1 All faults shall be reported using the Fault Report form provided in Appendix 2 of this Operation and Maintenance Manual and transmitted to the other Licensee by fax to the Point of Contact designated in the Network Plan.
- 6.2.2 The Fault Report shall include sufficient information to allow the recipient(s) to identify the fault, carry out diagnostics and progress the fault to restoration.
- 6.2.3 When a Licensee reports a fault to the other Licensee, they shall specify the classification of the fault reported, i.e. whether it is Service Affecting or Non-Service Affecting. They shall also exercise their judgment and discretion and agree upon whether a Non-Service Affecting fault could eventually develop into a Service Affecting fault.
- 6.2.4 **Service Affecting fault (s)** may cause service interruption to the Customers when Interconnected Calls conveyed between the Networks encounter great difficulty in completion. For example, failure of more than one-third of the Interconnect links, breakdown of major cable plant, loss of SS7 Signalling link set which are all likely or result in various degrees of service interruption shall be included in the classification of service affecting fault(s).

- 6.2.5 **Non- Services Affecting fault (s)** are those that do not adversely affect the Call handling capacity of the Network to complete the Interconnected Calls. For example, failure of less than one-third of the Interconnect Links or the loss of SS7 Signalling link (not affecting the Signalling Link set) shall be included in the classification of non-service affecting fault (s) unless otherwise agreed by both Licensees upgrade it to service affecting fault (s).
- 6.2.6 At any time the either Licensee may change the designation of a fault. In such circumstances the start time for such re-designation will be the time the re-designation is sent by fax to the other Licensee.
- 6.2.7 Following a Fault Report, the Licensees shall agree ownership of the fault. The fault owner shall then assume responsibility for restoration, including possible roll back to initial configuration when the fault comes from a change, and the eventual report back of service restoration.
- 6.2.8 The owning Licensee shall endeavour to identify the fault and respond by telephone to the other Licensee within one hour, indicating whether the fault has been identified, whether it accepts ownership of the fault and whether it is deemed Service Affecting or not. This information shall be also included in the Fault Response section of the form showing the date and time of the response.
- 6.2.9 Both Licensees shall nevertheless co-operate in any investigation and follow up actions and keep each other informed by telephone on the status of the progress of the fault clearance in a timely manner.
- 6.2.10 JT shall respond to a Fault Report in accordance with the target response time specified in the Service Level Offer.
- 6.2.11 The target repair time for each type of fault is detailed in the Service Level Offer.
- 6.2.12 Once the fault has been repaired, the Licensee in receipt of the initial Fault Report shall advise the other Licensee by telephone, fill the Fault Closure section on the form and return it to the Sending Licensee.
- 6.2.13 The fault should be considered to be cleared when the Licensee who initiated the Fault Report has accepted the fault clearance information or confirms a successful test within 2 hours of receipt of Fault Closure. For the avoidance of doubt where clearance is accepted in accordance with this clause 6.2.13 the clearance time shall be the time the owning Licensee reported the clearance by telephone in accordance with clause 6.2.12.
- 6.3 *Fault escalation*

- 6.3.1 Where a fault persists and progress of the remedy is not satisfactory, the fault may be escalated according to the fault escalation timescales and escalation reporting levels shown in clause 6.3.3. If the escalation time has expired but both Licensees are satisfied with the progress of the fault restoration, no immediate escalation is necessary.
- 6.3.2 A Licensee shall immediately inform the first level of escalation within the respective Licensee's organization at the same time that the Licensee who detected the fault notifies the fault reporting point of the other Licensee that the fault is being escalated in accordance with this clause 6.3.
- 6.3.3 All requests for escalation shall be notified through each Licensee 's fault reporting point, as detailed in the Network Plan, and according to the following indicative timescale:

| Fault type            | Minimum Time before Escalation<br>(Commencing after the Response Time) |                 |                        |
|-----------------------|--|-----------------|------------------------|
|                       | First Level  | Second Level    | Third Level            |
| Service Affecting     | Immediate  | Two (2) hours   | Four (4) hours         |
| Non-service Affecting | Immediate  | eight (8) hours | Twenty-four (24) hours |

- 6.3.4 Persistent faults or issues which cannot be resolved satisfactorily through the normal channels shall be escalated to the second level to expedite the fault clearance process.
- 6.3.5 The Licensees shall notify their respective and appropriate officers for problems encountered in the implementation or execution of the fault escalation procedures.

## **7. INTERCONNECTION MAINTENANCE PROCESSES**

### *7.1 Joint Interconnect Testing*

- 7.1.1 Each Licensee shall be responsible for testing and monitoring the performance of its own Network. Testing of the interconnection link and Signalling Link shall be kept to a minimum and shall be avoided during the busy hour periods.
- 7.1.2 No testing that may adversely affect an Interconnect Service shall be carried out before JT and the other Licensee have agreed to the conduct of such tests, including any routine tests.
- 7.1.3 The requesting Licensee shall book the required test date and the testing duration at least five (5) working days prior to the requested testing date. The requesting Licensee shall submit the application form as contained in Appendix 4 of this Operation and Maintenance Manual to the requested Licensee. The request shall contain the necessary details for the planning of testing as well as the proposed test schedule.
- 7.1.4 The requested Licensee shall respond in writing within 2 working days upon receipt of the written request, stating whether it is able to accommodate the testing on the proposed test dates. If the requested Licensee is not able to perform the testing on the requested test dates, an alternative schedule should be submitted in response to the initial request and discussed in good faith with the requesting Licensee.
- 7.1.5 The requested testing duration is subject to mutual agreement by the Licensees.
- 7.1.6 The Licensees shall act in good faith and make reasonable endeavours to complete all test items within the agreed testing period.
- 7.1.7 Any request for extension to the testing duration beyond the agreed time frame is subject to mutual agreement. Any request for extension should be made at least two (2) working days prior to the end of scheduled testing.
- 7.1.8 Neither Licensee should be held responsible for any delay in completing the agreed testing unless such delay is directly attributable to one Licensee's fault or negligence.

### *7.2 Planned Engineering Work*

- 7.2.1 For any planned engineering work within one of the Licensees Network, which shall result in momentary outage of Interconnection Services between the Interconnected networks, the Licensee carrying out the engineering work shall inform the other Licensee in accordance with the procedure detailed below.

- 7.2.2 The details of the works to be carried out shall be recorded and communicated on the "Advice of Planned Engineering Work" form in Appendix 3 of this Operation and Maintenance Manual. The Advice form shall state the date, time and duration of such works, the impact to the conveyance of Calls between the Licensees ' network, any management procedures required, and any contingency measures to be taken by either or both Licensees. The schedule and duration of the planned work proposed by the requesting Licensee shall be agreed upon by the other Licensee before commencement of such works.
- 7.2.3 The requesting Licensee, prior to planned engineering works, shall give advance notice of at least five (5) working days notice to the other Licensee.
- 7.2.4 The requesting Licensee shall notify the other Licensee when the work is complete by filling the relevant section of the "Advice of Planned Engineering Work" form, which should be transmitted to the other Licensee without unnecessary delay.
- 7.3 *System Protection and Safety*
- 7.3.1 Both Licensees shall agree to take adequate measures to maintain the integrity of their networks, and to ensure the protection and safety of persons and equipments at all times.
- 7.3.2 Integrity of the network refers to the ability of its systems to preserve and retain their original operational status and remain unaffected by Interconnection with other networks.
- 7.3.3 Both Licensees shall ensure
- That adequate measures are taken to prevent the transmission of any signalling message across to interconnected networks which does not comply with industry standards; and
  - That efficient arrangement for screening functions and rejection of non-compliant messages are established to detect signals which do not comply with industry standards.
- 7.3.4 Each Licensee is responsible for the safe operation of its network and shall, so far as is reasonably possible, take all necessary steps to ensure that its side of the network and its network operations
- Do not endanger the safety or health of any person, including employees and contractors of the other Licensee; and
  - Do not cause physical or technical harm to the other Licensee's network, including but not limited to causing damage,

interfering with or cause deterioration in the operations of the other's Licensee network.

## **8. SITE ACCESS PROCEDURE (COLLOCATION SITES ONLY)**

- 8.1 Collocation sites are monitored by JT staff and maybe accessed 24 hours a day, 7 days a week.
- 8.2 Access will only be granted to the room where the Licensee's hires collocation space(s), escorted by JT staff where necessary.
- 8.3 Only those individuals whose names the Licensee has notified to JT will be allowed to access a site. To that effect, the Licensee shall issue a list of stating the full name and national identity number of each authorized person on the form provided in Appendix 5 of this Operation and Maintenance Manual. The form should be sent to the NOC and the JT Commercial Account Manager, and may be amended from time to time by the Licensee.
- 8.4 The Licensee shall inform JT of any change to the list of authorized persons. The Licensee shall remain responsible for the action of any individual entering the site until notification is received and the name of the individual is removed from the list of authorized persons.
- 8.5 Any individual requiring access shall present an identity card at the entrance of the site. Access to the site will be granted upon verification that the name of the individual is recorded on the list of authorized persons and signature of the logbook which should state the arrival time, departure time and purpose of the visit.
- 8.6 Any individuals accompanying an authorized person should also sign the logbook. The authorized employee shall be held fully accountable for any actions of the individuals accompanying him on the visit.
- 8.7 It is the responsibility of each individual entering collocation facilities to ensure that they work in a safe environment. The Licensee shall ensure that all persons entering the JT collocation facilities on its behalf have adequate training for working on equipment collocated at JT premises, and that these persons comply with all safety and security requirements applicable on JT premises.
- 8.8 All questions and comments regarding safety and security in collocation sites shall be addressed in writing to the JT Technical Contact Manager.
- 8.9 All persons entering collocation sites on behalf of the Licensee shall be allowed to make reasonable use of essential facilities, such as power, lighting, water and toilets.



## **APPENDIX 1 – NETWORK PLAN**

The Network Plan shall be agreed between JT and the Licensee in accordance with clause 1.3 of the Main Document and reviewed in accordance with clause 10 of the same.

The Network Plan shall contain those elements of necessary specific information required to achieve interconnect between JT and the Licensee. Such information shall include but shall not be limited to;

- Diagram detailing JT Nodes, Licensee Nodes (own sited and collocated) and the routes between them
- Capacity and traffic forecast for the Licensee
- Capacity orders
- Requirements for new Service Schedules
- Number ranges for both JT and the Licensee
- Contact points for both JT and the Licensee
- Planning of new Interconnection Nodes
- Changes to call routing
- Notification and information relating to planned network upgrades
- Date of next review

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**APPENDIX 2 – FAULT REPORT FORM**

| <b>FAULT REPORT FORM</b>  |                         |
|---|-------------------------|
| <b>Time of Report:</b> hh-mm  | <b>Date:</b> dd/mm/yyyy |
| <b>Licensee Details:</b>  |                         |
| <b>Licensee Name:</b>   | <b>Address:</b>         |
| <b>Report Contact Name:</b>   | <b>E-mail address:</b>  |
| <b>Phone Number:</b>  | <b>Fax Number:</b>      |
| <b>Fault Details</b>  |                         |
| <b>Service Affected:</b> Interconnect Link <input type="checkbox"/> Transmission Link <input type="checkbox"/><br><input type="checkbox"/> Other: |                         |
| <b>Service Reference:</b>   | <b>Fault Reference:</b> |
| <b>Fault Description/symptoms:</b>  |                         |
| <b>Fault classification:</b> Service Affecting <input type="checkbox"/> Non-Service Affecting <input type="checkbox"/>                            |                         |

| <b>Fault Response</b>  |   |
|--|---|
| <b>Time of Response:</b> hh-mm   | <b>Date:</b> dd/mm/yyyy   |
| <b>Response Contact Name:</b>  | <b>E-mail address:</b>  |
| <b>Phone Number:</b>   | <b>Fax Number:</b>  |
| <b>Fault Identified:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>                                      | <b>Ownership accepted:</b> Yes <input type="checkbox"/> No <input type="checkbox"/> |
| <b>Diagnostic:</b>   |   |
| <b>Fault classification:</b> Service Affecting <input type="checkbox"/> Non-Service Affecting <input type="checkbox"/> |   |
| <b>Fault Reference:</b>  | <b>Target Repair Time:</b> hh-mm on<br>dd/mm/yyyy                                   |
| <b>Action taken:</b>   |   |

| <b>FAULT CLOSURE</b>  |                         |
|---|-------------------------|
| <b>Fault Reference:</b>   | <b>Contact Name:</b>    |
| <b>Time of Closure:</b> hh-mm   | <b>Date:</b> dd/mm/yyyy |
| This is to confirm that the Fault has been repaired/cleared and hereby close the instance |                         |
| <b>Comments:</b>  |                         |

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**APPENDIX 3 – ADVICE OF PLANNED ENGINEERING WORK FORM**

|   |  |
|---|--|
| <b>Subject:</b> .....   | <i>(Title of the planned works)</i>  |
| <b>Location:</b> .....  | <i>(location of the planned work)</i>  |
| <b>Type of planned works:</b> .....                                     | <i>(Signalling Link/Interconnection Link/Exchange)</i>   |
| <b>Outage Date:</b> .....   | <i>(Indicate the date of the planned work)</i>   |
| <b>Outage Time:</b> .....   | <i>(Indicate the start time of the planned work)</i>   |
| <b>Service Interruption Duration:</b> .....                             | <i>(Provide an estimated duration on the service interruption)</i>   |
| <b>Number of local leased circuit /Signalling links affected:</b> ..... | <i>(Indicate the number of the local leased circuit or signaling links affected by the planned work)</i>         |
| <b>Effect of planned work:</b> .....                                    | <i>(Describe the effect of the planned works on calls and in which direction)</i>                                |
| <b>Reason of planned work:</b> .....                                    | <i>(Describe the reason for the planned works eg due to routine/urgent maintenance or software upgrade etc.)</i> |
| <b>Remarks:</b> .....   | <i>(To include additional comments or remarks eg preparation work will commence at around “time” on “date”)</i>  |
| <b>Issuing Officer:</b> .....   | <i>(Indicate the name and designation of the officer issuing the advice of planned work)</i>                     |

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**APPENDIX 4– INTERCONNECT TESTING REQUEST FORMS**

|  |
|--|
| Application Form For Interconnect Testing  |
| OPERATOR   |
| Name of Licensee   |
| Business Address   |
| I wish to apply for.....Test<br>For the period<br>from.....to.....(.....Days)  |
| In support of my application, I provide the following Technical<br>Information for the Setting up of Interconnect Testing. |

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**APPENDIX 5 – LIST OF AUTHORISED PERSONS TO ACCESS COLLOCATION FACILITIES**

The following persons are authorised to access collocations facilities on behalf of the Licensee:

| <b>Name</b> | <b>Identity No.</b> |
|-------------|---------------------|
|             |                     |
|             |                     |
|             |                     |
|             |                     |
|             |                     |

The following persons are no longer authorised to access collocation facilities on behalf of the Licensee

| <b>Name</b> | <b>Identity No.</b> |
|-------------|---------------------|
|             |                     |
|             |                     |
|             |                     |
|             |                     |
|             |                     |

Signed on behalf of the Licensee

Date.....

Name.....

Position:.....

Signature:.....

