



**NATIONAL COMMUNICATIONS AUTHORITY FEDERAL  
REPUBLIC OF SOMALIA**

**REFERENCE INTERCONNECTION  
OFFER(RIO)**

*Frist party* \_Click or tap here to enter text. *and Second party* \_Click or tap here to enter text. *agree to inter into an interconnection agreement to provide interconnection services in the Federal Republic of Somalia in accordance with article 49,50,51,52 and 53 of the National Communication Law 2017, both parties agree on the following conditions:*

This Reference Interconnection Offer (RIO) aims to serve as an Interconnection Agreement document, this document can be found on the Authority website, can be adapted by a licensed Telecommunication's service provider and modified as required by a licensed Telecommunication's service provider.

## 1. Definitions.

**“LAW”** means the National Communications Law, 2017, federal republic of Somalia

**“Authority”** means the National Communications Authority, Federal Republic of Somalia.

**“Licensed Telecommunications Service Provider”** means a telecommunications service provider who has been issued a license by the authority under the unified licensing framework in The Federal Republic of Somalia.

**“Network Failure”** rate is the ratio between the number of calls handed over by an Operator to be terminated on another operator’s Network and failed due to insufficiencies in the Network and the total amount of Calls handed over and to be terminated Network (excluding, in particular, failures due to end-user behavior and failure of terminal equipment).

**“Access Seeker”** means any Licensed Service Provider by the Authority who provides or intends to provide telecommunications services to the public and requests interconnection.

**“Interconnection”** means the physical and logical linking of communications networks used by the same or a different service provider to allow the users of one service provider or network to communicate with users of another service provider or network, or to access services provided by another service provider or network as defined by ITU;

**“Interconnection Agreement”** means an agreement that is agreed or determined in accordance with the provisions of the Reference Interconnection Offer (RIO) and is in accordance with the Act;

**“Interconnection Link”** means a circuit or group of circuits which connects to a POI, which may include a 2 Mbps 31 channel link and may include a ITU-T No. 7 signalling link;

**“Interconnection Service”** means the service provided by Interconnection and contained in the Interconnection Agreement; means the service provided by Interconnection and contained in the Interconnection Agreement;

**“ITU-T”** means the International Telecommunications Union/Telecommunication Section (ITU-T) and its predecessor the CCITT;

**“Point of Interconnection (POI)”** Means as defined by ITU, the demarcated point or the facility for exchange of traffic between networks to facilitate inter-network communication of/for respective subscribers, who are end users of such networks.;

**“ETSI”** means the European Telecommunications Standards Institute an independent, not-for-profit, standardization organization in the information and communications technology

**“ATU”** means the African Telecommunications Union, a specialized agency in the field of telecommunications, appointed by the African Union (AU).

**“CLIP”** means calling line identification presentation, identified by ITU as a supplementary service offered to the called party which provides the calling party’s ISDN-number, possibly with sub-address information, to the called party

**“CLIR”** means calling line identification restriction, identified by ITU as a supplementary service offered to the calling party to restrict presentation of the calling party’s ISDN-number and sub-address to the called party.

**“Answer Line Signal”** means the message signal in the Signalling Format which indicates that a Call has been answered;

**“Chargeable Call”** means each second of a Call measured from the receipt of an Answer Message to the receipt of a Release Message for each and every Call of the same type and by rounding the sum of such seconds to the nearest whole minute for each billing period;

**“Collocation Provider”** means the party providing the Collocation Site in its premises;

**“Collocation Site”** means the physical location for the accommodation of the Collocation User’s equipment;

**“Collocation User”** means the party locating its equipment in the premises of the other party;

**“Erlangs”** means a measure of call attempts as defined by ITU – T;

**“Fault”** means a condition that causes a Network to operate other than intended or to cease operating altogether;

**“Free to Caller Service”** means a service provided to End Users in such a way that the originating End User pays nothing for the Call and any Chargeable Call charge is paid by the receiving End User;

**“Fixed Number”** means any fixed network number allocated by a party to its End Users, which number is allocated to that party by the TRR in accordance with the National Numbering Plan;

**“Grade of Service (GOS)”** is as defined by ITU-T;

**“Interconnection Change”** means a change required to an existing Interconnection Service or a new Interconnection Service;

**“Signalling Format”** means ITU-T No. 7 signalling (or such other signalling as may be agreed by the parties from time to time);

**“SMSC”** means short message service center.

**“Intellectual Property”** includes trademarks, service marks, inventions, patents, designs, copyrights and all rights and interests or licences to use any of them;

## **2. Scope and Process of the Interconnection Agreement.**

2.1 Each licensed Telecommunication’s Service Provider in order to fulfil its national and legal duty and in accordance with Article 49 of the LAW shall enter into an Interconnection Agreement with other licensed Telecommunication’s Service Providers.

2.2 Each Party will connect and keep connected its network to the other’s network in the manner described in this Agreement in order to convey Calls to and from their respective networks.

2.3 All interconnection requests shall be made in writing and in agreement with the LAW and regulations of the Authority as per Article 50 of the LAW.

### **2.4 The Interconnection Agreement Procedure.**

2.4.1 Each Licensed Telecommunication’s Service Provider shall draft an Interconnection Agreement that is in agreement with the LAW, or utilize the Reference Interconnection Offer (RIO) provided by the Authority and found on the official website of the Authority.

2.4.2 Each Licensed Telecommunication’s Service Provider may customize the Reference Interconnection Offer (RIO) provided by the Authority to their situation and needs provided that any changes made to the Reference Interconnection Offer (RIO) are in agreement with the LAW, the Authority regulations and do not represent anticompetitive behavior or intentions.

- 2.4.3 Each Licensed Telecommunication's Service Provider (the requesting party) will send an Interconnection request composed of the Reference Interconnection Offer (RIO) to other Licensed Telecommunication's Service Provider (the requested party).
- 2.4.4 The requested party shall return the completed Reference Interconnection Offer (RIO) within 30 days of receiving the document.
- 2.4.5 The requesting party will notify the Authority once an interconnection request has been made.
- 2.4.6 If the requested party does not respond within the 30 days of receiving the Interconnection request, the requesting party will notify the Authority. And the Authority will resolve the matter through the Interconnection dispute resolution process of the Authority.
- 2.4.7 Once the requested party reviews the interconnection request and makes amendments as seen necessary, they will return the document to be reviewed and approved by the requesting party.
- 2.4.8 If the terms and conditions of the document are aggregable to both parties, the Interconnection Agreement is signed by both parties and sent to the Authority within 30 days of signing.
- 2.4.9 The Authority shall evaluate the conditions of the Interconnection Agreement to verify it's in agreement with the LAW and the Authority regulations as per article 51 of the LAW.
- 2.4.10 The Authority shall register all verified Interconnection Agreements within 30 days of signing.
- 2.4.11 The Interconnection Agreement shall set out the outline for the conduct of the relationship between the interconnecting parties as Licensed Telecommunications service Providers whose Networks are connected. Accordingly, the Interconnection Agreement will apply only to:
- The interconnection of the Networks of the parties;
  - Meet all reasonable requests for interconnection at any technical feasible point;

- Make available and provision of Interconnection Services by each party to the other party;
- Incorporate reasonable terms and conditions for interconnection, including technical standards and specifications;
- Payment of the charges in relation to the provision of Interconnection Services.

### 3. Objectives.

3.1 To provide a service that is a national interest and to facilitate for the public the utilization of one SIM Card, that enables them to connect with other telecommunication's companies that are operating in the Federal Republic of Somalia legally.

3.2 To establish an interconnection agreement between Frist party Click or tap here to enter text. and Second party Click or tap here to enter text. that is transparent and nondiscriminatory.

3.3 To provide a Reference interconnection offer (RIO) between Frist party Click or tap here to enter text. and Second party Click or tap here to enter text. that is in accordance with the LAW, the Interconnection Regulation and the Authority regulations.

3.4 Frist party Click or tap here to enter text. requests Second party Click or tap here to enter text. to review the received Reference interconnection offer (RIO), fill out the requirements and make changes as necessary and to submit the document back to the Frist party Click or tap here to enter text. in 30 days' time.

### 4. Provision of information between Operators.

4.1 General Network Information.

4.1.1 Upon receiving the Interconnection Request the responding party shall supply within (30) Working Days as **ANNEX A**, to the Reference Interconnection Offer (RIO) the following Network information:

- Service configuration.
- Technical characteristics.
- Network Interconnection paths and routing.
- Switching Network Interconnection.
- Signalling Network Interconnection.

- Synchronization.
- Safety standards.
- Interface Standards.
- Network Interconnection Technical Specifications.
- Interconnection Link specification (ex: numbers of **2 Mbps** circuits and signalling configuration).
- Additional Technical Requirements.

## **5. Services Covered (Interconnection Services).**

5.1 This Reference Interconnection Offer (RIO) defines the minimal terms and conditions needed for the provision of Interconnection Services between licensed Telecommunication's Service Providers.

5.2 Interconnection services include:

### **5.2.1 Traffic Conveyance Services. Including:**

#### **A. Fixed Call Termination.**

- Fixed call termination is the acceptance of Calls handed over from the first party's Network to the second party's Network, where the Call has been originated by an End User on the first Party's Network and for which a second party's Fixed Number is provided, and delivery or offer of delivery of each such Call to the second party's designated destination in respect of that Call; and
- Transmission of an Answer Line Signal to the first party's Network in respect of Calls handed over from the first party's Network to the second party's Network in terms of the Reference Interconnection Offer (RIO) and answered by the called End User or by some other means: and
- where the first party has, for each Call handed over from the first party's Network to the second party's Network, transmitted the line, information or control signals in the Signalling Format that relate to the establishment of that Call, including details in the Signalling Format of the valid second party's Fixed Number called.

#### **B. Mobile Call Termination.**

- Mobile Call Termination is the acceptance of Calls handed over from the first party's Network to the second party's Network where the Call has been originated by an End User on the first party's Network and for which a second party's Mobile Number is provided, and delivery or offer of delivery of each such Call to the second party's designated destination in respect of that Call; and
- Transmission of an Answer Line Signal to the first party's Network in respect of Calls handed over from the first party's Network to the second party's Network in terms of the Interconnection Agreement and answered by the called End User or by some other means: and
- Where the first party has, for each Call handed over from the first party's Network to the second party's Network, transmitted the line, information or control signals in the Signalling Format that relate to the establishment of that Call, including details in the Signalling Format of the valid second party's Mobile Number called.

C. **Short Message Service (SMS):**

- Short Message Service (SMS) is the acceptance of Short Message handed over from the first party's Network to the second party's Network where the Short Message has been originated by an End User on the first Party's Network and for which a second party's Number is provided, and delivery or offer of delivery of each such Short Message to the second party's designated destination in respect of that Short Message.
- SMS are handled as follows:
  - a) SMS originating from a terminal device of the originating party is received by that party's short message service center (SMSC);
  - b) the originating party's SMSC queries that party's home location register;
  - c) the originating party's SMSC forwards the SMS over the SMS Interconnection Link, to the terminating party's MSC visitor location register; and
  - d) the terminating party's SMSC visitor location register delivers the SMS to a suitable device used by the terminating party's End User.

D. **Toll-Free and Emergency Service.**



- Toll Free Service acceptance of Calls handed over from the first party's Network to the second party's Network where the Call has been originated by an End User on the first Party's Network and for which a second party's Toll Free Number is provided, and delivery or offer of delivery of each such Call to the second party's designated destination in respect of that Call; and
- Transmission of an Answer Line Signal to the first party's Network in respect of Calls handed over from the first party's Network to the second party's Network in terms of the Interconnection Agreement and answered by the called End User or by some other means: and
- Where the first party has, for each Call handed over from the first party's Network to the second party's Network, transmitted the line, information or control signals in the Signalling Format that relate to the establishment of that Call, including details in the Signalling Format of the valid second party's Toll Free Number called.
- For the avoidance of doubt the End User on the first party's Network pays no charge for the Call. Any fees for the Toll-Free Service shall be paid by the End User of the second party to whom the Call is terminated, except for emergency services where both the calling and responding will not be charged.

### 5.2.2 Transport Services.

#### A. Interconnect Links.

- Interconnection Links are provided in accordance with the terms and conditions of the Reference Interconnection Offer (RIO).
- The parties shall connect and keep connected by establishing Points of Interconnection (POI) using where appropriate Interconnect Links, by one or more of the following Interconnection Types in accordance with the Reference Interconnection Offer (RIO):
  - a) Collocated Interconnection. Where the POI is established on the site of the requested party.
  - b) Customer Sited Interconnection. Where the POI is established on the site of the requesting.
  - c) Mid-span Meet Interconnection (In-span Interconnection). Where the POI is

established at a point in between the sites of two parties.

**B. Collocation for the Provision of Handover Points:**

- Collocation is an essential service to the provision of Interconnection. It is required for the provision of handover points.
- Each party (*the Collocation Provider*) shall make available to the other party (*the Collocation User*) as agreed:
  - a) Premises, access, facilities and services in relation to Interconnection on the Collocation Provider's premises;
  - b) Access to the premises in which each of point of Interconnection (POI) of the Collocation User is located to enable the Collocation User to construct and place wires, cables, casings or other equipment;
  - c) Facilities and services in relation to interconnection, as requested by the Collocation User on the Collocation Provider's premises; and
  - d) Such other reasonable assistance, as the Collocation User reasonably requires to accommodate the point of interconnection (POI) and enable all equipment required to be both located in close proximity and connected to the Collocation User's point of interconnection (POI) for the Collocation User to provide or receive Interconnection Services under the Reference Interconnection Offer (RIO), to be safely and securely accommodated and installed, connected to the rest of the Collocation User's Network, inspected, tested, repaired, modified, maintained, worked on and removed as and when reasonably required by the Collocation User. The Collocation Provider shall comply with all applicable legal requirements in meeting its obligations.
  - e) The Collocation Provider grants the Collocation User all authorizations necessary for the Collocation User to carry out the activities outlined in the Reference Interconnection Offer (RIO), and it is mutually agreed between the Collocation Provider and the Collocation User that each party will cover their individual Collocation costs.

- In meeting its obligations as a Collocation Provider, or carrying out the activities contemplated as a Collocation User, neither party may maintain, repair or interfere with the other party's equipment or interfere with the provision of Interconnection Services except with the consent of the other party and only to the extent necessary to meet its own obligations under the Reference Interconnection Offer (RIO).
- The Collocation Provider shall not cause or allow any nuisance or unreasonable impediment to the Collocation User to exist or occur in any premises to which the Collocation User requires access under the Reference Interconnection Offer (RIO).
- The Collocation User shall comply with the health and safety and security procedures issued by the Authority and the Collocation Provider.
- Detailed processes for ordering Collocation facilities and arrangements by the Collocation User for access, including outside normal hours, will be negotiated as part of the Reference Interconnection Offer (RIO) and added as **ANNEX E**.

## **6. Interconnection Processes.**

### **6.1 An Initial Interconnection Planning Processes.**

- The Requesting party shall send a filled-out Reference Interconnection Offer detailing its technical requirements for Interconnection Services. The technical requirements that shall be included in the Statement shall be no more than those which are required to enable each party to design a technical and operational solution to provide and receive Interconnection Services, as shown in **ANNEX A**.
- If the information provided by the Requesting party is considered by the requested party to be insufficient to design the technical and operational solution, the requested party shall request from the Requesting party within ten (10) Working Days of receipt of the Reference Interconnection Offer (RIO) to provide the necessary information.
- Once the Requesting party has provided sufficient data or information to enable the other party to design and document a technical and operational solution and testing plan for providing and receiving Interconnection Services to and/or from the Requesting party, within twenty (20) Working Days of receipt of that data or information, the

Requested party must provide a documented technical and operational solution and testing plan to the Requesting party.

- If the two parties cannot reach agreement on the technical and operational solution and testing plan within twenty (20) Working Days of the provision of the technical and operational solution and testing plan to the Requesting party, either party will refer the disagreement to the Authority.
- The Network Interconnection Technical Specifications as at the date of the Interconnection Agreement shall be attached to the Reference Interconnection Offer (RIO) as **ANNEX A**.

#### **6.2 Planning of Mid-Span Meet Interconnection.**

- If the Requesting party requests and the other party agrees, that the Interconnect Links should be provided using Mid-Span Meet, the parties shall meet at the earliest possible time to agree on the location of the POI and a work program to achieve this.
- Failure to agree on a suitable POI location within twenty (20) Working Days of the initial meeting shall be referred to Authority.

#### **6.3 Capacity Planning on Transport Links.**

- Capacity planning for Interconnection Links shall be based on the traffic Forecasts as detailed in the Reference Interconnection Offer (RIO).
- For other Links the party requesting the Link should provide as much notice as possible so the party providing the Link can provide this in a timely manner.

#### **6.4 Interconnect Traffic Forecasts Planning.**

##### **6.4.1 Provision of traffic forecasts.**

- Each Party shall provide each other with Forecasts in respect to Calls/traffic and any other matter agreed between the parties which shall facilitate the alignment of traffic with capacity.

##### **6.4.2 Content of traffic Forecasts.**

- The exact content of traffic Forecasts shall depend on the requirements of the relevant Interconnection Service and any specific requirements set out in relation to that Interconnection Service, but in general shall cover:

1. forecasts for each POI, covering the forecasting party's existing Call routes, and any changes to Call routing envisaged by that party during the forecast period, including peak calling times, busy-hour traffic volume and number of call attempts on routes; and
2. traffic in Erlangs and number of traffic circuits required for the total traffic volume forecast in each direction, based on the switching architecture and design Grade of Service (GOS) agreed by both parties (ex: GOS 0.1%) for trunk routes; and forecasts for each POI and signalling, including:
  - call related signalling, measured in message signalling units (MSUs) and octets per second, for each set of signalling links; and
  - non-call related signalling, measured in message signalling units (MSUs) and octets per second, for each set of signalling links; and
  - the number of sets of signalling links required, including the number of signalling circuits in each set of signalling links requested by the forecasting party.

6.4.3 The Forecasts may include, without limitation, forecasts of:

- increases in the number of Interconnect Links;
- the decommissioning of Interconnect Links;
- the redistribution of call traffic over different routes.

6.4.4 The traffic forecast shall be added by both parties to the Reference Interconnection Offer (RIO) as **ANNEX G**.

**6.4.4 Forecast period.**

Forecasts shall be supplied every three (3) months during the term of the Interconnection Agreement, or as reasonably requested by either party.

**6.4.5 Forecast updates.**

- Each party shall promptly notify the other party of any material changes to Forecasts supplied that occur at any time during a forecast period.
- In particular should either party become aware of any event or circumstance which is likely to cause interconnect traffic on any designated route to rise:
  1. on a short-term or long-term basis; or
  2. during periods outside the designated busy hour; or

3. beyond the level previously forecast for busy-hour traffic in the most recent forecast to the other party, then that party is promptly to notify the other party of the circumstances and likely extent of the increase.
- Limitation in the interconnection link capacity (increase in forecasted traffic). Where a route is used for the conveyance of traffic between the parties and either party detects the agreed grade of service is not being met because of non-transient causes or identifies a trend that shall lead to such grade of service not being met in the current or next forecasting period, the party in charge of the link, shall order Interconnection Link augmentation such that the problem or potential problem is alleviated.

#### **6.5 Link Direction planning.**

- Except where the parties otherwise agree, all Interconnect Links shall be unidirectional links.

#### **6.6 Transport Links planning.**

##### **6.6.1 Point of Interconnection (POI).**

- For Mid-Span Meet using fiber optic cable the POI shall be a notional point in the optical cable located at point on the public highway or on private premises as agreed by the parties.
- Where Mid-Span Meet using radio is used the POI is a theoretic point on the radio path midway between the two dishes at each end of the radio link.

#### **6.7 Collocation Processes Planning.**

- 6.7.1 That the availability of the Collocation Service at any site is not guaranteed and will be subject to a site survey.
- 6.7.2 For the purposes of the Interconnection Agreement the party providing the Collocation Service (the Collocation Provider) shall consider the following when assessing the availability of Collocation space at a Collocation Site:
  - a) the reasonably anticipated requirements in the next two (2) years for space at the Collocation Site for the provision to itself and other users, including any turn round space required as part of its Network modernization plans;

- b) Other Collocation Users requirements (including those for operation and maintenance purposes) which have been ordered but not yet delivered or which have been provided;
- c) security and confidentiality requirements imposed by the Authority and the Government of the Federal Republic of Somalia;

6.7.3 The Collocation User when requesting the space required at each Collocation Site, the available floor space will be determined on a site-by-site basis dependent upon the type of equipment to be installed and the results of a physical survey at that site.

6.7.4 The Collocation Site will provide space for the installation of standard equipment racks.

6.7.5 All installed equipment shall comply with current standards and regulations of the Authority.

6.7.6 The Collocation User has no rights to sub-let the Collocation space at the Collocation Site.

#### **6.8 Collocation Service Request Planning.**

- Applies to all requests for the Collocation Service. For the avoidance of doubt this also includes requests for additional Collocation Services as well as replacement, modification and rearrangement of existing collocated equipment.
- The party requesting collocation (the Collocation User) shall notify the other party of its request for the use of the Collocation Service by means of the request form set out in **Annex E** to the Reference Interconnection Offer (RIO) if it wishes to use the Collocation Service.
- The Collocation Provider shall respond in writing to the Collocation User.
- Following receipt of a request the Collocation Provider shall assess that request and notify the Collocation User within ten (10) Working Days of receiving the request that either;
  - The request has been provisionally accepted, on a non-binding basis subject to the satisfactory completion of a Collocation Site survey which shall be completed within a further twenty (20) Working Days.
  - Where building work is required, carry out a detailed survey and produce a work schedule and bill of quantities with costs, the cost will be shared by the both parties

where the collocation provider will cover 70% of the cost and the collocation access seeker will cover 30%;

- The collocation provider agrees on the planned work schedule with the Collocation User;
- Each party confirms the acceptance of any building cost if required for collocation;
- If the request has been rejected the Collocation Provider shall provide the reasons for such rejection to the Collocation access seeker.
- The Collocation Provider may reject a Collocation request if any of the following applies:
  - a) The data contained in the request form for the Collocation Service is incomplete; or
  - b) There is no available space at the Collocation Site as determined by the Interconnection Agreement and the work required to create such space can be demonstrated to be practically and/or economically unviable or;
  - c) Acceptance of the Collocation request will give rise to significant health, safety, technical or engineering issues.
- Collocation space once available for occupation shall be utilized within three (3) months of handover.
- In cases where Collocation space which has been provided but is unused by the Collocation user, the Collocation Provider reserves the right to reclaim the unused collocation space and allocate this space for other uses.

#### **6.9 Site Access planning.**

- Access to the Collocation Site areas shall be restricted to authorized personnel of the party using the Collocation Service (the Collocation User) and/or their authorized nominated contractors for whom they shall assume full responsibility. Details of the processes for the identification of Authorized Personnel shall be agreed as part of the Interconnection Agreement.
- The Collocation Provider shall reserve the right of access to the Collocation Site at any time in order to carry out planned and reactive maintenance of the building, power and ancillary service systems. Where this is a planned maintenance the Collocation Provider shall give the Collocation User at least five (5) Working Days' notice of such activity.



## **7. Quality of Service.**

- 7.1 All Licensed Telecommunications Service Providers in the Interconnection Agreement shall adhere to all quality regulations and laws provided by the Authority and deliver an interconnection quality equal to the quality Licensed Telecommunication's Service Providers provide their own customers.
- 7.2 All Licensed Telecommunications Service Providers in the Interconnection Agreement shall ensure that the Grade of Service (GoS), measured in terms of call blocking and dropped or disconnected calls that it provides to an interconnection Licensed Telecommunications Service Provider, shall be equivalent to the Grade of Service (GoS) it provides to its own customers.
- 7.3 ITU-T E.847 Recommendation will apply in values of interconnection QoS, such as norms for TDM interconnection between telecom networks, point of interconnection (POI) QoS, Signalling link quality of service, Interconnection route quality of service under this Reference Interconnection Offer (RIO).

## **8. System Protection.**

- 8.1 Each Party is responsible for the safe operation of its respective system and shall take all reasonable and necessary steps and measures in its operation, implementation and maintenance to ensure that its system does not:

- endanger the safety or health of employees, contractors, agents or End Users of the other Party, nor
- damage, interfere with or cause any deterioration in the operation of the other Party's system or a third-party operator's system.
- causes interference to the Network facilities, Network services or equipment.
- materially obstructs, interrupts or impedes the continuous use or operation of the Network facilities, Network services or equipment of the other party.

### **8.2 Notice of Interference and Modification.**

- If one party (the notifying party) notifies the other party (the notified party) that the other party's Network facilities, Network services or equipment is causing interference to the notifying party's facilities, Network services or equipment.

- The notified party shall rectify the situation so that no interference is caused within twenty-four (24) hours of receiving notice from the notifying party; or
- If the notified party is not able to locate the source of the interference within twenty four (24) hours the notified party shall promptly notify the notifying party, and both parties shall meet within twenty four (24) hours of such notice being received and jointly examine each other's Network facilities, Network services or equipment to locate the source of the interference.

8.3 The parties acknowledge that in the event of a natural disaster which results in large scale destruction of one or both parties' Networks it is in both parties' interest to co-operate to restore a level of service to emergency service providers and other rescue services in the destruction area.

8.4 The parties discuss and develop an agreed on a disaster continuance plan, covering joint co-operation for the restoration of a level of service to emergency service providers and other rescue services in the destruction area.

## 9. Configuration and Technical Aspects.

9.1 Interconnection of Switches. General Rules for Interconnect Links between Switches must specify the following in the **ANNEX A** of the Reference Interconnection Offer (RIO):

- Type of Signalling used in the Reference Interconnection Offer (RIO).
- The capacity for each Interconnection Link (ex: 2.048 Mbps).
- Details of the number of Interconnection Links, to be modified from time to time to reflect changes.
- Transmission Technologies to be used for Interconnection (ex: SDH).

9.2 Interconnection of Signalling Networks for Switch connection. The following, must be detailed in the **ANNEX A** of the Reference Interconnection Offer (RIO):

- The part of Interconnect Link capacity provided to be used for signalling circuits as part between each parties Switch and each of the POIs and each Switch in the other parties Network.

- The associated mode, with the chosen signalling system (ex:SS7 ) link set and the number of signalling links for each POI to be used where possible(ex:2 signalling links for each POI).

9.3 Interface Standards and Technical Requirements shall be included as an **ANNEX A** to the Reference Interconnection Offer (RIO).

## **11.Numbering.**

- 11.1 Each party shall use Number Ranges allocated to them in accordance with the numbering regulation as administered by the Authority.
- 11.2 Each party shall, for all Calls and SMS messages that are handed over by one party to the other party under the Interconnection Agreement, provide to the other party the Numbering Information with respect to that traffic. There shall be no charge for the making available and provision of Numbering Information.
- 11.3 Each parties Number Ranges shall be detailed in the Interconnection Agreement as **ANNEX B** which should be amended when changes are made to these Number Ranges.
- 11.4 The Numbering ranges found in ANNEX B shall include but not be limited to:
  - Numbering range used by each party.
  - Toll free number that the end users will not be charged for calling.
  - Any numbers classified as Calling Line Identification Restriction (CLIR).
- 11.5 Calling Line Identification Presentation (CLIP) and Calling Line Identification Restriction (CLIR).
  - The parties undertake to provide the Calling Line Identification Presentation (CLIP) in respect of all of its End Users where this is technically feasible. The provision by either party of the CLIP service is subject to the data transferred through the signalling circuits and the technical capability of either party's interconnected Switches to support the provision of the CLIP.
  - The parties undertake to ensure that except for calls to the Emergency Services, the Calling Line Identification Restriction (CLIR) marking of Calls is respected at all times

and that the numbers marked with CLIR shall not be presented to the called end-user or a third party where this is required by an End User.

11.6 Each Party will only use Numbering Information for the following purposes and as permitted under the laws of the Republic of Somalia:

- routing Calls;
- preparation of invoices;
- compilation of end user bills (provided that Numbering Information is disclosed on the end user bill);
- Call trace, malicious Call identification and fraud prevention and detection;
- display to end users; and
- any other lawful purpose.

## **12.Planned Changes to Networks.**

### **12.1 Scheduled system alteration with major impact.**

- When each party wants to make a system alteration which may reasonably have a major impact on the proper provision of the Interconnect Services under this Reference Interconnection Offer (RIO), it shall give to the concerned Operator(s) a (30) working days written notice prior to the foreseen date of the anticipated system alteration.
- The written notice shall specify the technical details of the contemplated system alteration and the foreseen date of the said anticipated system alteration.
- Following such notification, the effected operator/operators can request additional information pertaining to the potential impact on the service(s) provided by the Operator to the End Users.

### **12.2 Scheduled system alteration without major impact.**

- When each party wants to make a system alteration which may reasonably not have a major impact on the proper provision of the Interconnect Services under the Reference Interconnection Offer (RIO) to one or several Operator(s), it shall give to the concerned Operator(s) a prior notice having regards to the circumstances which shall in no case be less than five (5) business days prior to the foreseen date of the said anticipated system alteration. Such notification shall specify the technical details of the contemplated

system alteration, the foreseen date of the related works and the reasonably foreseeable impact of the said works on the Interconnect Services provisioning.

### **13 Works or Intervention due to Network Failure or an Emergency Case.**

13.1 In case any of the parties has to intervene on its network due to network failure or an emergency case, each party will do its best efforts to limit the time of its intervention having a possible impact on the provisioning of the Interconnect Services to the reasonable minimum time depending on the type of emergency. Each party will inform the interconnected Operators of such an intervention as soon as reasonably possible, while the restoration of the service provisioning on the network shall be the priority.

### **14 Coordination between the Parties.**

14.1 Each party will put into place qualified and competent teams in order to manage provisioning of the Interconnect Services, the teams shall be accessible on normal working hours of the Federal Republic of Somalia.

14.2 Each party will also put into place qualified and competent teams in charge of maintenance and fault repair of the Interconnect Services and will be accessible 24 hours a day, 7 days a week, including public holidays of the Federal Republic of Somalia.

14.3 The contact details of these teams will be added to the Reference Interconnection Offer (RIO) **ANNEX A**.

### **15 Interconnection Architecture.**

#### **15.1 National Interconnection Sites.**

- Each party will define specific sites to be used as National Interconnection sites and attach it as **ANNEX C** of the Reference Interconnection Offer (RIO).
- These as National Interconnection Access Points sites will contain the relevant switching and transmission equipment with all digital functionality for national and international traffic.
- Each party will utilize utilization of the latest technology in order to increase the efficiency of interconnection.

### **15.2 Regional Interconnection Sites.**

- Each party will define specific sites to be used as Regional Interconnection sites and attach it as **ANNEX D** of this Reference Interconnection Offer (RIO).
- These sites will contain relevant switching and transmission equipment with all digital functionality for regional traffic.
- Each party will utilize utilization of the latest technology in order to increase the efficiency of interconnection.

## **16. Standards.**

16.1 Each party where relevant for interconnection, the following hierarchy of standards and procedures will apply:

- ETSI standards.
- ITU-T Recommendations.
- ISO.
- ATU.

## **17 The Terminating Access Service.**

17.1 The Terminating Access Service conveys a Call handed over from one party's System, at a point of interconnection (POI) for termination on any national number allocated to another parties Network.

17.2 Only calls that have been setup successfully and answered will be charged. The charging time starts with the answering signal and ends with the first clear signal generated either by the calling or the called party.

17.3 Whenever Calling Line Identification (CLI) is transferred to the telecommunications network of each party, they will not communicate such CLI to an end-user if such CLI is marked as CLIR, unless the call is directed to an emergency number.

## **18 Interconnection Link Services.**

18.1 The Interconnection Link Service consists in the physical linking between each parties at a point of interconnection (POI).

- 18.2 The Interconnection Link provided by each party carries at least a number of 2 Mbit/s links. Details of each Interconnection Link including numbers of 2 Mbps circuits and signalling configuration must be attached to as **ANNEX A** to this Reference Interconnection Offer (RIO).
- 18.3 The location of the Point of Interconnection (POI) shall depend on the type of interconnection used.
- 18.4 Each party will provide access to its site for the installation and maintenance of its transmission equipment located at this site.
- 18.5 Each party will supply a suitable location for this equipment, electric power and safekeeping, as far as the equipment is used for the Interconnection Link(s) carrying the Operator's interconnect traffic.
- 18.6 In the event of breakdown of an Interconnection Link, fault location will be initiated and corrected as quickly as possible, but not later than one hour after notification by the Operator.
- 18.7 Each Party is responsible for the dimensioning and payment of the Interconnection Links required for the conveyance of its own traffic. An operator's own traffic consists in the traffic for which the operator is billed by the operator who it interconnects with.
- 18.8 Call congestion on the Interconnection Link should not exceed 1% during busy hours as defined in ITU-T E600.
- 18.9 Each party provides forecast information for the traffic delivered to the POI.
- 18.10 Whenever a National and a Regional POI are co-located, the traffic from and to such POIs will have to be carried on distinct 2 Mbit/s links.

## **19 New Services.**

- 19.1 New or changed Interconnection Services shall be incorporated as an addition or modification to the Interconnection Services and be known as interconnect change request.
- 19.2 Each party seeking an Interconnect Change request, shall draft the proposed interconnect request that is in agreement with the LAW and regulations of the Authority, and send a copy to other parties in the interconnection agreement and the Authority.

19.3 The party seeking the change (the Requesting Party) shall include in its Interconnection Change Request the following information:

- the specific services required;
- the location at which the services are required;
- the date(s) on which the services are required;
- other relevant detail sufficient to enable the party receiving the request (the Receiving Party) to assess whether a plan can be constructed to meet the request for an Interconnection Change in the timescale sought;
- the names of the personnel (including the name and contact details of the senior contact person) who shall represent the Requesting Party in the negotiations or other dealings with the Receiving Party.

19.4 Once the interconnect change request is approved it shall be added to the original interconnection agreement as an addition to the Reference Interconnection Offer (RIO) and will be added to as **ANNEX H**.

## **20.Prevention of Fraud.**

20.1 Each party in the Interconnection Agreement shall co-operate in the detection and control of fraud.

20.2 Each party in the Interconnection Agreement shall establish an information sharing system (via email) to quickly share information with interconnected operators on suspected and confirmed fraud cases.

20.3 Each party in the Interconnection Agreement shall block suspicious or fraudulent traffic as soon as they become aware of such traffic on their network or are informed of such traffic by another operator.

20.4 The information shared regarding fraud by the parties in the Interconnection Agreement shall be stored in a database, this database will be updated periodically and shall be shared with other Licensed Telecommunications Service Providers with whom an Interconnection Agreement is established.



## **21. Interconnection Tariff.**

21.1 Each party in the Interconnection Agreement shall follow these principles when negotiating the Interconnection Tariff:

- The Interconnection Tariff shall be transparent, non-discriminatory and cost based.
- The Interconnection Tariff shall be similar and close to the on-net charges of the parties entering into the interconnection Agreement.

21.2 Each party in the Interconnection Agreement shall ensure that the compensation to be paid by party for terminating traffic shall be equal to the compensation to be paid by the other party for terminating traffic.

21.3 In order for a Call to be chargeable, the Call must give rise to the transmission of an answer signal indicating that the Call is successful.

## **22. Billing.**

22.1 Both relevant parties in the interconnection agreement shall pay all due invoices every three (3) month or quarterly (or no later than 10 after the agreed quarterly due date).

22.2 Each party when invoicing, shall include all the information necessary to enable the Paying Party to check the accuracy of the amount charged.

22.3 Each Licensed Telecommunication's Service Provider in the Interconnection Agreement shall pay all due amounts as set forth in the interconnection agreement regardless of:

- The billing by the said Operator to its own End User,
- and/or of the payment by the End User(s) of the services provided to them by the Operator on the basis of or in relation to the Interconnect Services or any other telecoms service(s) provided by the Operator.

22.4 Each Licensed Telecommunication's Service Provider shall provide an irrevocable and unconditional deposit that shall not exceed the value of 4 (four) months actual or anticipated invoices for interconnection services with the central bank of Somalia to be redeemed by the Authority in the event that the said operator fails to pay the agreed interconnect fee.

22.5 No payments may be made under the Reference Interconnection Offer (RIO) by credit card or debit card.

22.6 All required links for Interconnection Fees shall be adapted by the operator who utilizes that link and will not be charged as an Interconnection Service Charge.

22.7 An Interconnection Billing Invoice that includes charges or costs for which should have been included within earlier invoices or statements but which were omitted inadvertently or otherwise will not be acceptable under this agreement.

## **23.Charges and Payments.**

23.1 The charges for the Interconnection Service to be provided under this Interconnection Agreement, and which each party agrees to pay, are as follows:

<b><u>Type of Interconnection Service</u></b>	<b><u>Chargeable rate</u></b>
1. Fixed Call Termination.	<u>..... USD per minute</u>
2. Mobile Call Termination.	<u>..... USD per minute</u>
3. All Chargeable SMS Messages.	<u>.....USD per SMS Message</u>
4. Free to Caller.	<u>Payment to Receiving party .....</u> <u>USD per minute</u>

Notes:

1. All charges are in US Dollars.

2. The Chargeable Fixed Call and Chargeable Mobile Call rates are amounts in USD per minute. The seconds for each Chargeable Call are added together for the billing period and rounded up to the next whole minute.

## **24.Confidentiality & Disclosure.**

24.1 Each party shall at all times protect the privacy and confidentiality of the other parties' customers and of customers' communications.

24.2 Information provided in the course of operation of the Interconnection Agreement should only be used by the receiving party for the purposes related to Interconnection Service provision.

24.3 Each party will be required to sign a confidentiality agreement to protect its information from being divulged to any other party except for the Authority, subsidiary or partner.

## **25.Suspension and Termination and dispute resolution.**

25.1 Suspension of the Interconnection Agreement in whole or in part shall require express prior written approval of the Authority.

25.2 Reasons that may lead to temporary suspension of the Interconnection Services include: Detection of Fraud, emergency case or network failure.

25.3 Each party may request permission from the Authority to suspend an interconnection service in accordance with **Error! Reference source not found.** of the Interconnection Regulation.

25.4 Each party may Temporary suspend Interconnection service without prior written approval from the Authority as per Article 6 of the Interconnection Regulation.

25.5 Suspension shall not exceed the duration needed to solve the issues.

25.6 Termination of the Interconnection Agreement in whole or in part shall require a written permission from the Authority as per article 53 of the LAW.

25.7 The parties shall agree that, in the event of any dispute about the validity or enforceability of the Interconnection Agreement or of its implementation (in whole or in part), each party shall continue to perform its obligations in accordance with the terms of the Interconnection Agreement until a court of competent jurisdiction (or the arbitrator of an arbitration or the Authority) lawfully determines that the Interconnection Agreement or its implementation (in whole or in part), is invalid or unenforceable.

25.8 Any disputes concerning the interconnection agreement will arbitrated by the Authority.

## **26.Intellectual property rights and infringement.**

26.1 Unless the Parties otherwise agree in writing all Intellectual Property which originates from, or is owned or developed by, a Party will remain in the ownership of that Party; and

26.2 Nothing in the Interconnection Agreement will confer on a Party any rights or interests in or licenses to use or to permit or cause use to be made of the Intellectual Property of the other Party.

26.3 It will be the responsibility of each Party to ensure that it (at its own cost) obtains any necessary consents or licenses in relation to Intellectual Property used in its network that may be required to enable the other Party to observe or perform its obligations under the Interconnection Agreement.

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## **ANNEX A: General Network Information.**

<b>Required Information.</b>	<b>Frist party</b>	<b>Second party</b>
<b>1.</b> Service configuration.		
<b>2.</b> Technical characteristics.		
<b>3.</b> Network Interconnection paths and routing.		
<b>4.</b> Switching Network Interconnection.		
<b>5.</b> Signalling Network Interconnection.  ( ITU-T Q701 recommends that two (2) signalling links should be provided between any platform in each parties' network and each Switch. Currently Where the initial Capacity is for only 1 x 2 Mbps here shall be only one (1) 64Kbps signalling links. ITU –T recommends that the signalling link should carry 0.2 Erlangs of SS7 signalling traffic in the normal mode and 0.4 Erlangs in the case of one (1) signalling link.)		

<b>6.</b> Interface standards.		
<b>7.</b> Synchronization.		
<b>8.</b> Safety standards		
9. Network Interconnection Technical Specifications.		
10. Interconnection Link specification. (numbers of <b>2 Mbps</b> circuits and signalling configuration)		
11. Additional Technical Requirements.		

## **ANNEX B: Number Ranges.**

<b>Number ranges used by Frist Party</b>	
<b>Number ranges used by Second Party</b>	

**ANNEX C: National Interconnection Sites:**

<b>Required Information:</b>	<b>National Interconnection Sites of First Party:</b>	<b>National Interconnection Sites of Second Party:</b>
<b>Name Of location/Facility:</b>		
<b>Location:</b>		
<b>Capacity:</b>		
<b>Estimated Traffic at the site:</b>		
<b>Type of technology used:</b>		
<b>Available points of Interconnection at the site:</b>		

**ANNEX D: Regional Interconnection Sites:**

<b>Required Information:</b>	<b>Regional Interconnection Sites of First Party:</b>	<b>Regional Interconnection Sites of Second Party:</b>
<b>Name Of location/Facility:</b>		
<b>Location:</b>		
<b>Capacity:</b>		
<b>Estimated Traffic at the site:</b>		
<b>Type of technology used:</b>		
<b>Available points of Interconnection at the site:</b>		

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## **ANNEX E: PROCESSES AND FACILITIES FOR COLOCATION**

- **Request for the Collocation Service: Requesting Collocation User Details.**

<b>Location details of proposed Collocation Site:</b>	
<b>Collocation User Proposed Ready for Service Date:</b>	
<b>Expected duration of Collocation Service (if known):</b>	
<b>Estimated footprint of all equipment to be installed (m<sup>2</sup>):</b>	
<b><u>Contact Details of Collocation User Representative Making the Collocation Request:</u></b>	
<b>Name:</b>	
<b>Job Title:</b>	
<b>Telephone Number:</b>	
<b>Email:</b>	
<b><u>Collocation User's Temperature and Humidity requirements:</u></b>	
<b>Maximum total AC power load which would be required by the Collocation User's installed equipment to the Collocation Provider's AC power supply (kW).</b>	
<b>Maximum permissible room temperature in ° C. Minimum permissible room temperature in ° C.</b>	
<b>Relative humidity maximum (%RH).</b>	
<b>Relative humidity minimum (%RH).</b>	



Maximum permissible rate of temperature change as degrees C per minute.								
<b><u>Collocation User's Detailed Equipment Requirements</u></b>								
Equipment Racking		Racking/ Cabinet Dimensions (inches)	Maximum Equipment Weight (Kg)	Power AC / DC	Required Input Voltage	Maximum Power (kW)	Maximum Heat Output (W)	Method of Physical Interconnection
Type	Quantity							

<b><u>Collocation User's Equipment Forecast Power Gradient</u></b> <b><u>Percentage of Stated Maximum Power Graduated from Brought Into Service (BIS) Date</u></b> <b><u>of:</u></b>						
<b><u>BIS + 6</u></b> <b><u>Months</u></b>	<b><u>BIS + 12</u></b> <b><u>Months</u></b>	<b><u>BIS + 18</u></b> <b><u>Months</u></b>	<b><u>BIS + 24</u></b> <b><u>Months</u></b>	<b><u>BIS + 30</u></b> <b><u>Months</u></b>	<b><u>BIS + 36</u></b> <b><u>Months</u></b>	<b><u>BIS + 60</u></b> <b><u>Months</u></b>
<b><u>%</u></b>	<b><u>%</u></b>	<b><u>%</u></b>	<b><u>%</u></b>	<b><u>%</u></b>	<b><u>%</u></b>	<b><u>%</u></b>
<b><u>%</u></b>	<b><u>%</u></b>	<b><u>%</u></b>	<b><u>%</u></b>	<b><u>%</u></b>	<b><u>%</u></b>	<b><u>%</u></b>

<b><u>Collocation Service – Summary of any Additional Requirements</u></b>	

- **Collocation Provider's Authorization and Response Request for the Collocation Service:**

Name of Collocation User Requesting Survey	
Location Details of Collocation Provider's Building	

Date of receiving the Initial Survey Request:	
Date of responding to the Initial Survey Request:	
Contact Details of Collocation Provider's work coordinator:	Name: Tel: E-mail:
Can a Collocation Service be provided that meets the requirements of the requesting Collocation User?	YES / NO
If no, what is the main reason that a Collocation Service cannot be provided at this site:	
If yes, what is the Estimated floor area available (m <sup>2</sup> ):	
Method of providing Collocation Service:	
Method of access for Collocation requesting organization Personnel to collocation building:	
Method of Equipment Entry:	
Required activities to enable collocation:	<b><u>Additional Information (Duration, Start Date, Completion Date)</u></b>
Pre-building works:	
Construction of Collocation Site:	
Electric power and fittings:	
Ventilation, cooling and heating:	
Ancillary services Provision – Standard: Optional:	

Building access and security:	
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### **Collocation Service Acceptance/Agreement**

- Acceptance of this offer will only be recognized by the submission of a completed Collocation application Form by the collocation requesting party which must be returned to the Collocation Provider and approved by the Collocation Provider and contained within the Reference Interconnection Offer/Interconnection Agreement to be sent to the National Communications Authority.

**To:**

.....Company

.....Address

**From: (Requesting Collocation User's details)**

..... Company

.....Address

**Collocation Service Provider:**

**On behalf of the requesting Company.....(requesting party company name) I formally accept the offer for Collocation Service.**

**Name:**

**Position in Company:**

**Acceptance Dated:**

**Signed:.....**

**Collocation service Requesting Party:**

**On Behalf of ..... (requesting party company name) I formally accept the offer for Collocation Service.**

**Name:**

**Position in Company:**

**Acceptance Dated:**

**Signed:.....**

**ANNEX F: Interconnection Maintenance Processes (Fault Handling).**

Required Information.	First Party.	Second Party.
1. Contact numbers for reporting and managing Faults.	Name: Tel: E-mail:	Name: Tel: E-mail
2. Faults Recoding. (Fault name, date and time).		
3. Urgent Faults		
4. Non-Urgent Faults.		
5. Fault Testing.		
6. Repair Time for Urgent Faults.		
7. Repair Time for Non-Urgent Faults.		
8. Faults to be reported to as unresolved.		

**ANNEX G: Traffic Forecast:**

Required Information.	First Party.	Second Party.
1. Forecasts for each POI.		
2. Traffic in Erlangs and number of traffic circuits required for the total traffic volume forecast in each direction.		

3. Call related signalling, measured in message signalling units (MSUs) and octets per second, for each set of signalling links;		
4. Non-call related signalling, measured in message signalling units (MSUs) and octets per second, for each set of signalling links;		
5. The number of sets of signalling links required, including the number of signalling circuits in each set of signalling links requested by the forecasting party.		
6. Increases in the number of Interconnect Links;		
7. The decommissioning of Interconnect Links;		
8. The redistribution of call traffic over different routes.		
9. Forecast updates. (Date and Time)		
10. Additional Information.		

**ANNEX H: Interconnect Change (New service, changes or additions made to the Reference Interconnection Offer (RIO) Interconnection Agreement).**

<b>Required Information.</b>	<b>First Party.</b>	<b>Second Party.</b>
1. The specific services required.		
2. The location at which the services are required;		
3. The date(s) on which the services are required;		
4. Contact Details.		
5. Additional Information.		