

**ELECTRONIC COMMUNICATIONS (INTERCONNECT CLEARINGHOUSE SERVICES)  
REGULATIONS, 2016**

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**ELECTRONIC COMMUNICATIONS (INTERCONNECT CLEARINGHOUSE SERVICES)  
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IN exercise of the power conferred on the Minister responsible for electronic communications by section 97(1)(c) of the Electronic Communications Act, 2008 (Act 775) and acting on the advice of the Authority, these Regulations are made this..... day of ..... 2016.

*Preliminary Provisions*

**Purpose of Regulations**

1. The purpose of these Regulations is to regulate the
  - (a) activities of network operators and service providers who connect and route national and international traffic through an Interconnect Clearinghouse; and
  - (b) operations of an Interconnect Clearinghouse licensed by the Authority.

**Application**

2. These Regulations apply to
  - (a) network operators,
  - (b) service providers, and
  - (c) Interconnect Clearinghouses.

*Responsibilities of an Interconnect Clearinghouse*

**General duties of an Interconnect Clearinghouse**

3. An Interconnect Clearinghouse shall
  - (a) maintain the capacity to connect and route national and international traffic irrespective of protocol or technology;
  - (b) monitor traffic volumes of each service provider and network operator;
  - (c) provide a common infrastructure for a public institution approved by the Authority to host internet communication technology systems and applications; and

- (d) maintain the capacity to host local and international over-the-top service providers.

#### **Subscriber identity verification**

4. An Interconnect Clearinghouse shall provide clearance of subscriber identity verification before the communications service is provided by the connecting entity concerned.

#### **Equipment identity registry services**

5. An Interconnect Clearinghouse shall provide equipment identity registry services for user equipment approved by the Authority to be used for public electronic communications service.

#### **Anti-fraud management system**

6. An Interconnect Clearinghouse shall operate and maintain an anti-fraud management system for the purpose of detecting, preventing, disconnecting or disabling unauthorised or unlicensed or illegal traffic of public electronic communications.

#### **Interconnect Clearinghouse connections**

7. An Interconnect Clearinghouse shall connect to a number portability communications service, bank switch or interconnect exchange as may be directed by the Authority.

#### **Monthly reconciliation**

8. (1) An Interconnect Clearinghouse shall provide the relevant information for monthly reconciliation between connecting entities.

(2) For the purpose of this regulation, "reconciliation" means an agreement on transaction volume and amount of payments due a connecting entity.

#### *Responsibilities of a Connecting Entity*

#### **Mandatory connection to Interconnect Clearinghouse**

9. A connecting entity shall connect to an Interconnect Clearinghouse for
  - (a) monitoring of traffic volumes; and
  - (b) transit of traffic.

## **Connecting entity to designate officers**

10. A connecting entity shall, within seven days of the receipt of a licence to provide public electronic communications service, designate appropriate officers to co-ordinate communication on interconnection matters with an Interconnect Clearinghouse.

### *Interconnection*

## **Procedure for interconnection**

11. (1) A connecting entity shall establish interconnection with an Interconnect Clearinghouse as directed by the Authority.

(2) The Authority shall, within seven days of the issuance of a licence to a connecting entity, furnish, the Interconnect Clearinghouse concerned with details of the licence comprising the following:

- (i) the name of the licensee;
- (ii) the date of issue of the licence;
- (iii) the scope of service of the licence; and
- (iv) the validity period of the licence

(3) The Interconnect Clearinghouse shall, within fourteen days of the receipt of the information under subregulation (2) from the Authority, invite the connecting entity for a meeting to consider and agree on the technical terms for establishing interconnection.

(4) The Interconnect Clearinghouse and the connecting entity shall, within twenty-one days of the meeting held under subregulation (3), agree in writing on the following matters:

- (a) the locations of point of interconnection within the country;
- (b) the transmission means of interconnection through
  - (i) fiber,
  - (ii) microwave, or
  - (iii) crossconnect if the interconnection is in the same location for the Interconnect Clearinghouse and the connecting entity;
- (c) the capacities that will be maintained on the transmission link;
- (d) the interconnect signaling protocol and Codec;

- (e) the switching capacity that will be maintained for efficient call routing based on projected traffic;
- (f) the type of traffic required for exchange between the Interconnect Clearinghouse and the connecting entity;
- (g) the format of call detail records required for exchange between the Interconnect Clearinghouse and a connecting entity for purposes of reconciliation;
- (h) the relevant fields required in the call details including
  - (i) the originating existing network operator or connecting entity trunk group identifier;
  - (ii) numbering plan assigned to call the originating existing network operator or connecting entity of the Authority;
  - (iii) call start time;
  - (iv) call connected time;
  - (v) call end time;
  - (vi) numbering plan assigned to call the terminating network; and
  - (vii) terminating network trunk group identifier;
- (i) network utilisation level required to facilitate capacity increase on the transmission and switching capacity infrastructures to avoid congestion in the network;
- (j) the process involved in establishing technical parameters and interconnection between the Interconnect Clearinghouse and the connecting entity;
- (k) project plan of the Interconnect Clearinghouse and the connecting entity; and
- (l) other matters agreed on by the Interconnect Clearinghouse and the connecting entity.

(5) The Interconnect Clearinghouse shall determine the venue, time and procedure for the meeting.

## **Interconnect communications service agreement**

12. (1) An Interconnect Clearinghouse shall, within seven days after the agreement reached under regulation 11, submit to the connecting entity, a draft interconnect communications service agreement that reflects the decisions reached by the Interconnect Clearinghouse and the connecting entity.

(2) The draft agreement shall be in accordance with the terms approved by the Authority under regulation 11.

(3) The connecting entity shall, within one week of receipt of the draft agreement, review the agreement and submit a copy of the reviewed agreement to the Interconnect Clearinghouse.

(4) The Interconnect Clearinghouse shall, within seven days after agreeing with the connecting entity on the final version of the agreement, submit the final version of the agreement to the Authority for review and approval.

(5) The Authority shall, within ten days of the receipt of the final version of the agreement review the agreement and communicate its decision to the Interconnect Clearinghouse and the connecting entity.

(6) Where the Authority approves the final version of the agreement, the Interconnect Clearinghouse and the connecting entity shall, within six weeks of the receipt of the approval, sign the final version of the agreement.

(7) The Interconnect Clearinghouse shall, within seven days after signing the final version of the agreement, submit a certified true copy of the agreement to the Authority.

(8) Where the Authority does not approve the agreement, the Interconnect Clearinghouse and the connecting entity shall, within seven days of notification for the decision of the Authority, amend the agreement and submit to the Authority for review and approval. <sup>> of</sup>

## **Timeframe for establishment of interconnection**

13. (1) The Interconnect Clearinghouse shall, within one month after the agreement reached under regulation 11, establish interconnection, conduct test calls, verify call detail and open links for commercial exchange of traffic.

(2) The Authority may extend the period specified under subregulation (1), where the Authority is satisfied that the Interconnect Clearinghouse is unable to establish

interconnection, conduct test calls, verify call details or open links for commercial exchange of traffic due to technical reasons.

### **Financial matters**

14. (1) The Interconnect Clearinghouse and the connecting entity shall meet to agree on the settlement plan.

(2) An Interconnect Clearinghouse shall submit to the

- (a) Authority, and
- (b) connecting entity

a bill, an invoice and a settlement plan in respect of an interconnection within two weeks after the meeting between the Interconnect Clearinghouse and the connecting entity referred to under subregulation (1).

(3) The settlement plan shall include the following:

- (a) the format and content of a call detail record report;
- (b) the timeline to submit the call detail record to the connecting entity on a secure online portal for review;
- (c) the process involved for the connecting entity to review and submit any disagreement on call detail record submitted by the Interconnect Clearinghouse;
- (d) the dispute resolution mechanism to resolve a disputed call detail record;
- (e) the percentage of variance on a call detail record required to trigger a dispute resolution procedure;
- (f) the format for the invoice required for submission to a connecting entity and the timeline within which the invoice is required for submission; and
- (g) any other relevant matter determined by the Authority.

(4) The connecting entity shall, within two weeks of receipt of the bill, invoice and settlement plan review the bill, invoice and settlement plan and confirm in writing to the Interconnect Clearinghouse its agreement or otherwise.

## Determination of interconnect rate and related charges

15. The Authority shall
- (a) determine the interconnect rate and service charge payable to an Interconnect Clearinghouse for national traffic; and
  - (b) determine the international transit rate and service charge payable to an Interconnect Clearinghouse for interconnect services.

### *Miscellaneous Provisions*

#### **Offences and penalties**

16. (1) An Interconnect Clearinghouse that fails to
- (a) operate and maintain the capacity to connect and route national and international traffic in contravention of paragraph (a) of regulation 3;
  - (b) monitor traffic volumes in contravention of paragraph (b) of regulation 3;
  - (c) provide a common infrastructure for a public institution to host internet communication technology systems and applications in contravention of paragraph (c) of regulation 3;
  - (d) maintain the capacity to host local and international over-the-top service providers in contravention of paragraph (d) of regulation 3; or
  - (e) operate and maintain an anti-fraud management system for the purpose of detecting, preventing, disconnecting or disabling unauthorised or unlicensed or illegal traffic of public electronic communications in contravention of regulation 6;

is liable to **an administrative penalty of a** reduction of the validity period of the licence of that Interconnect Clearinghouse for a period of three months and in the case of a continuing contravention, to a further administrative penalty of three thousand penalty units for each day during which the contravention continues.

- (2) An Interconnect Clearinghouse that fails to
- (a) provide clearance of subscriber identity verification before the communications service is provided by the connecting entity concerned in contravention of regulation 4;



- (b) provide equipment identity registry services for user equipment approved by the Authority to be used for public electronic communications service in contravention of regulation 5;
- (c) connect to a number portability communications service, bank switch or an interconnect exchange as directed by the Authority in contravention of regulation 7;
- (d) provide the relevant information for monthly reconciliation between connecting entities in contravention of regulation 8;
- (e) submit a draft interconnect communications services agreement in contravention of regulation 12; or
- (f) submit a bill, an invoice and a settlement plan in respect of an interconnection to the Authority, a network operator or a connecting entity in contravention of regulation 14;

is liable to pay to the Authority an administrative penalty of nine thousand penalty units and in the case of a continuing contravention, to a further administrative penalty of three thousand penalty units for each day during which the contravention continues.

(3) A connecting entity that fails to

- (a) connect to an Interconnect Clearinghouse in contravention of regulation 9; or
- (b) designate appropriate officers to co-ordinate communication on interconnection matters with an Interconnect Clearinghouse in contravention of regulation 10,

is liable to pay to the Authority an administrative penalty of nine thousand penalty units, and in the case of a continuing contravention, to a further administrative penalty of three thousand penalty units for each day during which the contravention continues.

**(4) An administrative penalty specified under this regulation shall apply in respect of each contravention.**

### **Right of appeal**

17. (1) A person aggrieved by a decision of the Authority may appeal against the decision by sending a notice of appeal to the Tribunal established under section 88 of the Act in accordance with the rules of procedure of the Tribunal.

### **Interpretation**

18. In these Regulations, unless the context otherwise requires,

**“Act” means Electronic Communications Act, 2008 (Act 775);**

“anti fraud management system” means a device or mechanism that is used for testing, detecting, blocking or preventing illegal traffic passage;

“bank switch” means an electronic payment network;

“Codec” means a compressing and decompressing technology of electronic communication;

“connecting entity” means a network operator or a service provider licensed to send or receive electronic communications to or from other entities;

“Interconnect Clearinghouse” means a centralised network connected to other networks or service providers;

“interconnect exchange” means a network facility that enables the Interconnection of more than two independent connecting entities for the purpose of facilitating the transfer of electronic communications;

“network utilisation level” means the capacity of an interconnection route used for traffic transfer;

“number portability communications service” means the electronic move of a mobile subscriber from one service provider to the other whilst the subscriber maintains the subscriber number;

“online portal” means a designated gateway access to electronic information;

“over-the-top” means an application or service that provides a product over the internet and bypasses traditional distribution of electronic communications services;

“over-the-top service provider” means an entity that delivers an application or service over the internet and bypass traditional network distribution;

“switching capacity infrastructure” means the build of ability to exchange traffic;

“traffic” means voice, short messaging service, multimedia message service or any other service over an electronic communications network; and

“trunk group identifier” means a marker for collective routes to a specific destination.

**Transitional provisions**

19. (1) Until the Authority determines interconnect rate or service charge due an Interconnect Clearinghouse, a connecting entity shall not pay to an Interconnect Clearinghouse an interconnect rate or service charge until January, 2018.

(2) Until January, 2018, a connecting entity shall not increase its call charges for purposes of routing a call through an Interconnect Clearinghouse.

(3) Despite subregulation (1), a connecting entity that intends to establish interconnection after the coming into force of these Regulations shall pay to the Interconnect Clearinghouse concerned, an interconnect rate or service charge determined by the Authority.

(4) Until January, 2018, the Authority shall remunerate an Interconnect Clearinghouse engaged in interconnection from the moneys that the Authority collects on behalf of government for the use of the Authority under subsection (9) of 25A of the Act.

**DR. EDWARD OMANE BOAMAH**  
*Minister responsible for electronic  
communications*