

# Reference Interconnect Offer Mobile (RIOM)

Version 1.0

15/10/2014



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## **1. Introduction**

### **1.1. Scope of the Reference Interconnect Offer Mobile**

This Reference Interconnect Offer Mobile ("RIOM") defines the interconnection terms and conditions (including the list of the interconnection services) which EPT will apply to all Operators in order to allow end-users who are connected to the system of an Operator to communicate with end-users who are connected to the mobile telecommunication network of EPT.

The services covered by this RIOM are:

- Terminating access service for voice calls to mobile numbers on the EPT network;
- Interconnection link service.

This RIOM defines the minimal interconnection terms and conditions which EPT will grant to other Operators. Nevertheless, EPT reserves the right to provide more beneficial terms and conditions, in accordance with the applicable regulatory framework, including the principle of non-discrimination.

### **1.2. Limits of the Reference Interconnect Offer Mobile**

This RIOM is valid from November 1<sup>st</sup> 2014, unless

- a new RIOM is published by EPT;
- a material change occurs in the laws or regulations, governing telecommunications in Luxembourg.

This RIOM shall remain in full force and effect until such a new RIOM is published by EPT and enters into force.

The content of this RIOM may be reviewed and amended in order to comply with applicable rules and regulations. Furthermore, the ILR reserves the right to request or impose on EPT modifications to the RIOM or the adoption of a new RIOM to be undertaken by EPT.

Unless defined otherwise, the terms used in this RIOM must be interpreted in accordance with the Law of February 27<sup>th</sup>, 2011 Networks and Electronic Communication Services (the "Law") and its implementing regulations.

No operator shall be responsible for the content of calls passed through his own or an interconnected operator's network. Laws and regulations regarding confidentiality and access by legal authorities to calls on the Operator's and EPT's network will apply.

All prices mentioned in this RIOM, including those specified in the Appendices attached hereto, are in EURO (€) and exclusive of Value-Added Tax (VAT) or any other legal taxes, which will be added where applicable.

### **1.3. Definitions**

**Call:** The establishment of a connection through a telecommunications network and the transmission and the delivery of a signal from the terminal on which this signal was generated to the terminal to which this signal is addressed or to a network platform or any other facility giving an automatic answer in those cases where the connection cannot be established.

**Calling Line Identification (CLI):**

The CLI is the number of the calling user conveyed by each Operator's network for each call, it may also be provided by the network or partly by the calling user. This information is flagged either as "network provided" or as "user provided, verified and passed". If the verification of a user provided CLI fails, the network-provided CLI will be transmitted.

**Calling Line Identification Presentation (CLIP):**

Supplementary service provided for in ITU-T Recommendation I.251.3.

**Calling Line Identification Restriction (CLIR):**

Supplementary service provided for in ITU-T Recommendation I.251.4.

**Capacity of the Interconnection Link:**

The capacity defined for the Interconnection Link and the corresponding EPT Access point to which the Operator wishes to be connected (expressed as a number of 2 Mbit/s links or any other unit agreed upon between parties).

**End-User:** Retail customer having subscribed to POST Telecom's mobile telecommunication services

**EPT:** Entreprise des Postes et des Télécommunications, an autonomous "Etablissement Public" created by the "Loi du 10 août 1992 portant création de l'entreprise des postes et télécommunications".

**ILR:** Institut Luxembourgeois de Régulation.

**Interconnect Agreement:**

An agreement between EPT and an Operator, which defines the conditions for the Interconnection.

**Interconnection:** The interconnection with EPT, as defined in the Law.

**Interconnection Link:** A Link between an EPT Access Point and an Operator Access Point for the provision of Interconnection traffic.

**Interconnection Services:**

Services described in the present Reference Interconnect Offer.

**Link:** Set of telecommunications facilities necessary to establish one or more transmission paths between two locations.

National (Significant)

Number:	Defined as in ITU-T Recommendation E.164.
OAO:	Other Alternative Operator
Operator:	Any legal or natural person operating telecommunications networks and/or providing telecommunications services in Luxembourg.
Operator Access Point:	The physical interface within the Operator's System at which the Interconnection Services can be obtained.
Party:	EPT or the Operator which an Interconnection Agreement is (being) concluded with.
Point of Interconnection (POI):	The physical point on the Interconnection Link where EPT's telecommunications network and the Operator's System are interconnected. The POI is the boundary between EPT's and the Operator's domains of responsibility.
EPT Access Point:	The physical interface within EPT's System from which the Interconnection Services can be obtained.
POST Telecom:	Subsidiary of EPT offering retail services to end customers
RIOM:	The present reference offer for Interconnection Services for mobile.
System:	All equipment and software which an Operator uses to provide his telecommunications services.

## **2. Interconnection Architecture**

### **2.1. National Interconnection Sites**

EPT has two sites that have been designed for use as National Interconnection Access Points on grounds of their optimal network integration. These are existing manned EPT sites containing relevant switching and transmission equipment with all digital functionality for national mobile traffic.

The addresses of the Interconnection points are as follows:

- national Point of Interconnection 1: 10, rue d'Epernay L-1490 Luxembourg-Gare
- national Point of Interconnection 2: 1, rue Yolande L-2761 Luxembourg-Belair

The Operator can either use both Interconnection Access Points or select the Interconnection Access Point at which he wants to interconnect his System.

### **2.2. System Alteration**

If EPT wishes to make a System alteration impacting the mobile termination service, it shall give the OAO and the ILR no less than 6 months written notice prior to the date of the anticipated System alteration. The notice shall specify the technical details of the System alteration and the date of the anticipated System alteration. Following such notification EPT shall supply to the OAO such information as the OAO may reasonably request including, to the extent reasonably practicable, the potential impact on the service provided by the OAO to the End Users.

### **2.3. Standards**

Where relevant for Interconnection with the EPT network, the following hierarchy of standards and procedures will apply:

- Any legal requirements
- ETSI standards
- ITU-T Recommendations
- National standards
- Any other international standards

The signaling system will be based on the ITU-T SS7 protocols, ISUP Blue Book version. Tests for the SS7 will be performed following the pertinent ITU-T recommendations such as Q781-Q785.

The transmission level of the Interconnection is based on the pertinent ITU-T recommendations for PDH and SDH interfaces.

Other Interconnection options may be provided and EPT will try to comply with any reasonable request for alternative Interconnections, if technically feasible.

### **3. The Terminating Access Service**

The mobile terminating access service conveys a Call handed over from the Operator's System, at an EPT Access Point for termination on any national number of EPT's mobile telecommunications network.

The tariffs applied by EPT for the provision of the terminating access service are indicated in Annex 1. 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.

Whenever CLI is transferred to EPT's mobile telecommunications network, EPT 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.

### **4. Interconnection Link Services**

The Interconnection Link service consists in the physical linking between an EPT Access Point and an Operator Access Point. The Interconnection Link provided by EPT carries a number of 2 Mbit/s links.

EPT will ensure the availability of the following Interconnection Link Services for the conveyance of the Operator's traffic to EPT's mobile network:

- Operator-sited Interconnection
- EPT-sited Interconnection

#### **4.1. Operator-Sited Interconnection**

For Operator sited Interconnection, EPT will supply and operate an Interconnection Link in its entirety for both way traffic. The Interconnection Link will remain EPT's property. Tariffs for Operator-sited interconnection are indicated in Annex 2.

The Point of Interconnection (POI) shall be located at the Access Point on the distribution frame of the Party that has the operational responsibility for the Interconnect Link.

The Operator will provide access to EPT at his site for the installation and maintenance of EPT's transmission equipment located at this site. The Operator will supply a suitable location, electric power and safekeeping for EPT transmission equipment at no cost as far as the equipment is used for the Interconnection Link(s) carrying the OAO interconnect traffic.

In the event of breakdown of an Interconnection Link, EPT will initiate fault location and initiate correction as quickly as possible but not later than one hour after notification by the Operator and repair such a Link at its own cost, unless it establishes that the Operator is responsible for such a breakdown.

## **4.2. EPT-sited Interconnection**

For EPT-sited interconnection, the Operator will supply and operate an Interconnection Link in its entirety. The Interconnection Link will remain the Operator's property.

The Point of Interconnection (POI) shall be located at the Access Point on the distribution frame of the Party that has the operational responsibility for the Interconnect Link.

EPT will provide access to the Operator at its site for the installation and maintenance of the Operator's transmission equipment located at this site. EPT will supply a suitable location for the Operator's transmission equipment used in direct relation with interconnect services (interconnect traffic and half-circuits), electric power and safekeeping.

EPT will permit EPT-sited interconnection at the sites identified in preceding paragraph 2.1. EPT may also decide to provide EPT-sited interconnection in the immediate vicinity of these sites at the same cost and conditions as those applied in respect of the sites indicated in Article 2.1 of this RIOM. In its request for EPT-sited interconnection, the Operator will describe his needs regarding the installation of his transmission equipment on EPT's premises. Whenever EPT determines that EPT-sited interconnection is not reasonably feasible, it will inform the Operator and the ILR of the reasons of such unfeasibility within 15 days of receiving the request. Should the ILR find that EPT-sited interconnection is reasonably feasible, EPT will comply with ILR's decision.

In case of unfeasibility of EPT-sited interconnection, EPT will cooperate with the Operator in order to find an appropriate alternative solution.

For the provision of the co-location facilities on EPT sites, the conditions and prices of the Reference Co-location Offer (RCO) of EPT will apply.

## **4.3. Interconnection Links**

The tariffs for Interconnection Links are indicated in Annex 2.

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.

The Operator is responsible for the traffic conveyed through its System and handed over at EPT Access Point in order to use EPT's terminating Access Services.

EPT is dimensioning its Interconnection Links used for the conveyance of the traffic handed-over from the EPT Access Point to the Operator Access Point in such a way that the Call congestion on the Interconnection Link does not exceed 1% during busy hours as defined in ITU-T E600, 5.1. The Operator provides forecast information for the traffic delivered from the EPT Access Point to the Operator Access Point.

Requests for Interconnection Links must be addressed in writing to EPT to the address specified in chapter 6 of this document.

- Initial Capacity Order

The initial capacity order must be submitted at the latest 4 months before the requested date marking the start of the service. EPT will aim to keep shorter delays taking into consideration its availability and organizational constraints.



- Subsequent Capacity Orders

Any subsequent capacity order has to be submitted at the latest 2 months before the requested date marking the start of the service. EPT will aim to keep shorter delays taking into consideration its availability and organizational constraints.

- Modification of a Capacity Order

Any modification of a capacity order resulting in a decrease of the capacity, submitted to EPT less than 2 months prior to the requested date of bringing into service of the reduced capacity, grants EPT a fair compensation for additional expenses duly documented.

The Operator shall supply capacity requirements, forecasts and routing data every 6 months to EPT for a 18 months planning. This information will only be used by EPT for the planning and dimensioning of its network and will be kept strictly confidential.

The signalling systems between EPT and the Operator shall be based, where relevant, on the ITU-T SS7 protocols, ISUP Blue Book version or other protocols to be agreed upon between the Operator and EPT.

At the transmission levels, the Interconnection is based on the pertinent ITU-T Recommendations for PDH and SDH interfaces.

#### **4.4. Other Interconnection options**

Other Interconnection options may be provided and EPT will try to comply with any reasonable request for alternative Interconnections, if technically feasible.

## **5. Service Quality of EPT Interconnection Services**

As far as the terminating access service is concerned, EPT undertakes to ensure for its own System a network failure rate which does not exceed 1,5% as a national 3 months average, for failures which are exclusively due to its System. Network failure rate is the ratio between the number of Calls handed over by an Operator to be terminated on EPT's network and failed due to insufficiencies in EPT's Network and the total amount of Calls handed over by that Operator to be terminated on EPT's network (excluding, in particular, failures due to End-User behaviour or terminal equipment or the End-User being outside of EPT's mobile network coverage). This failure rate is only applicable in case the End-User is located within EPT's mobile network (home network) and does not include the roaming case.

In the event of disturbance of the conveyance of traffic within its System, EPT may be constrained to implement the classical measures of traffic regulation (Call gapping, etc. ...) in order to limit its effect on the service quality provided to its customers as well as to the Interconnected Operators. These measures of traffic regulation are applied to EPT and Operator traffic without discrimination. The target figures given above for network failure rate do not include failures that are caused by the mentioned measures of traffic regulation. The Operator and the ILR shall be informed if the above-mentioned measures for traffic regulation have to be applied and how long they may last.

EPT shall respect the quality conditions as they are defined in the applicable legal regulation and in accordance with the quality EPT provides for the customer of its retail subsidiary.

## **6. Procedure for Reaching an Interconnection Agreement**

Interconnection agreements shall be negotiated and reached according to the general modalities for interconnection as determined by the ILR (Article 23 of the Law).

EPT may demand the delivery of a bank guarantee on first demand of a Luxembourg based bank of 75.000,- € in favour of EPT for the provisioning of the interconnect service. When, and as long as there exist serious and ascertained doubts regarding a client's solvency, the Company may without prejudice to previous arrangements demand payment in advance.

Requests for Interconnection Services shall be made in writing to the following address:

Entreprise des Postes et Télécommunications  
Service Relations Inter-Opérateurs  
L-2020 Luxembourg  
Tél: +352 4991 5014  
E-mail : [contracts.technologies@post.lu](mailto:contracts.technologies@post.lu)

## **7. Annexes**

All prices mentioned here after are given exclusive of VAT or any other legal taxes, which will be added where applicable.

**Annex 1: Tariffs Applicable to the Terminating Access Service**

The rates to be paid by the Operator to EPT for terminating access to mobile numbers are specified below :

<b>Charge/minute (in €ct excl. VAT)</b>
As defined by the ILR

Charges will be billed on a per nearest second basis.

**Annex 2: Tariffs Applicable to the Interconnection Link Service**

Annual fee per 2 Mbit/s system

(annual costs for the EPT Access Point equipment and maintenance):  
1.713,- €

One-off charge per operator (covering installation and testing): 8.149,- €

*A) Operator-sited Interconnection*

Yearly charge per operator (covering billing and service quality control): 5.000,- €

<b>Each 2 Mbit/s</b>	<b>Installation fee</b>	<b>Monthly rental fee</b>
Interconnected EPT Access Points located in the same local network zone	1.487,-€	173,-€
Interconnected EPT Access Points located both either in local networks of Luxembourg-City or of Esch/Alzette	1.487,-€	235,-€
Interconnected EPT Access Points located in adjacent local network zones	1.487,-€	334,-€
Interconnected EPT Access Points located in non-adjacent local network zones	1.487,-€	451,-€

*B) EPT-sited Interconnection*

Monthly charge per used Interconnect Site

(covering billing, maintenance and service quality control): 210,- €

For all co-location services, the conditions and prices of the applicable Reference Co-location Offer (RCO) of EPT will fully apply.

C) Modification of Interconnection Links

The establishment, the modification and the cancellation of trunks, as well as the connection or disconnection of circuits or signalling Links required by the Operator, are charged to the Operator if these changes apply to existing interconnect trunks.

The necessary changes related to the extension of an existing interconnect trunk by adding supplementary Interconnect Links are not charged to the operator.

<b>Change required by the Operator</b>	<b>Tariff</b>
Establishment of a new trunk	646,- €
Modification or cancellation of an existing trunk	485,- €
Connection or disconnection of circuits	161,- €
Connection or disconnection of a signalling Link	323,- €

### Annex 3: Fault Repair

Fault clearance will be performed 24 hours a day, 7 days a week, for all services which are part of the present Reference Interconnect Offer.

The following table lists the teams in charge of fault acceptance and repair and their availability.

Customer support team	Availability	Contact
Network Operations Center	24h/24, 7d/7 (incl. public holidays)	Phone : +352 4991 6306 e-mail : noc@post.lu
Switching team	Monday to Friday 08:00 – 17:00	Phone : +352 4088 7888 e-mail : isc.luxembourg@post.lu

The following prices are applicable in case of any requests by the Operator for additional support for testing or troubleshooting purposes.

#### Manpower fees

Manpower Fees	Price
Actual EPT manpower fee - per hour	72,53
All manpower fees are based on the Luxembourg price index 775,17. They will be updated following the evolution of this price index.	

Time	6h00-7h00	7h00-19h00	19h00-22h00	22h00-6h00
Monday to Friday	50%	0%	50%	65%
Saturday	50%			65%
Sunday	70%			85%
Legal and public holiday	200%			215%