

**cegecom s.a.,**  
**hereafter called “cegecom”**  
**Reference Interconnect Offer (RIO)**

**Version: 87.0**

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V2.0	Version with <ul style="list-style-type: none"> <li>- new Access service to Shared Revenue Numbers</li> <li>- new tariffs for terminating calls following ILR's Regulation 15/186/ILR.</li> </ul> Published for consultation on 29.05.2015
V2.1 – erratum on 3.6.15	10. Annexes – Annex 2 – Originating Access service (10.2.) has been replaced by a new version with the correct description/rates.
V3.0	Published for consultation on 23.02.2017
V4.0	10. Annexes – Annex 4 – Terminating fees originating outside of EEA Published for consultation on 21.12.2017
V4.1	Version after results of consultation: <ul style="list-style-type: none"> <li>- postponement of the entry into force</li> <li>- alinement of countries in the tables of 10.4 (India in table 1 only)</li> </ul>
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V5.1	Version after results of consultation: <ul style="list-style-type: none"> <li>- postponement of the entry into force</li> <li>- typo in tables 10.1 b) + 10.2 b)</li> <li>- alinement of countries in the tables of 10.4 (Croatia in table 1)</li> </ul>
V6.0	Published for consultation on 25.03.2021: <i>replaced by V6.1 (minor adjustments)</i>
V6.1	Version after conclusion of consultation: <ul style="list-style-type: none"> <li>- postponement of the entry into force and update (copied from V6.0)</li> <li>- regarding the Interconnection Link Service [6.c) and 10.6]</li> <li>- in order to consider the supplementing Directive (EU) 2018/1972 [10.3 a)]</li> </ul>
V7.0	Update of countries in the tables 10.4 (Canada and USA changed to table 1) Published for consultation on 01.08.2022
<u>V8.0</u>	<u>Remove of table 2 in 10.4 and only one surcharge tariff for countries out of table 1; adjustment of surcharge tariff / Published for consultation on 20.12.2022</u>

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## *1. Scope and limits of the Interconnect Offer*

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This Reference Interconnect Offer (RIO) deals with Interconnect Services offered to a duly authorized Public Network Operator, hereafter called “Interconnected Operator”, for termination of voice calls to the network of cegecom s.a., hereafter called “cegecom”.

This Reference Interconnect Offer has been issued and developed in accordance with the obligations imposed on cegecom in the Regulation ILR/T21/1 dated January 18<sup>th</sup> 2021 (market 1/2014).

The Interconnect Services included in this RIO encompass the following services:

- Terminating Access Services, as described in section 5
- Interconnect Link Services and Colocation Services, as described in section 6
- Number Portability, as described in section 7

This RIO does not cover calls to numbers which were initially attributed to cegecom but which were ported to other networks. Other interconnect services may be negotiated between cegecom and the “Interconnected Operator” and included in the Interconnect Agreement.

As a general principle, the operator is not responsible for the content of the communications conveyed through its Interconnect Services.

## 2. Offer validity

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This RIO is valid from ~~October~~ March 1<sup>st</sup> 20232, unless

- a new RIO is published by cegecom;
- a material change occurs in the laws or regulations, governing telecommunications in Luxembourg

This RIO 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 cegecom modifications to the offer.

The validity of the present RIO is determined by the decision 14/177/ILR dealing with the procedures related to the publication of a reference offer dated August 28<sup>th</sup> 2014 respectively the Regulation ILR/T21/1 dated January 18<sup>th</sup> 2021 (market 1/2014).

Unless defined otherwise, the terms used in this RIO 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".

### 3. Definitions

Term	Description
Access Operator	The operator who accesses end-users and obtains the Interconnection Services to any Operator Access Point.
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 Operator access point to which the Interconnected Operator wishes to be connected
Carrier Selection Code (CSC)	A selection code as defined and allocated by the ILR and which is used to enable the originating access.
Carrier Preselection (CPS)	A pre-programmed selection of an Operator allowing the access to services provided by that Operator without the need for the end-user user to dial the CSC.
cegecom	The operator offering interconnect services through this offer

ILR	Institut Luxembourgeois de Régulation.
Interconnection Link	A Link between cegecom's Access Point and the "Interconnected Operator"
"Interconnected operator":	An operator wishing to be or being interconnected to cegecom
International Public Telecommunication Number	Defined as in ITU T Recommendation E.164.
National (significant) Number	Defined as in ITU T Recommendation E.164.
KPI	Key Performance Indicator
Number portability	The case where a subscriber retains its originally assigned directory number when changing from one network Operator (donor network; Donor Operator) to another (recipient network; Recipient Operator) and is not related to changing the nature of service nor the location.
Link	Set of telecommunications facilities necessary to establish one or more transmission paths between two locations.
Operator Access Point	The physical interface within cegecom's System at which the Interconnection Services can be obtained.
Parties	cegecom, offering interconnection services and the "Interconnected Operator" buying interconnection services under this agreement.
Point of Interconnection (POI)	The physical point on the Interconnection Link where the telecommunications network of cegecom and the "Interconnected Operator"'s System are interconnected. The POI is the boundary between cegecom and the "Interconnected Operator domains of responsibility".
Reference Interconnect Offer (RIO)	The present offer for interconnection Services
System	All equipment and software which, an Operator uses to provide his telecommunications services.
SLA	Service Level Agreement
SIP	Session initiated protocol, is the IETF protocol for VOIP and other text and multimedia messages

#### 4. Interconnection Architecture

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##### 4. a) - Sites

cegecom offers the following site that has been designed for use as Interconnection Access Point grounds of their optimal network integration.

##### Interconnection point addresses:

- I. LuxConnect Data Center DC1.1  
4, Rue Graham Bell  
L-3225 Bettembourg
- II. LuxConnect Data Center DC2  
Z.A.C. Klengbousbiert  
L-7795 Bissen

##### 4. b) - System alteration

If cegecom wishes to make a system alteration, it shall give the “Interconnected Operator” 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 cegecom shall supply to the interconnected Operators such information as the “Interconnected Operator” may reasonably request including, to the extent reasonably practicable, the potential impact on the service provided by the “Interconnected Operator” to the End Users.

##### 4. c) - Standards

Where relevant, the following standards and procedures will apply:

- Any legal requirements
- IETF RFCs
- ETSI standards
- Any other relevant international standards

The signalling system is based on the ITU-T SS7 protocols. Tests for the SS7 will be performed following the pertinent ITU-T recommendations.

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

Other Interconnection options may be provided, and cegecom uses its reasonable best efforts for alternative Interconnections under the condition of technical feasibility.

### *5. Service description: Terminating access service*

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The terminating access service conveys a call handed over from the “Interconnected Operator’s” System, at cegecom’s Access Point for termination on any national number of cegecom’s network. Tariffs may be different for different categories of services identified by different number ranges.

The tariffs applied by cegecom 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 the telecommunications network of “The Interconnected Operator”, cegecom 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.



## **6. Interconnection Link Service**

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The interconnection link service consists in the physical linking between cegecom's Access Point and an "Interconnected Operator" Access Point. The "Interconnected Operator" must interconnect to a Point of Interconnection defined in paragraph 4.a. The relevant charges per interconnect site are defined in Annex 6.

### **6. a) - Co-location & Interconnection link**

For cegecom-sited interconnection, cegecom can provide a custom offer for an Interconnection Link Service or cegecom will supply and operate an Interconnection Link in its entirety.

cegecom will provide access to the "Interconnected Operator" at its site for the installation and maintenance of "The Interconnected Operator's" transmission equipment located at this site. cegecom will supply a suitable location for the "Interconnected Operator's" transmission equipment used in direct relation with interconnection services, electric power and safekeeping.

In its request for cegecom-sited interconnection, the "Interconnected Operator" will describe his needs regarding the installation of his transmission equipment on the premises of cegecom. Whenever cegecom determines that cegecom-sited interconnection is not reasonably feasible, it will inform the "Interconnected Operator" and the ILR of the reasons of such unfeasibility within 15 days of receiving the request.

cegecom will comply, should the ILR find that cegecom-sited interconnection is reasonably feasible. In any case, cegecom will cooperate with the "Interconnected Operator" in order to find an appropriate alternative solution.

The provisioning of co-location services is not subject to the current offer. Cegecom provides the conditions and prices on request.

### **6. b) - Capacity**

"The Interconnected operator" is solely responsible for the dimensioning of the Interconnection links.

### **6. c) - Signalling System**

The signalling system between "The interconnected Operator" and cegecom is specified below:

The signalling system for IP interconnections is based on the SIP protocol and comply with the regulations as issued by the ILR.

## ***7. Number portability***

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### **7. a) - Scope**

Number portability (NP) is applicable under the conditions defined by the ILR.

As a general rule, NP will be achieved through the mean of an electronic messaging system.

The transmission of such files can be done from 6.00 a.m. to 6.00 p.m., from Monday to Friday, excluding legal and public holidays.

The NP activation will be performed from Monday to Friday from 8.00 a.m. to 12.00 p.m. and from 1.30 to 6.00 p.m., excluding legal and public holidays.

### **7. b) - Tariffs and billing**

Tariffs on NP are defined in annex 7.

Billing procedures will be described in the Porting Agreement between the parties.

## *8. QoS for interconnection services*

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As far as the terminating access service is concerned, cegecom 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 “Interconnected Operator” to be terminated on cegecom’s Network and failed due to insufficiencies in cegecom’s network and the total amount of calls handed over by “The Interconnected Operator” to be terminated on cegecom’s network (excluding, in particular, failures due to end-user behaviour and failure of terminal equipment).

In case of disturbance of the conveyance of traffic within its System, cegecom may be constrained to implement the classical measures of traffic regulation (limiting channels, etc.) in order to limit its effect on the quality of the service provided to its customers as well as to the “Interconnected Operator”.

The target figures given above for network failure rate do not include failures that are caused by the mentioned measures of traffic regulation.

“The Interconnected 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.

cegecom shall respect the quality conditions as they are defined in the applicable legal regulation and in accordance with the quality cegecom provides to its retail clients.

### *9. Procedures for reaching an interconnection agreement*

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Interconnection agreements shall be negotiated according to the procedures and regulations determined by ILR.

On first demand by the “Interconnected operator”, cegecom may request bank guarantees of 10.000€ (of a bank based in Luxembourg) for the provisioning of the interconnect service.

Other “reasonable” guarantees, as payment in advance, may be requested before supplying the interconnection service.

Agreement requests shall be addressed to:

cegecom s.a.

B.P. 2708

L-1027 Luxembourg

Phone (+352) 26499-1

Email [info@cegecom.net](mailto:info@cegecom.net)

## *10. Annexes*

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

## 10. Annexes – Annex 1 – Terminating Access service

### 10.1. Terminating Access service to Shared Revenue Numbers (Premium Rate Service - 90x)

This service consists in the conveyance by cegecom of Calls handed over by the Operator at a National Point of Interconnection between the Operator's System and cegecom System for termination on cegecom System, on one of cegecom's shared revenue numbers in accordance with the National Numbering Plan of Luxembourg.

#### 10.1. a) - Premium rate services on duration basis (price per minute)

(Levels and number ranges to be defined by cegecom)

Level	End-user price applied by the access operator (in €ct, excl. VAT)	Rate to paid to cegecom (in €ct)	Billing period (in seconds)
0	2,56	0,79	60
1	12,82	10,26	30
2	21,37	17,82	30
3	34,19	29,42	30
4	55,56	48,77	30
5	72,65	64,25	20
6	98,29	87,47	20
6b	127,35	113,92	20
7	170,94	153,25	20

#### 10.1. b) - Premium rate services on call basis (price per call)

Level	End-user price applied by the access operator (in €ct, excl. VAT)	Rate to paid to cegecom (in €ct)	Maximum call duration (in seconds)
1	10,68	7,91	30
2	21,37	17,59	30
3	42,73	36,93	30
4	64,10	56,28	30
5	128,21	114,32	30
6	192,31	172,37	30
7	256,41	230,41	30
8	512,82	462,59	30
9	1281,20	1157,58	30
10	2563,25	2331,04	30

## 10. Annexes – Annex 2 – Originating Access service

### 10.2. Originating Access service to Shared Revenue Numbers (Premium Rate Service)

This service consists in the conveyance of Calls handed over by cegecom at a National Point of Interconnection between the cegecom System and the Operator's System for termination on the Operator's System, to one of the Operator's Shared revenue numbers in accordance with the National Numbering Plan of Luxembourg. The price levels and billing periods authorized by cegecom system are those listed below. No change will be possible for the billing periods.

cegecom will claim a handling charge for the acceptance and conveyance of calls to the Operator's shared revenue numbers as listed below. This charge is calculated on the basis of the costs incurred by cegecom for conveyance, billing, bad debt risk and financial costs.

#### 10.2. a) - Premium rate services on duration basis (price per minute)

Level	End-user price applied by cegecom (in €ct, excl. VAT)	Part cegecom (in €ct)	Billing period (in seconds)
0	2,56	1,77	60
1	12,82	2,56	30
2	21,37	3,55	30
3	34,19	4,77	30
4	55,56	6,79	30
5	72,65	8,40	20
6	98,29	10,82	20
6b	127,35	13,43	20
7	170,94	17,69	20

*(Levels and number ranges to be defined by the operator)*

#### 10.2. b) - Premium rate services on call basis (price per call)

Level	End-user price applied by cegecom (in €ct, excl. VAT)	Part cegecom (in €ct)	Maximum call duration (in seconds)
1	10,68	2,77	30
2	21,37	3,78	30
3	42,73	5,80	30
4	64,10	7,82	30
5	128,21	13,89	30
6	192,31	19,94	30
7	256,41	26,00	30
8	512,82	50,23	30
9	1281,20	123,62	30
10	2563,25	232,21	30

## 10. Annexes – Annex 3 – Terminating fees originating EEA

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### 10.3. a) - Terminating access service to geographic numbers

Period	Peak / Off-Peak	Charge per minute €ct
as from 01.01.2022	Peak	0,070
as from 01.01.2022	Off-Peak	0,070

Tariffs only apply to the termination of voice calls originating within the EEA (European Economic Area), provided that the calling number can be identified as belonging to a numbering plan of one of the countries of the EEA.

The tariffs for Terminating Access Services will be adapted in compliance with the Delegated Act Commission Delegated Regulation (EU) 2021/654 “supplementing Directive (EU) 2018/1972 of the European Parliament and of the Council by setting a single maximum Union-wide voice termination rate and a single maximum Union-wide fixed voice termination rate” that comes into force on July 1<sup>st</sup> 2021.

### 10.3. b) - Terminating access service to non-geographic numbers

Tariffs and billing arrangements for terminating access service to numbers not determined in the present RIO may vary according to the technical implementation chosen for the interconnection. In any circumstance, the tariffs will be cost based and non-discriminatory.

### 10.3. c) - Terminating access service to emergency numbers

*Free of charge*



## 10. Annexes – Annex 4 – Terminating fees originating outside of EEA

### 10.4. Tariffs to the Terminating Access Service of Calls Originating outside of the EEA

cegecom applies, based upon the country of the calling party number, a surcharge for the termination in its network according to the following rules:

- 1) Termination of calls with A-Number belonging to any of the Country Codes included in Table 1: cegecom will not apply any surcharge.
- 2) Termination of calls with A-Number not belonging to any of the Country Codes included in Table 1, with no A-number (no CLI), with incorrect A-Number (either in format or content), invalid A-Number, modified or manipulated A-number: cegecom will apply a surcharge of 12 €cts/min. ~~Termination of calls with A-Number belonging to any of the Country Codes included in Table 2: cegecom will apply a surcharge of 12,6 €cts/min.~~
- ~~3) Termination of calls with A-Number not belonging to any of the Country Codes included in Table 1 or Table 2, with no A-number (no CLI), with incorrect A-Number (either in format or content), invalid A-Number, modified or manipulated A-number: cegecom will apply a surcharge of 20 €cts/min.~~

These surcharges will be applied in addition to the termination rate specified in paragraphs 10.3. a) of this RIO.

Table 1

Country	Prefix
<u>Alaska</u>	<u>+1907</u>
Austria	+43
Belgium	+32
Bulgaria	+359
Canada	+1
<u>Croatia</u> <u>Cyprus</u>	<u>+385</u> <u>+357</u>
<u>Cyprus</u> <u>Croatia</u>	<u>+357</u> <u>+385</u>
Czech Republic	+420
Denmark	+45
Estonia	+372
Finland	+358
France	+33
French Guiana	+594
Germany	+49
Greece	+30
Guadeloupe	+590
<u>Hawaii</u>	<u>+1808</u>
Hungary	+36
Iceland	+354



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Ireland	+353
Italy	+39
Latvia	+371

Liechtenstein	+423
Lithuania	+370
Luxembourg	+352
Malta	+356
Martinique	+596
Mayotte	+262
Netherlands	+31
Norway	+47
Poland	+48
Portugal	+351
<u>Puerto Rico</u>	<u>+1787; +1939</u>
Reunion	+262
Romania	+40
Slovakia	+421
Slovenia	+386
Spain	+34
Sweden	+46
United Kingdom	+44
USA	+1

*Table 1: No surcharges will be applied for the termination of voice calls originating in these countries.*

**Table 2**

Country	Prefix
Alaska	+1907
Australia	+61
Bangladesh	+880
China	+86
Colombia	+57
Egypt	+20
Hawaii	+1808
India	+91
Japan	+81
Korea South	+82
Malaysia	+60
Mexico	+52
Nepal	+977
Pakistan	+92
Puerto Rico	+1787; +1939
South Africa	+27
Turkey	+90

*Table 2: A surcharge of 12,6 €cts/min. will be applied for the termination of voice calls originating in these countries.*

## 10. Annexes – Annex 5 – Calls to 800 numbers terminated in the cegecom network

### **10.5. Calls to 800 numbers terminated in the cegecom network (free phone)**

This service consists in the conveyance by cegecom of Calls handed over by the Operator at a National Point of Interconnection between the Operator's System and cegecom System for termination on cegecom System, on one of cegecom's Free-Phone numbers in accordance with the National Numbering Plan of Luxembourg. The rates to be paid by cegecom for the termination access service to cegecom's Free-Phone Numbers are as specified below:

Origin	Charge per minute €ct
Fixed	0,28
Mobile	1,11
Payphone	0,28

## 10. Annexes – Annex 6 – Fees for Interconnection link service

### 10.6.1 Tariffs applicable to ~~the TDM and~~ IP interconnection

<del>Monthly fee per 2Mbit/s link purchased under the previous regulated offer covering costs for equipment and maintenance until the retirement on 30/06/2022.</del>	<del>142,75 €</del>
Monthly fee <sup>*)</sup> per 30 channels / Ethernet system (IP Interconnection) covering annual costs for the Access Point equipment and maintenance	142,75 €
One-off charge per Operator covering installation and testing	8 149,- €

<sup>\*)</sup> The monthly fees for the IP Interconnection system are based on bandwidth requirements enabling the simultaneous transmission of 30 voice calls (based on the G.711 or G.722 codecs).

### 10.6.2 Tariffs applicable for 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 an Operator, are charged to this Operator if these changes apply to existing interconnect trunks.

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

Establishment of a new trunk	646,00 €
Modification or cancellation of an existing trunk	485,00 €
Connection or disconnection of links	161,00 €
Connection or disconnection of a signaling link	323,00 €

## 10. Annexes – Annex 7 – Fees for Number Portability

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### 10.7. Standard tariffs applicable to Number Portability

Activation fee for number portability per number activation	<b>14,38 €</b>
Additional conveyance fee per minute for inconsistent or erroneous codes if the volume of inconsistent or erroneous codes exceeds the percentage of 1% of the total calls to ported numbers	<b>0,63 €ct</b>