



MOBILE INTERCONNECT OFFER

VoIP Mobile Interconnection Offer

Valid as from 01/10/2021

Submitted to the BIPT on 24/09/2021. Any change to this Offer will be published on www.proximuswholesale.be

Table of contents

Table of contents.....	2
1 Introduction.....	3
1.1 Notes and disclaimers.....	3
1.2 Scope of the VoIP Mobile Interconnection Offer.....	3
1.3 Limits of the VoIP Mobile Interconnection Offer.....	4
1.4 Definitions.....	5
2 VoIP Interconnection Architecture.....	6
3 Mobile Terminating Service.....	6
4 VoIP Interconnect Links.....	7
5 Technical conditions.....	8
6 Quality of Service.....	8
7 Pricing for Proximus Services.....	9
7.1 Mobile Terminating Rate.....	9
7.2 Interconnect Link Service.....	9
7.3 Implementation fee.....	9
7.4 Other fees.....	10
8 Financial Guarantees.....	10
9 Onboarding procedure.....	10
10 Evolution of the Offer.....	11
Annex : List of EEA countries.....	12
Contact Point.....	13

1 Introduction

1.1 Notes and disclaimers

This offer becomes effective as from the date mentioned in the cover page until one subsequent Offer is validly published and without prejudice to the application of the paragraph below.

This document has been developed in accordance with BIPT's decision of 26/05/2017 ¹and the Commission Delegated Regulation (EU) 2021/654 of 18/12/2020 setting single maximum Union-wide voice termination rates.

In case of appeal against the “Commission Delegated Regulation (EU) 2021/654 of 18/12/2020 supplementing Directive (EU) 2018/1972 of the European Parliament and of the Council by setting a single maximum Union-wide mobile voice termination rate and a single maximum Union-wide fixed voice termination rate” and if the delegated regulation would be suspended, modified or annulled, following an appeal or any other court procedure, or in case of withdrawal of the said delegated regulation, or if the rates were to evolve on the basis of other regulatory actions, Proximus reserves all its rights to apply again the MTRs charged by Proximus before 1/7/2021 (hereafter “old MTRs”), and reserves its rights to retroactively claim the difference between the MTRs actually applied and the old MTRs or any other rates that would be imposed following the court procedure or regulatory action.

With regard to the signature of the Interconnect contract, the Offer can be negotiated by the parties and does not substitute for the parties' will.

Except otherwise agreed by the parties, the contract shall be adapted if the Offer is modified. This adaptation shall be in accordance with this Offer modifications.

1.2 Scope of the VoIP Mobile Interconnection Offer

The present Offer deals with the Interconnect Services Proximus offers to a Network Telecommunications Operator, hereafter called “Operator”, in order to allow end-users connected to the public Network of that Operator to communicate with end-users connected to the mobile network of Proximus.

¹ DÉCISION DU CONSEIL DE L'IBPT DU 26 MAI 2017 CONCERNANT L'ANALYSE DU MARCHÉ 2 : TERMINAISON D'APPEL VOCAL SUR LES RÉSEAUX MOBILES INDIVIDUELS

The Interconnect Services included in this Reference Interconnect Offer are the following services, as defined and described below:

- Terminating Access Services for Voice Calls to Mobile numbers on the Proximus Network
- Interconnect Link Service

The present Offer is not a binding offer and does not oblige Proximus to provide the services included in the Offer. Such services will only be provided following the negotiation and conclusion of an Interconnect Agreement.

Proximus reserves the right to modify its terms and conditions following any further review.

1.3 Limits of the VoIP Mobile Interconnection Offer

Modifications to the prices and conditions for Interconnection contained in the present Offer can be made at any time subject to the conditions for such modification set out in the applicable regulatory framework.

This Offer does not cover Calls to Proximus mobile numbers which are ported out to other Mobile operators.

In case of voice calls to non Proximus mobile numbers ported in to the Proximus network, these Calls shall be transmitted to Proximus network including a Routing Number providing the necessary information to route the Calls to the Proximus network.

It must be noticed that the Routing Number shall only be transmitted for Proximus mobile numbers not included in the Proximus mobile number ranges provided by BIPT to Proximus and not for Proximus mobile numbers within Proximus mobile number ranges. As a more general rule, this VoIP Mobile Interconnect Offer does not consider issues of mobile number portability.

Each Interconnect Agreement concluded with an Operator may include specific services negotiated between the two Parties which are not covered in the present Offer. The list of available services can be obtained by the Operator after the signing of a confidentiality agreement.

Any interconnect service supplied by an Operator to Proximus will be included in the Interconnect Agreement between Proximus and that Operator on the basis of the agreement reached between those Parties.

Proximus is not responsible for the content of the communications conveyed through its Interconnect Services.

The definitions included in this Reference Interconnect Offer are proper to this document and are without prejudice to the definitions contained in the applicable regulatory framework. This Offer only applies to services that are explicitly referred to in this Offer and, in case particular applications are indicated in the definition of some services, is only applicable for the applications concerned.

The capitalized terms in the present Reference Interconnect Offer have the meaning as defined below.

1.4 Definitions

Access Point	Location of the physical interface within a network to which Interconnect Links can be connected by another party.
Act	In the present Offer “the Act” means “ <i>the Act of 13th June 2005 concerning Electronic Communication Services</i> ”
Proximus mobile number ranges	Mobile Number ranges allocated by BIPT to Proximus
BIPT	Belgian Institute for postal services and telecommunications
Call Attempt	An attempt to establish a Call, without entering conversation phase.
Call	The establishment of a connection through a Network and the transmission and the delivery of a communication, from the terminal on which this communication has been generated to the terminal to which this communication is addressed, or to a network platform or to any other facility giving an automatic answer in the cases where the connection cannot be established.
Capacity (of the Interconnect Link)	Parameter for the communication volume between Proximus and the Operator. Capacity can be expressed as bandwidth or as number of simultaneous calls. It is applicable to an Interconnect link or an interconnect VLAN or an interconnect trunk group.
CLI	Calling Line Identification
Demarcation Point	The physical point (interface or patch panel) where one Parties’ responsibility for the Service ends and the other Parties obligations start. It identifies and establishes the dividing line between the appropriate areas of responsibilities of the Parties.
Interconnect Agreement	An agreement concluded between Proximus and an Operator which describes, in particular, the technical, operational, billing, planning and financial conditions for the Interconnect Services between Proximus and the Operator and the provision of the Interconnection of the two Networks
Interconnect Link	A Link between the network of Operator-1 and an Access Point located, in the Network of Operator-2 in order to enable the provision of Interconnect Services,
Interconnect(ion) Services	Interconnect(ion) Services described in the present Offer
Interconnect(ion)	Cf. the Act, article 2, 19°
Mobile Numbers on the Proximus Network	Mobile Numbers within Proximus Mobile Number Ranges that are not ported out and Mobile Numbers belonging to other Mobile Operators Mobile Number ranges that have been ported in Proximus Network
Network (Telecommunication)	Cf. the Act, article 2, 48
Offer	The present VoIP Mobile Interconnection Offer

Operator	Operator which fulfils all conditions required by the Regulatory framework for electronic communication to provide the activities for which the Operator is requesting the services included in the present Offer.
Party	Depending on the context, Proximus and/or the Operator entering into an Interconnect Agreement
PRIO	PROXIMUS REFERENCE INTERCONNECT OFFER
Successful Call:	A call during which an answer signal (in the backward direction) has been received in accordance with the applicable international recommendations
Mobile Terminating Service:	Interconnect Service offered at a Proximus mobile Access Point through which Proximus conveys the Calls handed over by the Operator and directed to Proximus Mobile numbers on Proximus mobile Network from that Access Point to the End-User concerned
Unsuccessful Call	All calls which have passed through the Proximus Access Point and which are not Successful Calls
VoIP	Voice over Internet Protocol
Working Day:	Each day except Saturday, Sunday and the national legal holidays in Belgium

2 VoIP Interconnection Architecture

In order to interconnect with the Proximus mobile network, Proximus applies the same VoIP Interconnect architecture conditions as described in section 2 of the last applicable version of the PRIO (PROXIMUS REFERENCE INTERCONNECT OFFER - VoIP Interconnection offer). All aspects regarding traffic types, interconnect links, access area (access points) and the different interconnect architectures are also applicable for this Offer.

3 Mobile Terminating Service

The Voice Telephony traffic generated by end-users on the Operator's Network and directed to the Proximus Network is to be conveyed from an Interconnected Operator Access Point to Proximus Access Point(s) to which the Operator shall be connected. The Mobile Terminating Service for Calls to Mobile numbers on the Proximus Network and the terms and conditions applicable to it are available for Calls handed over by the Operator and terminated by Proximus on its Network.

The prices applicable to the Mobile Terminating Service for Calls to Mobile numbers on the Proximus Network which are not ported outside the Proximus Network are indicated in §7.1 Mobile Terminating rate in this document. The prices indicated are also applicable to Calls to non-Proximus mobile numbers ported to the Proximus Network, which are handed over by the Operator at a Proximus Access Point with a Routing Number providing all the necessary information to route the Calls concerned to their final destination in the Proximus Network. The Routing Number shall only be transmitted for non-Proximus numbers and never for Proximus number ranges.

The Operator is responsible for the setting of the retail prices and for the invoicing of its end-users for the Calls to Mobile numbers on the Proximus Network.

The Operator shall ensure the transmission of the CLI and that the CLI has been screened in the network in which the Call was originated, against the Relevant Numbering Scheme. Network screening shall imply that there will be at least verification by the Operator that the CLI concerned is accurate and that the necessary steps are taken to ensure that the original and appropriate CLI has not been modified or manipulated.

The proper functioning of the CLIP/CLIR supplementary services depends on the availability of the CLI and the status of the relevant parameters to be transmitted in the signalling protocol indicating whether or not the CLI may be presented to the called end-user.

4 VoIP Interconnect Links

Each Operator is responsible for the dimensioning and payment of the Interconnect Links required for the conveyance of its own traffic.

More precisely, an Operator requesting Interconnection with the Proximus Network is responsible for the dimensioning and payment of the Interconnect Links conveying the traffic from the Operator's Network handed over to the Proximus Access Point to use Proximus Mobile Termination Service.

The dimensioning of the Interconnect Links for which Proximus is responsible and which carry non-mature traffic as defined in Planning and Operation document will take into account the traffic forecasting data provided by the Operator.

As far as the quality of the Mobile Terminating Services is concerned, Proximus shall not be responsible for an inadequate dimensioning of the Interconnect Links for whose dimensioning the Operator is responsible.

The description of the different possible VoIP interconnect links (Proximus Sited Interconnect Link (PSIL) or Customer Sited Interconnect Link (CSIL)) and the different interconnection architectures are described in the PRIO (sections 2 and 4 and Annex 2 of the PRIO for the related pricing applicable for the VoIP Interconnect Transport).

5 Technical conditions

Technical conditions for the VoIP Mobile interconnect services are included in the Technical Specifications which are available on the Proximus Wholesale website.

These includes (but not limited to) the following key requirements:

- Support of the SIP signalling protocol;
- The Operator must support the standard codec for mobile “AMR”;
- Offer at least 2 IPv6 subnets (wherein an IBCF and an IBGF is addressable);
- The operator must order a minimum CAC- Media of 20Mbs for the mobile interconnection (the equivalent of 200 CAC-SIP Sessions);

6 Quality of Service

The quality and the security of the conveyance by Proximus of the Interconnect traffic is in accordance with the quality Proximus provides for its own traffic.

Proximus confirms that it uses all its reasonable endeavours to avoid problems of congestion but that such problems may still occur on a temporary basis in certain points of the Network. Operators which experience congestion for their Interconnect Traffic and conclude after investigations that the cause of the congestion is located in the Proximus Network can contact the appropriate Proximus contact point. On the basis of precise and detailed information provided by the Operator, Proximus will verify whether there is indeed a problem of congestion in the Proximus Network and will inform the Operator of the time schedule in which it is planned to eliminate the problem of congestion concerned.

In the event that a particular situation is susceptible to disturb temporarily the conveyance of traffic within its Network, Proximus could be constrained to implement traffic regulation in order to limit its effect on the quality of the service provided to its customers as well as to the interconnected Operators. These measures of traffic regulation are applied to Proximus and Operator traffic without discrimination.

The Parties shall inform each other about the operational traffic management strategies to protect the quality of service and to alleviate short term overloads due to abnormal traffic patterns or failed facilities.

7 Pricing for Proximus Services

7.1 Mobile Terminating Rate

The rate applicable to the delivery of calls originated from Belgium or other EEA countries to the network of Proximus will be as follows:

As from 01/07/2021: **€ 0,007** per minute

As from 01/01/2022: **€ 0,0055** per minute

As from 01/01/2023: **€ 0,004** per minute

As from 01/01/2024: **€ 0,002** per minute

There is no set-up charge and the above price is applicable during all charging periods (peak/off-peak/weekend).

The list of EEA countries is presented in Annex of the present Offer.

The origin of a call is determined based on the country code of the calling party (the so-called A number).

Therefore, a call is considered as from EEA origin if the country code of the calling party falls in the list provided in Annex.

Remark: The rates above can also apply to calls originated from non-EEA origin provided the conditions mentioned in the EU Regulation are met. Proximus will inform the Operator for which non-EEA origin this is applicable.

7.2 Interconnect Link Service

As indicated in section 4 above, reference is made to Annex 2 of the PRIO for the related pricing applicable for the VoIP Interconnect Transport.

7.3 Implementation fee

Proximus incurs various significant costs for the implementation and testing of a direct Interconnect, such as costs for design and configuration, the setup and testing of the interconnection between the networks, the configuration and testing of the Services.

Therefore, If Proximus provides to the Operator VoIP Mobile Interconnect Services under the present VoIP Mobile Interconnect Offer, without the Operator providing interconnect services to Proximus (mobile network) allowing Proximus to directly send the Operator terminated traffic over the direct Interconnect Link, Proximus will charge the Operator an Implementation fee to cover the costs above mentioned.

Implementation fee (one-time fee): **€ 41.377,80**

Proximus will send and invoice to the Operator for these costs and the Operator will pay these costs within 30 calendar days following the date of the invoice sent by Proximus. These costs will have to be paid at the latest before the start of the testing activities. These costs should be seen as a minimum, Proximus reserves its right to adapt these costs in case the set-up requires more resources from Proximus.

7.4 Other fees

In case the Operator requires a change to be performed on the VoIP interconnect (change other than pure capacity related) Proximus will provide to the Operator the costs to perform that change such that it covers the implementation, configuration, testing effort required performed by Proximus.

8 Financial Guarantees

The same financial guarantees as the one described in the PRIO will be requested in the context of the present offer. Please refer to the PRIO (section Financial Guarantees) for the different possibilities and for the aspects linked to Prepayment, Sufficient Creditworthiness, Payment failure and Netting Agreement.

9 Onboarding procedure

Interconnect negotiations can only start after the transmission to Proximus of a Statement of Requirement (SoR) document duly signed (this document is available on request or on the Proximus Wholesale website-secured section). This document represents the official request from the Operator to start negotiations in view of establishing an interconnection with Proximus.

The bringing into service of an Interconnection will be subject to the signature of an Interconnect Agreement with Proximus covering the services to be provided and, in the event of the extension of the services included in an existing Interconnect Agreement, the bringing into service of additional services. Any bringing into service of an additional Interconnect Service is subject to the conclusion of a complete commercial agreement concerning the additional Interconnect Service concerned. The reception by

Proximus of the confirmation that the Operator has been granted the adequate type of authorization entitling it to the benefit of the present Offer is one of the prerequisites for the conclusion of an Interconnect Agreement.

In order to have an optimized planning of the resources needed for the bringing into service and the subsequent phases of an Interconnection and in order to preserve the appropriate dimensioning of Proximus' Network enabling Proximus to handle the interconnect traffic as well as its own traffic in a proper manner, the Operator will have to supply forecasting data for traffic and Capacity according to the procedures, which are described in detail in the "Planning & Operations Document". The information to be communicated to Proximus related to the forecasting of the interconnect capacity to be delivered by the Operator shall be treated as confidential by Proximus and shall only be used for the purpose for which it is transmitted. The Proximus unit that receives the information will not communicate it to other units within Proximus that are not concerned with the interconnection procedures neither to Proximus' subsidiaries.

Requests for Mobile VoIP interconnection will follow the same sequence of tests phases as described in the PRIO and the request will be planned and prioritized under the same criterias as mentionned in the PRIO. The SOR, being for fixed interconnect or mobile interconnection will be considered globally. There will be one planning managed globally for all types of interconnection requests.

10 Evolution of the Offer

In case Proximus would be in the process of adapting its telecommunication infrastructure, Proximus will inform the Operators about the changes in its infrastructure that have an effect on the Interconnect Services Proximus offers. In as far as such technical changes are concerned that have a foreseeable impact on the Interconnect Services, Proximus will communicate such information as soon as reasonably practicable and not later than 12 months in advance of the planned changes (except if the change concerned is due to unforeseen circumstances and it therefore does not allow Proximus to respect the above mentioned period).

Annex : List of EEA countries

Country code	EEA Country
+43	Austria
+32	Belgium
+359	Bulgaria
+385	Croatia
+357	Cyprus
+420	Czech Republic
+45	Denmark
+372	Estonia
+358	Finland
+33	France
+49	Germany
+30	Greece
+36	Hungary
+353	Ireland
+39	Italy
+371	Latvia
+370	Lithuania
+352	Luxembourg
+356	Malta
+31	Netherlands
+48	Poland
+351	Portugal
+40	Romania
+421	Slovakia
+386	Slovenia
+34	Spain
+46	Sweden
+354	Iceland
+423	Liechtenstein
+47	Norway

Contact Point

Requests for Proximus documents mentioned in the present Offer can be made in writing by interested parties at the following Proximus contact point:

Proximus
Carrier & Wholesale
Boulevard du Roi Albert II, 27
1030 Brussels
e-mail: wholesale@proximus.com

The transmission by Proximus of the documents mentioned is subject to the prior signing of a confidentiality undertaking by the requesting party. Some documents are also available on Proximus secured website (to be found at www.proximuswholesale.be) which can be accessed by authorized parties after the receipt of a password.

Any requests for information related to the Offer should be addressed in writing to the above mentioned Proximus contact point. In particular, in the event of doubt as to the interpretation of the provisions of this Offer, Proximus should be contacted.



PROXIMUS REFERENCE INTERCONNECT OFFER

VoIP Interconnection offer

Annex 3: Planning and Operations

Valid as from 01/09/2021

Any change to this Offer will be announced on the Proximus Wholesale website.

Table of contents

1. References.....	6
2. Scope.....	6
2.1 Implementation Meetings.....	6
2.2 Technical Implementation Committee	6
2.3 Traffic types	7
3. Responsibilities	7
4. Exchange of information	7
4.1 Preliminary Exchange of Information.....	7
4.1.1 Information to be provided by OLO	8
4.1.2 Information to be provided by Proximus.....	8
4.2 Additional information exchange	8
5. Transmission facilities.....	9
5.1 For Proximus traffic	9
5.2 For OLO's traffic.....	9
5.2.1 Customer-Sited Interconnection	9
5.2.2 Proximus-Sited Interconnection	10
6. Choice of Access Points	10
7. Testing.....	11
7.1 Connectivity Testing (Phase 1).....	11
7.2 Protocol Testing (Phase 2)	11
7.3 Service Plan and Billing Testing (Phase 3)	11
8. Ordering.....	12
8.1 General.....	12
8.2 Start-up period	12
8.3 Regular regime	13
8.3.1 Regular Ordering of Capacity	13
8.3.2 Order Rejection	15
8.3.3 Capacity management	15

8.4	Dimensioning of CAC SIP Sessions.....	16
8.5	Dimensioning of CAC Media Bandwidth.....	16
8.6	Rush Orders.....	17
9.	Firm Order amendment before RFS Date.....	18
9.1	Capacity decrease.....	18
9.1.1	CAC Media Bandwidth.....	18
9.1.2	CAC SIP Sessions.....	18
9.2	Capacity increase.....	18
10.	Modification of an existing Interconnection.....	18
10.1	Removal of Capacity.....	18
10.1.1	CAC SIP Sessions.....	18
10.1.2	CAC Media Bandwidth.....	18
10.1.3	Order related to a new Proximus-Sited Interconnect Link to be established.....	19
10.2	Re-arrangement of the Interconnection.....	19
11.	Lead times for provisioning.....	19
11.1	Provision of Capacity.....	20
11.1.1	Initial Order.....	20
11.1.2	Firm Orders in Regular Regime.....	20
11.2	Provision of co-location facilities (Proximus-Sited Interconnection).....	21
11.3	Re-arrangement of the Interconnection.....	21
12.	Provisioning.....	21
12.1	Provisioning of IC-links.....	21
12.1.1	Subprocesses.....	21
12.1.2	Escalation.....	22
12.1.3	Compensations between both Parties.....	23
12.2	Provisioning of Switching capacity.....	23
12.2.1	E2E Switching tests.....	23
12.2.2	In service.....	24
12.2.3	Compensations between both Parties.....	24
12.3	Provisioning of Service Plans.....	24
12.3.1	Timing.....	24
12.3.2	Process to implement an existing Service Plan.....	24

12.3.3	Process to close a service plan	24
12.4	To-Solve issues	25
12.4.1	To-Solve issue 1: An order or a part of the order is not accepted	25
12.4.2	To-Solve issue 2: No complete Field Survey was possible	25
12.4.3	To-Solve issue 3: No complete Site Survey was possible	25
12.4.4	To-Solve issue 4: Problems with RFP/RFO communication	26
12.4.5	To-Solve issue 5: Change of RFP/RFO date	26
12.4.6	To-Solve issue 6: Problems during test	26
13.	Repair & Maintenance	27
13.1	SCOPE.....	27
13.2	MAIN OBLIGATIONS OF BOTH PARTIES.....	27
13.2.1	Organization of a SPOC for Network Maintenance	27
13.2.2	Building Access.....	28
13.2.3	Maintenance tools	28
13.3	PRO-ACTIVE MAINTENANCE	30
13.3.1	Scope	30
13.3.2	SPOC for Pro-Active Maintenance.....	30
13.3.3	Routine tests.....	30
13.3.4	Maintenance Windows (Planned works)	31
13.4	RE ACTIVE MAINTENANCE –METHOD OF OPERATIONS.....	32
13.4.1	Scope	32
13.4.2	SPOC for Re-Active Maintenance	32
13.4.3	Severity Levels.....	32
13.4.4	Pre-Requisites	34
13.4.5	Trouble Communication Process	34
13.4.6	Alert procedure	34
13.4.7	Formal Information Exchange Procedure	35
13.4.8	Trouble Repair Process.....	36
13.4.9	Process Timers	36
13.4.10	Trouble Escalation Procedure.....	43
13.5	CRISIS MANAGEMENT.....	44
13.5.1	Trouble Distribution	44
13.6	QUALITY OF SERVICE FOR RE ACTIVE MAINTENANCE	44
13.6.1	Introduction.....	44
13.6.2	Repair time objectives	44

13.6.3 Solving Ratio Performance: Calculation.....	45
13.6.4 Compensations related to SRTT degradation	46
13.6.5 Mean Time To Repair (MTTR).	46
13.6.6 MTTR performance indicator.	46
13.6.7 Compensations related to MTTR degradation	46
13.6.8 Scorecard.....	46
14. Other recommendations	46
14.1 Service User trouble report handling	46
14.2 Co-operation regarding fraud and assistance to Law Enforcement Authorities.....	47
14.3 Performance standards	47
14.4 Overflow traffic	48
15. Appendices.....	49
15.1 APPENDIX 1: OVERALL FLOW FOR PROVISIONING OF IC-LINKS.....	49
15.2 APPENDIX 2: ORDER PROCESS	50
15.3 APPENDIX 3: SITE PREPARATION	51
15.4 APPENDIX 4: INSTALLATION OF THE IC-LINK.....	52
15.5 APPENDIX 5: FLOW FOR PROVISIONING OF SERVICE PLANS.....	53
15.6 APPENDIX 6: ADVISED BASIC CHECKS	53
15.6.1 Advised Basic checks in case of traffic problems	53
15.6.2 Advised Basic checks in case of transmission problems	53
15.6.3 Advised Basic Checks in case of Carrier Selection problems	54
15.7 APPENDIX 7: USE OF PROTOCOL TRACINGS.....	54
15.7.1 SCOPE:.....	54
15.7.2 Basic rules for the use of protocol tracings	54
15.8 APPENDIX 8: SWITCH BASED INFORMATION.....	55
15.8.1 SCOPE:.....	55
15.8.2 Basic rules for the use of Switch based information	55
15.9 Appendix 9: Information exchange during the trouble solving process.....	55
15.9.1 Transitions between START and END.	55
15.10 APPENDIX 10: GLOSSARY AND ABBREVIATIONS.....	62
15.10.1 Glossary.....	62
15.10.2 Acronyms.....	63

1. References

This document refers to the relevant 3GPP, ITU and ETSI recommendations and to Proximus documents such as Technical Specifications, Testing Specifications, Service Plans and Billing and Accounting documents. These Proximus documents can be obtained by OLO according to the procedure described in Section 4.1.2 of this document. Throughout this document “OLO” means “other authorised Telecommunications Operator”.

2. Scope

This Annex describes the planning and operations principles, related to the Interconnection between Proximus Network and OLO's Network ¹.

Proximus has appointed a member of its staff as Single Point of Contact (SPOC) for all matters related to the interconnection between OLO's Network and Proximus Network. This SPOC is authorised to lead commercial interconnect negotiations with OLO on behalf of Proximus. Any changes in the identity of the SPOC are communicated by Proximus to OLO.

2.1 Implementation Meetings

An Implementation Meeting will be held upon the request of any of the Parties, at the dates agreed by the Parties. If required by one of the Parties, the Implementation Meeting will take place at the latest ten (10) Working Days after the receipt by one of the Parties of the request of the other Party to hold an Implementation Meeting. At Implementation Meetings, the Parties may discuss any issue in connection with the planning and operations of their Networks in the context of the Interconnection between them. In particular, and without prejudice to the right of the Parties that any other technical issue as defined in the preceding sentence be discussed, the following issues shall be discussed during Implementation Meetings:

- the Parties' Forecasts, Ordering Intention, Firm Orders and related RFS dates in case the CRDs cannot be met
- follow-up of the implementation of previous Capacity Orders
- Interconnection outages and measures intended to protect and improve the Quality of Service of the Interconnect Services.

It is understood that technical issues are the main subject of TIC meetings, but once an issue has to be covered within a TIC meeting or an Implementation Meeting, all related issues have also to be addressed during this meeting to make sure a complete picture of the discussed issue is available at the end of the meeting, in order to speed up the process of finding a solution. This strengthens the necessity to have an agenda to get the right people attending.

2.2 Technical Implementation Committee

The group of participants in the Implementation Meetings is called the Technical Implementation Committee (TIC). Each Party's team will be led by a duly authorized Interconnect Implementation Manager or its Deputy.

¹ Throughout this document, “Network” and “Access Point” should be replaced respectively by “System” and “Point of Presence” when these terms relate to an OLO that does not fulfil the conditions required by the Regulatory Framework to operate a public network.

The TIC meetings will be held once a year, but can be more frequently on request of any of the Parties. The asking Party shall notify a least ten (10) working days in advance.

Non-technical issues can be discussed in a TIC meeting if this is justified and agreed by both Parties on the basis of proposed agenda items. Both Parties' Implementation Managers exchange the agenda items and the list of names and job titles of the persons who will attend the meeting at least 5 Working Days before each meeting.

2.3 Traffic types

Interconnect traffic is either of the type BIT (Proximus Interconnect Traffic) or OIT (OLO Interconnect Traffic). These traffic types are defined in the PRIO, section 2.2.

On top of this, each Service Plan indicates the type of the related traffic.

3. Responsibilities

The responsibilities of the Parties with respect to the Forecasting and Ordering of VoIP Interconnect capacity conveying their respective Interconnect Traffic are defined in the relevant Sections below. However, it is possible that some of the items mentioned below do not exist in a particular interconnect environment between two Parties depending, in particular, on the Interconnect Services provided between the Parties.

Each Service Plan included in the Interconnect Agreement indicates whether the related traffic is of the type OIT or BIT. If the type is BIT, then Proximus is responsible for the Forecasting and Ordering. If the type is OIT, then OLO is responsible for the Forecasting and Ordering

There are however some exceptions to this rule:

Non-Mature Traffic: During at least the first two years after the Bringing into Service of an Interconnection between Proximus and OLO's Networks, the BIT related to all Service Plans is to be considered as "Non-Mature", meaning that the traffic cannot be forecasted, based on historical data or normal economic trends. For all Service Plans related to Non-Mature traffic, Proximus Capacity requirements shall be based on forecasting data provided by OLO, subject to Proximus expressly agreeing in writing with any such aggregated data provided by OLO. Two years after the Interconnection between Proximus's and OLO's Networks has been brought into service, the BIT related to the Service Plans put into service with the initial Interconnection, can be declared as Mature upon request of OLO. Therefore, OLO will send a Notification to Proximus at the latest six months before the start date as from which the BIT has to be considered as Mature. The mentioned start date has to coincide with the start date of the quarters indicated below. Proximus will be responsible for forecasting its own Capacity requirements for BIT for the period starting from the mentioned date.

When, after the signature of the Interconnect Agreement, a Party subscribes to a new or existing Service Plan of the other Party, the Parties may agree to attribute the status of "Non-Mature Traffic" to the traffic related to the Service Plan concerned. In that case the traffic will be forecasted, for a period of at least two (2) years, by the Party other than that which is identified as responsible for the forecasting in the Service Plan concerned. This period of two years can be extended according to the procedure described above.

The Parties may also agree to attribute the status of "Non-Mature traffic" to traffic which relates to a Service Plan which has already been brought into service. This will then have the same consequences as the ones indicated in the preceding paragraph.

4. Exchange of information

4.1 Preliminary Exchange of Information

Each Party shall provide to the other Party the information set out in this Section as soon as it is reasonably practicable. OLO will provide this information to Proximus in a Statement of Requirements (SOR), which

will form the basis of the granting by Proximus of an entrance ticket number for testing in accordance with the rules set out in Section 7. The Statement of Requirements has to be sent by registered mail to the SPOC appointed to OLO by Proximus.

Within fifteen (15) Working Days of the receipt of the Notice of the SOR, Proximus shall notify its remarks concerning the SOR to OLO. In particular, Proximus shall indicate to OLO whether or not the SOR is complete. When the SOR is complete and Proximus has no further remarks on the SOR, Proximus shall communicate the entrance ticket number for testing as soon as the test links are ordered by OLO. When Proximus considers that the SOR is not complete and/or Proximus has remarks concerning the SOR, it shall give Notice of that fact to OLO within 15 Working Days of the receipt of OLO's SOR. Proximus shall clearly indicate in its Notice to OLO which information mentioned in Section 4.1.1 is missing and/or Proximus will clearly describe its remarks concerning OLO's SOR. OLO shall send a Notice to Proximus containing the missing information and/or OLO's answers to Proximus remarks concerning OLO's SOR. Within five Working Days of the receipt of OLO's Notice, Proximus will confirm whether OLO has provided the missing information and/or provided a satisfactory answer to Proximus' remarks. If this is indeed the case, Proximus shall communicate the entrance ticket number for testing as soon as the test links are ordered by OLO.

4.1.1 Information to be provided by OLO

The information to be provided by the OLO should be provided through a correctly filled out SoR.

4.1.2 Information to be provided by Proximus

Proximus will, as much as possible, make the information available via its website through a secured access. Information which cannot be obtained via the mentioned website will be transmitted to the OLO within 5 Working Days after the receipt by Proximus of the information request of the OLO, subject to the prior signing of a confidentiality undertaking by the OLO. Modifications of the content of the secured website will be brought to the attention of the OLO SPOC via e-mail and will be added as an item in the agenda of the next TIC meeting if relevant.

4.2 Additional information exchange

Any reasonable additional information on the matters mentioned above, that a Party needs to know, may be required from the other Party. Any such information request shall be made in written form and is to be addressed, as far as Proximus is concerned, to the Proximus SPOC. OLO will indicate to Proximus the procedure to be followed by Proximus in order to transmit similar requests for information. The Party from which the above additional information is requested must provide it within the shortest practicable delays and, in any event, no later than 15 Working Days starting from the date of receipt of the request. Any refusal to provide the requested information, either in whole or in part, shall be reasoned and can be put on the agenda by any Party for discussion at the Interconnection Co-ordination Group.

The Parties shall provide to each other any relevant information regarding changes in the Parties' infrastructure that have an effect on the Interconnect Services offered by the Parties. In as far as changes in the Proximus Network are concerned that have a significant impact on the Interconnect Services, Proximus will communicate such information as soon as reasonably practicable and not later than 12 months in advance of the planned changes (except if the change concerned is due to unforeseen circumstances and it therefore does not allow Proximus to respect the above mentioned period; in this case, BIPT and OLO have to be informed of the nature of these unforeseen circumstances). The ability of Proximus to adapt its Network to changes in OLO's Network having a significant impact on the Interconnect Services, will depend on the nature and the impact of the change and on the period of advance notification respected by the OLO in the announcement of the change.

The following changes shall be communicated:

- Opening or closing of an Access Point: one year in advance;

- Replacing/updating equipment, with impact on interworking between both networks: 6 months in advance (this should allow to redo the necessary conformance tests);
- Adding/removing/changing an IBCF address: 3 months in advance;
- Adding/removing an RTP subnet: 3 months in advance;

5. Transmission facilities

The interfaces of the transmission facilities used for the ICLs are set out in Technical Specification C11_IP: "Transport layers". Additional details concerning Proximus offer of Interconnect Link Service to OLO can be found in Section 8.5 and in the relevant Proximus Service Plans. The Technical Specification C11_IP, as well as the Proximus Service Plans can be found on Proximus secured website.

5.1 For Proximus traffic ²

The transmission facilities are not related to the services that are carried over them. Both parties have the right to select, after evaluating the proposal, if any, from the other party, the transmission facility best suited for the traffic that they are responsible for. So it will be possible that multiple distinct facilities are used. Each party should have the right to collocate with the other party. Each party shall be responsible for the commercial conditions of collocation at their premises.

When required by Proximus, OLO must consent to a site-survey by Proximus qualified personnel, within ten (10) Working Days after receiving notification of Proximus choice of OLO-Sited Interconnection, unless otherwise specified in an appropriate SLA concluded between Proximus and OLO.

OLO must make available the necessary building infrastructure (including floor space, power, air-conditioning, ...) for Proximus equipment minimum two (2) months before the CRD Date and will inform the Presales Support of Proximus of the date at which the said building infrastructure will be available. The general housing requirements for this type of ICL are described in Technical Specification C11_IP: "Transport layers".

5.2 For OLO's traffic

The following ICL Services are offered by Proximus for the purpose of conveying OIT to an Access Point.

5.2.1 Customer-Sited Interconnection

Proximus shall install, operate and maintain all cables and transmission equipment from a point indicated by OLO at the OLO AP up to the relevant Proximus AP selected by OLO, as described in Technical Specification C11_IP: "Transport layers".

When required by Proximus, OLO must consent to a site-survey by Proximus qualified personnel, within ten (10) Working Days after receiving notification of OLO's choice of Customer-Sited Interconnection, unless otherwise specified in an appropriate SLA concluded between Proximus and OLO. At that occasion Proximus will indicate the necessary floor space taking into account the local situation. OLO must make available the necessary building infrastructure (including floor space, power, air-conditioning, ...) for Proximus' equipment minimum two (2) months before the CRD Date and will inform Proximus of the date as from which the said building infrastructure will be available.

² Each Party can propose to the other Party to have the Traffic Flows, for which dimensioning each of the Parties is responsible, conveyed over the transmission infrastructure installed by either one of the Parties. Such a proposal will be examined by the other Party, which will ultimately decide upon the way the Traffic for which it is responsible, will be conveyed.

5.2.2 Proximus-Sited Interconnection

OLO will install, operate and maintain all cables and transmission equipment from a point indicated by Proximus at the Proximus AP, selected by OLO, up to the relevant OLO AP. This service may, however, not be available for technical reasons in all buildings where the relevant Proximus APs are located. OLO cannot order Proximus-Sited Interconnection before feasibility has been confirmed by Proximus for the site concerned. Further details on Proximus-Sited Interconnection can be found in the related Service Plan and in the Colocation Agreement concluded between OLO and Proximus. The terms and conditions concerning the general issues related to colocation are contained in the Colocation Agreement, concluded between the OLO and Proximus, under the applicable regulatory framework. Proximus will list the available Access Points in the SoR and will indicate where connection is possible.

Proximus will install the necessary cabling, as ordered by OLO and indicated in the Colocation Agreement concerned, from the OLO Colocation Area in the “Colocation Room” to the Proximus OMDF associated with the Proximus Access Point or to the OMDF associated with the Transport Interconnect Service.

The Demarcation Point of the Proximus-sited IC Link is located at the end of the cable provided by Proximus (including the attached connector if this connector has been delivered and fixed by Proximus). The connection of the cable to the equipment of the Operator is outside the responsibility of Proximus. No additional cabling order is needed if the existing cabling is sufficient. For the sake of clarity, the attention of the OLO is drawn to the fact the Demarcation Point only demarcates the part of the interconnect infrastructure for which a party is responsible. It cannot be used to define the cost of the CAC SIP sessions for OIT traffic.

OLO shall provision, maintain and operate the transmission equipment which is installed in its Colocation Area in accordance with the relevant Proximus technical specifications concerning colocation and IC Links.

OLO is in charge of the administering through appropriate means (such as allocate an interconnect link to specific fibres) the cabling from the Colocation Room to the OMDF associated with the Proximus Access Point and to the OMDF associated with the Transport Interconnect Service.

OLO shall in particular provide information (via the ID-card) about the Proximus OMDF termination identity in case of switched interconnect. OLO will use consecutive numbers for the identification of the Proximus OMDF terminations to be connected to OLO circuits.

OLO will also administer the usage and the occupancy of the optical cabling between its Colocation Area and the Proximus OMDF. It must order additional cabling to Proximus before the saturation of the existing cabling taking into account the lead time indicated in Section 11.1.2.1 has to be used. Proximus will only install the said optical cabling if a specific order has been introduced by OLO or by a Third Party, which makes an IC Link available for OLO. The ordering Party will be invoiced for the provision of the optical cabling. The ordered optical cabling will be indicated in the appropriate order form. The conventions for internal cabling are described in the Technical Specification “C11_IP”.

6. Choice of Access Points

OLO can, subject to what is stated below, freely choose the Proximus APs at which it wants to interconnect its Network. Proximus will examine with OLO the OLO Access Points at which Proximus can interconnect its Network.

The requested Party shall in principle accept the other Party’s demand for interconnect at a particular Access Point, unless for objective and legitimate reasons, e.g. lack of Capacity. Within one (1) month after the submission by the requesting Party of its choice of APs, the requested Party shall either confirm and accept the choice made by the requesting Party or it will reject, in whole or in part, that choice. In the latter event, the requested Party shall provide the requesting Party with all the justifications for rejecting the choice concerned. If after a rejection of a choice of APs, the Parties fail to reach an agreement on the APs to be used, any Party may ask to put this issue on the agenda of a meeting of the Interconnection Co-ordination Group.

Both Parties must agree in the Technical Implementation Committee about the ICL type (see Section 5 above) for OIT and BIT. Should the Technical Implementation Committee fail to agree about the ICL type, a Party may ask to put this issue on the agenda of a meeting of the Interconnection Co-ordination Group.

7. Testing

The establishment of a first Interconnection between Proximus and OLO's Network is preceded by a period of testing in which three phases can be distinguished, as indicated below. Testing is only performed with OLOs having been granted by the competent Belgian Authority the adequate type of authorization.

Upon receipt of a complete Statement of Requirement and approved by Proximus, the OLO will be given a timeslot in the testing calendar according to the entrance ticket number. This will be stated in the project plan which will be an Annex to the MoU.

Testing consists of 3 phases (see further). Every test phase is described in a test book and the outcome is written in a test report.

7.1 Connectivity Testing (Phase 1)

The first thing to build is the interconnect infrastructure between the network of Proximus and the network of OLO. This infrastructure is needed to set up a connectivity between the testlab of Proximus and the platform of OLO for the test phase 2 and 3. It will later also be used to interconnect the production platforms of both parties. The goal of the connectivity test (phase 1) is to assure that:

- the Interconnect Links are installed and available;
- the VLANs for OIT and for BIT are configured with the agreed bandwidth;
- The redundancy (BGP) is configured and is working as expected;
- The routing to the IP-subnets of the other party is correctly implemented.

7.2 Protocol Testing (Phase 2)

The goal of Protocol testing is to verify the compatibility of the OLO Network with the Proximus Network with regard to the Session Initiation Protocol.

Proximus uses therefore a so-called "User Acceptance Test" platform that is identical in hardware and software to its production platform. OLO may use its production platform ; if OLO also uses a test platform, then it must be identical in hardware and software to its production platform.

Test phase-2 is a prerequisite for test phase-3.

Test phase-3 can only be started when there are no "critical" problems reports from phase-2 open.

7.3 Service Plan and Billing Testing (Phase 3)

The goal of test phase-3 is to assure that:

- Calls, related to each subscribed Service Plan, can correctly be established;
- The generated usage can correctly be invoiced or validated between both parties. As a prerequisite, a CDR matching test is also done;
- Call attempts, related to not subscribed Service Plans, are rejected and not invoiced.

Proximus uses therefore a so-called "User Acceptance Test" platform that is identical in hardware and software to its production platform. OLO may use its production platform ; if OLO also uses a test platform, then it must be identical in hardware and software to its production platform.

Test phase-3 is a prerequisite for the Bringing Into Service (BIS). A BIS-date can only be fixed when there are no "critical" and no "major" problems reports left open for the 3 test phases. Subject to the conclusion of a commercial agreement, the bandwidth of the BIT and OIT VLANs shall be set to the agreed value and the agreed Service Plans shall be opened for use at the date agreed between the Parties. From that date

on, the interconnection is considered “live” and commercially available, and interconnect traffic is payable between the Parties.

8. Ordering

8.1 General

Unless expressly stated otherwise in this Section, the term “Capacity” is intended to encompass both CAC Media bandwidth and simultaneous CAC SIP sessions.

Two stages shall be clearly differentiated for the purposes of Ordering of Capacity by OLO (explained below):

a so-called “start-up period”, applying to the first Capacity Order which is ever introduced by OLO in the context of its Interconnection with Proximus; and

a so-called “regular regime”, applying to any Capacity Order subsequent to the Initial Capacity Order.

For the purpose of the Forecasting and Ordering of Capacity, any given calendar year is divided into four quarters:

- First quarter: 1 January to 31 March;
- Second quarter: 1 April to 30 June;
- Third quarter: 1 July to 30 September;
- Fourth quarter: 1 October to 31 December.

For the sake of clarity, it is confirmed that for all matters related to the Forecasting and Ordering process, an agreement between the Parties is only binding for Proximus if it is confirmed in writing by the Proximus SPOC. The procedure for the acceptance of a Firm Order, including the timing to be respected, is contained in section 15.2

A capacity order that has been delivered in Q_i cannot be cancelled before Q_{i+4} .

8.2 Start-up period

OLO must submit to Proximus as soon as possible a Statement of Requirements (SoR), as referred to in Section 4.1. As soon as an agreement has been reached between the Parties concerning the content of the Statement of Requirements, a detailed Project Plan describing the different milestones to be followed for the implementation of a first Interconnection will be established and attached to a Memorandum of Understanding to be entered into at the early stage of the Interconnect negotiations.

After its SoR has been accepted by Proximus, OLO must submit to Proximus a firm order (“Initial Order”) of Capacity which OLO wishes to be first brought into service by Proximus (“Initial Capacity”), for the purposes of Interconnection between Proximus and OLO. This Initial Order will reflect the content of the Statement of Requirements as it was accepted by Proximus, and may be submitted by OLO on any Working Day in the calendar year. The BIS date is the date agreed by Proximus at which OLO wishes Initial Capacity to be brought into service and must be clearly specified in the Initial Order³.

An Initial Order shall be submitted at the latest four (“4”) months before the BIS Date. However, in order to allow Proximus to adequately manage all requests for Capacity submitted by all OLOs, Proximus invites OLO to foresee a period of six (6) months. In case the implementation of the Initial Order requires digging works, the lead time will be determined in accordance with Section 11.1.2.1.

³ The term BIS is only used in relation with the Bringing into Service of an Initial Order. For the Bringing into Service of subsequent Capacity orders, the term “RFS Date” is used (see next footnote). The term BIS is also used in relation to the Bringing into Service of a new Service after the initial Interconnection of two Parties’ Networks.

The Initial Order must be sent by registered mail to the Proximus SPOC.

The Initial Order will be expressed as:

the total needed CAC SIP sessions for OIT; this will be equally divided over the available OIT SIP trunks;

the total needed CAC Media bandwidth for OIT with an indication if this bandwidth is to be transported via PSIL or via CSIL; this will be equally distributed over the available Media Gateways. This is to be considered as a firm order if the transport is over CSIL and as “for configuration only” if the transport is over PSIL

OLO will also submit an indication of:

- the total needed CAC SIP sessions for BIT; this will be equally divided over the available BIT SIP trunks. This will be used by Proximus to place a BIT order
- the total needed CAC MEDIA bandwidth for BIT; this will be equally distributed over the available Media Gateways. This is to be considered as “for configuration only”.

The Parties will use the order forms located at the CWS personal page. An electronic version of the Initial Order will be sent to the Proximus SPOC.

The Parties need to reach a commercial agreement on the content of the Initial Order and the date which is to be formally considered by the Parties as the initial ordering date (“Agreed Initial Ordering date”) and the resulting BIS date. For the purpose of reaching this agreement, Proximus shall provide to OLO, in writing, a “notification of receipt” within three (3) Working Days of receiving OLO’s Initial Order. Within five (5) Working Days of the date of notification of receipt, a date for an Implementation Meeting will be agreed by the Parties. This Implementation Meeting, in the course of which the Parties will discuss the content of the Initial Order and the Initial Ordering Date, must start within ten (10) Working Days of the date of notification of receipt. An agreement on all the above issues must be reached and is only valid if notified in writing by the Proximus SPOC within a maximum of twenty (20) Working Days starting from the date of notification of receipt.

The Initial Order shall cover OLO’s Capacity requirements for the period of time extending from the BIS Date up to at least the Synchronisation Date. The Synchronisation Date is the first calendar day of the quarter following the quarter comprising the BIS Date. However Proximus recommends that the Initial Order would cover OLO’s capacity requirements for a period of time extending from the BIS date up to the end of the quarter starting with the Synchronisation Date.

The Bringing into Service cannot take place if an Interconnect Agreement has not been signed.

8.3 Regular regime

The earliest provisioning of Capacity following the BIS date can take place on the RFS Date⁴ within the first quarter following the quarter comprising the BIS Date, i.e. the quarter starting with the Synchronisation Date. From then on, ordered Capacity will be delivered on the RFS Dates, on the basis of the quarterly Orders and the lead times for provisioning as described in Section 11.

8.3.1 Regular Ordering of Capacity

8.3.1.1 General

After the Initial Order, an Interconnection Agreement must have been signed before any subsequent Firm Orders can be accepted.

Only one Capacity Order can be submitted by a Party in a given quarter, unless otherwise agreed upon by the Parties. One Capacity Order can cover different CRD dates in different quarters.

⁴ The RFS Date is the date to which both Parties commit and as from which consequently the ordered Capacity has to be available for service, after completion of the acceptance tests.

Each Firm Order shall be sent to the other Party's SPOC by registered mail on standard templates, which can be found on the CWS Personal Page, every quarter. A Firm Order can be submitted at any time during a given quarter. The Proximus lead times for provisioning, indicated in Section 11 will be used as a guidance for determining the CRD and the RFS Dates. One template per combination "LPOC – RPOC" is to be filled in. The data which is to be provided by the requesting Party should allow the requested Party to start the provisioning of the IC links without additional information.

A Firm Order will be expressed as:

- the total CAC SIP sessions needed on CRD ("to be")
- the total CAC Media bandwidth for media needed on CRD ("to be").

The "as is" situation must also be mentioned on the order form. The capacity, to be delivered is then the difference between "to be" and "as is".

Firm Orders allow asking for several partial deliveries over a quarter. In order to avoid that the requested Party has to deliver one Order in a multitude of small parts, a maximum of 2 deliveries, during a same quarter, will be accepted by the requested Party, that cannot be smaller than the minimal order capacity and a minimum time interval of 1 month between the deliveries.

8.3.12 Order processing and timing

As soon as the requested Party receives by registered mail the requesting Party's signed Firm Order (submitted in quarter Q), it indicates on each Firm Order template the Order Reception Date. In order to ease the processing of the templates, each Party will also send an electronic version of the templates by e-mail. As far as Proximus is concerned this electronic version has to be sent to the Proximus SPOC.

The requested Party checks whether each template is complete, i.e. whether all fields are filled in and compliant, i.e. the information is in line with the guidelines regarding the filling out of the templates concerned. If a template is complete and compliant, it is considered as valid. In case data is missing or is not correct, the template is rejected. In such cases, the requested Party indicates the reasons for rejection upon the rejected templates themselves.

It is possible that, out of one Firm Order, some templates are valid while other ones are rejected.

all Firm Order templates needs to be signed and sent back via email by the requested Party to the requesting Party, with following information:

- for the accepted templates: the Order Reception Date and the RFS date;
- for the rejected templates: the Order Reception Date and a comment on the reasons for rejection.

This will at the same time constitute a notification of receipt of the Firm Order. The rejected templates can be re-entered by the requesting Party with the necessary adaptations within five (5) Working Days following the day at which they were sent back by the requested Party, in order to have those templates included in the Firm Order of that quarter. In respect of the re-entered templates, the above process will be followed between the Parties.

8.3.13 IC link delivery and timing

The requested Party commits to make all its best efforts in order to respect the requesting Party's CRD (Customer Request Date). Only when the CRD can not be met (for part of the order or for the whole of it), an alternative delivery scheme, such as a delivery partitioning or a shift of the whole delivery, will be addressed by the requested Party to the requesting Party. If the CRD cannot be met, an alternative delivery cannot cause a shift of the whole delivery foreseen for the same CRD, unless otherwise agreed by the requesting Party, or unless a partial delivery is not possible, as to be proved by the requested Party.

As far as the correspondance of RFS Date with CRD is concerned, the requested Party will apply a 'first-in-first-served' principle to the orders of the same type coming from the different requesting Parties.

If a Party does not agree with the notified RFS Date it may ask to put this issue on the agenda of a TIC meeting or of a meeting of the Interconnection Co-ordination Group, if no agreement could be reached at the TIC meeting.

8.3.1.4 IC link billing

After the notification of the RFS dates (and, where relevant, after adjustment of these dates at TIC meetings), the RFS planning will be considered as mutually agreed. In case ICLs cannot be brought into service at the RFS date as a result of a delay incurred on the side of one of the Parties⁵, a compensation will be invoiced by the other Party as described hereafter.

a) Shift of RFS date due to the requesting party:

The requested party will start the billing of the ordered capacity (CAC SIP sessions and CAC Media bandwidth) as of initial RFS. It is possible to change the RFS date once ("RFS shift"). If the second RFS is also missed, then the order is considered as cancelled but the requesting party will pay the installation fee for that order.

b) Shift of RFS date due to the requested party:

In case the delay period exceeds ten (10) Working Days, the requested party will pay a variable compensation fee equal to the rental fee for the duration of the delay period. The applied rental fee will cover the actual Capacity of which the bringing into service is delayed.

8.3.2 Order Rejection

An order can be rejected by the requested party when it is considered as unreasonable for the following reasons:

- The capacity extension is greater than forecasted by a linear extrapolation of historical growth over the last 12 months (mature regime);
- The capacity extension cannot be forecasted and cannot be justified by the requesting party (non-mature regime);
- The requesting party is in a start-up period and the ordered capacity is 100Mbps or 1000 simultaneous sessions.

8.3.3 Capacity management

The average occupation of the SIP trunks as defined in §8.4 shall ideally be 80% (+ or – 5%) during Mean Busy Hour. This creates a safety margin against daily fluctuations and it allows some traffic increase between the time of ordering (see below) and delivery of additional capacity.

An average occupation, higher than 90%, can trigger a new order from the responsible party (OLO for OIT and Proximus for BIT). The capacity to add must be calculated to lower the average occupation during Mean Busy Hour to minimum 60% (non mature regime) or 80% (+ or – 5%) (mature regime).

The 60% target assumes that traffic is still increasing and will soon again realise the normal occupation of 80% (+ or – 5%). If however, 6 months after delivery of the extension, the occupation is still around 60% (in other words: the expected traffic increase has not happened), then the delivering party can send a formal notification of capacity decrease to the ordering party, to restore the ideal occupation of 80% (+ or – 5%). The restoration of the capacity can take place if no justified contestation is received from the beneficial party 2 months after the formal notification.

⁵ The escalation procedures described in this document allow to determine the Party which is responsible for the delay.

The occupation figures, mentioned above, are observed during normal business weeks, not during a holiday period.

Proximus is willing to discuss specific questions in this matter on a case-by-case basis to allow possible deviations as long as these are reasonable.

8.4 Dimensioning of CAC SIP Sessions

The number of CAC SIP Sessions Order for an outgoing “Final” SIP-Trunk, carrying normal Poisson distributed traffic, shall aim at a Seizure/Bid Rate of at least 99% when conveying the expected Mean Busy Hour traffic.

The Mean Busy Hour traffic is calculated on a weekly basis as follows:

- The number of simultaneous sessions is measured for each slice of 5 minutes;
- The Busy Hour is the group of 12 consecutive slices, with the highest accumulated number of sessions over a day.
- This yields 7 Busy Hour traffic values per week, of which the 2 highest and the 2 lowest values are removed (to eliminate weekend values and incidental peaks).
- The average of the 3 remaining traffic values is then the Mean Busy Hour traffic for that week.
- The average occupancy of SIP trunks is the proportion between the average of the 3 remaining traffic values and the total number of SIP sessions activated in that observation period.

The Capacity Order for a SIP-Trunk, carrying other traffic patterns (like explosive traffic or emergency traffic) shall take into account any relevant service and/or regulatory considerations as specified in the Service Plans.

The ordered capacity is equally distributed between the installed SIP trunks. There are no “main” nor “final” SIP trunks.

The ordered capacity is supposed to be used for “main” traffic. Proximus is not willing to install capacity for “final” (overflow) traffic only.

The granularity for the CAC SIP sessions capacity is:

- Below 1000 sessions: 100 sessions;
- As from 1000 sessions: 1000 sessions.
- As from 10000 sessions: 2000 sessions;
- 20000 sessions; (maximum sip sessions order)

8.5 Dimensioning of CAC Media Bandwidth

The granularity for the CAC media bandwidth capacity is:

- Below 100Mbps: 10Mbps;
- As from 100Mbps: 100Mbps;
- As from 1000Mbps: 200Mbps;
- 2000Mbps; (Maximum bandwidth order)

There is no dedicated bandwidth reserved for signalling.

Media bandwidth Capacity to convey OIT on an ICL of the type “Customer-Sited”, is to be ordered by OLO to Proximus.

Media bandwidth Capacity to convey BIT on an ICL of the type, “Proximus-Sited”, is to be ordered by Proximus to OLO.

The CAC Media bandwidth Capacity requirement shall be based upon the expected mix of Codecs.

The maximum capacity of an interconnect link is 1Gbps. If a capacity order exceeds this value (in DRS mode), then an additional set of interconnect links must be installed.

Alternatively the installation of 10 Gbps link(s) is also possible but we recommend that both links (Primary and Secondary) have the same capacity.

The Customer-Sited ICL Service as described in the Proximus SP_IP 001 is the basic service without any cable or equipment redundancy. If OLO wants additional features, like redundancy or automatic protection, it may discuss all implementation details in the Interconnect Co-ordination Group. When an agreement has been reached about all the terms and conditions for such additional features, OLO must order the additional features with Proximus.

8.6 Rush Orders

A Party, detecting that:

- its installed CAC Sip Sessions cannot meet the engineering targets as described in Section 8.4, or;
- its existing CAC SIP Sessions Order will not meet the engineering targets at the end of the quarter, or;
- the installed CAC Media Bandwidth Capacity is insufficient to convey the traffic related to the additional Switching Capacity;

can urgently submit a Rush Order to the SPOC appointed by the other Party.

A Rush Order has no link with the Forecasting and Ordering process described in this Chapter and has to be considered as an exceptional order which can be submitted at any time. Therefore the requested Party cannot guarantee that it will always be able to implement a Rush Order within the requested lead time. The Party submitting a Rush Order in quarter Qi will at the same time also submit a new two (2)- year Rolling Forecast replacing the Rolling Forecast submitted in quarter Qi. The deviations for this new Rolling Forecast have to be calculated on the basis of the Capacity extensions indicated in the Rolling Forecast submitted in quarter Qi-1, and can only be increased by the capacity extensions contained in the Rush Order.

The requested Party shall indicate:

- if additional CAC SIP Sessions and/or CAC Media Bandwidth Capacity can be supplied⁶;
- the proposed implementation date; and
- the additional charges which it will apply to provide this Capacity in the proposed time frame.

Both Parties shall discuss this offer in order to attempt to reach an agreement about the solution proposed, the timing, and the costs. The Party providing the additional Capacity will provide a written confirmation related to the feasibility, lead time and related costs within three (3) weeks following the submission of the Rush Order.

The additional Capacity is supplied at the expense of the Party of which the traffic will be conveyed over the said additional Capacity. This Party shall also pay for any extra costs as have been incurred by the other Party in order to provide this additional Capacity within the agreed time frames (including, in particular, exceptional manpower costs or any charges or rates as have been paid to the supplier of the equipment needed for the implementation of the requested additional Capacity).

⁶ As far as Proximus is concerned, the additional Capacity will be supplied on a "first come, first served" basis in respect of any possible Order of the same type.

Each Party can place two successful⁷ Rush Orders per year to the other Party. Each Rush Order will be charged with a flat fee, covering the costs incurred for establishing an offer with respect to the Rush Order. In case the Rush Order is related to non-Mature BIT traffic, then the mentioned flat fee has to be paid by OLO. If a Party which has already introduced two successful Rush Orders during a same year, submits a third Rush Order, then the requested Party will examine to which extent this third Rush Order can be handled.

If both Parties fail to agree on the Rush Order as set out in this Section, the issue will be put on the agenda of the Interconnection Co-ordination Group.

9. Firm Order amendment before RFS Date

9.1 Capacity decrease

In case of a Capacity decrease, a compensation may be charged by the requested Party based on the work already performed in operational reality, and with a maximum fixed below.

9.1.1 CAC Media Bandwidth

In case a Party cancels or reduces its Firm Order before the RFS Date, the requested Party may charge as a maximum a compensation which corresponds to the sum of 50 % of the installation fee and the rental fee applicable to a 1-year contract for a period of 6 months for the media bandwidth corresponding to the decrease in Capacity resulting from the Order Amendment as compared to the Capacity included in the Firm Order that is modified by the Order Amendment.

9.1.2 CAC SIP Sessions

In case a Party cancels or reduces its Firm Order before the RFS Date, the requested Party may charge as a maximum a compensation which corresponds to fifty percent (50 %) of the annual rental fee for the CAC SIP sessions corresponding to the decrease of Capacity resulting from the Order Amendment as compared to the Capacity included in the Firm Order modified by the Order Amendment.

9.2 Capacity increase

An Order amendment resulting in an increase of Capacity will be treated, as far as the part related to the upward deviation is concerned, as a Rush Order (see Section 8.6). In that case the original Firm Order is left unmodified.

10. Modification of an existing Interconnection

10.1 Removal of Capacity

10.1.1 CAC SIP Sessions

Each reduction of Switching Capacity at an AP has to be notified at least three months in advance of the date at which the cancellation is requested to be effective.

10.1.2 CAC Media Bandwidth

A request for cancellation of media bandwidth can be notified at any time, provided that the requested termination date (i.e. the date on which the contract for the Interconnect Link concerned will be terminated

⁷ A "successful" Rush Order, is a Rush Order that is implemented by the requested Party either in whole, either in part within a lead time agreed by both Parties.

and the Interconnect Link concerned will be taken out of service) is at least fifteen (15) calendar days later than the day following the receipt of the notification of the cancellation. The cancellation needs to be notified by registered mail.

When the OLO cancels a part of the configured media bandwidth, the rental fee remains due until the termination date included (1 year after delivery).

10.1.3 **Order related to a new Proximus-Sited Interconnect Link to be established**

See Colocation Agreement.

10.2 **Re-arrangement of the Interconnection**

If a Party proposes a re-arrangement of the Interconnection, not affecting the installed Capacity, it can submit this proposal directly to the Implementation Meetings. If accepted, all details of the re-arrangement will be stated in the meeting minutes, including the agreed implementation date. If not accepted, the reasons for not providing the re-arrangement will also be stated in the meeting minutes.

In case a proposed re-arrangement has a commercial or financial impact, the proposal has to be sent to the other Party's SPOC. An offer will be sent to the requesting Party. In case that Party does not agree with that offer, it may ask to put this issue on the agenda of a meeting of the Interconnection Co-ordination Group.

Network upgrades resulting in the situations as defined below shall be considered as changes having an effect on the Interconnect Services.

For any given AP which becomes commercially available for Interconnection after the preliminary information exchange has taken place (and which, therefore, was omitted from the initial notification) the Party on which Network the AP in question becomes available, shall notify the other Party of the name, the location and the coverage of this AP, expressed as a series of geographic number blocks. The notification contains also the date as from which this AP becomes commercially available for Interconnection. As far as Proximus is concerned, this notification will be given as soon as reasonably practicable and not later than twelve (12) months in advance of the planned opening of the AP.

Also, for any given POC which becomes commercially available for Interconnection after the preliminary information exchange has taken place (and which, therefore, was omitted from the initial notification) the Party on which Network the POC in question is located, shall notify the other Party of the following information:

- name of the POC;
- its IP address;
- the location;
- the date as from which this POC becomes commercially available for Interconnection.

As far as Proximus is concerned, this notification will be given as soon as reasonably practicable and not later than twelve (12) months in advance of the planned opening of the POC.

11. **Lead times for provisioning**

The Party in receipt of a firm Capacity Order shall make the relevant Capacity available at the RFS Date, which will be as close as possible to the CRD requested by the other Party, provided that the CRD submitted by that other Party respects the lead times, specified in the Sections below.

Parties should in any case make reasonable efforts to provide Capacity in the shortest possible time frames. The lead times mentioned below are maximum provisioning delay times related to the date of acceptance of the complete Firm Order. They are only valid in normal situations and in the event that the rules set out above with respect to Forecasting and Ordering, including the rules related to the allowed deviations, have been fully respected and provided that an appropriate commercial arrangement exists in respect of the matter concerned (such as e.g. an agreement on the introduction of a new Service Plan). The lead times

are only valid if the Firm Order contains all the information requested by Proximus to implement that Order. Each Party will inform the other Party about missing data in the ordering information which could affect the RFS Date.

Lead times for Rush Orders are to be agreed on a best effort basis case-by-case in accordance with the rules set out in Section 8.6.

11.1 Provision of Capacity

The lead times indicated below are applicable to the provision of transmission capacity as well as to the provision of switching capacity. They apply to all types of ICLs unless otherwise specified below and are not applicable in case of force majeure and other exceptional circumstances such as the presence of unavoidable obstacles in the field. The lead times indicated below only apply in case the switching equipment needed for the provision of the requested Capacity is available at Proximus. These lead times cannot be guaranteed in case Proximus needs to order new switching equipment to its suppliers as some of these suppliers could have longer lead times for delivery. Proximus will do its best effort to minimize this problem. In case Proximus has to order new switching equipment to its suppliers in order to meet an extension request of an OLO, the maximum lead time for the implementation of new IC links and for the extension of existing IC links, involving the use of new switching equipment, is fifteen (15) months.

In all cases, Proximus will make its best effort to provide IC links as soon as possible.

11.1.1 Initial Order

The lead time for an Initial Order based on a Statement of Requirements accepted by Proximus is four (4) months. However, in order to allow Proximus to adequately manage all requests for Capacity submitted by all OLOs, Proximus invites OLO to foresee a period of six (6) months.

If the implementation of the Initial Order requires digging works, the lead time will be determined in accordance with Section 11.1.2.1.

11.1.2 Firm Orders in Regular Regime

The Firm Orders covered by this Section relate to the provision of Capacity as from the quarter following the quarter in which the BIS of the Interconnection took place.

11.1.2.1 Provision of a new Interconnect Link

A. New Interconnect Link at a new OLO site (i.e. an OLO site where no Customer-sited ICLs have been delivered before)

The lead time for the provision is four (4) months. In case of digging works, the mentioned lead time is to be counted as from the date of receipt by Proximus of the authorization for digging from the relevant Authorities. Proximus will request such authorization immediately after receipt of the IC link order.

However, in case digging works are required and the cable distance between the OLO site and the nearest access point available Proximus fibre ring infrastructure (manhole) is longer than three hundred meters (300 m), the lead time will be determined on a project basis.

B. New Interconnect Link at an existing OLO site (i.e. an OLO site where Customer-sited ICLs are already installed).

The lead time for provision is the same as for the extension of an existing Interconnect (see Section 11.1.2.2).

11.1.2.2 Extension of an existing Interconnect Link

Eighty-five percent (85 %) of the total amount of the ordered CAC SIP Sessions and CAC Media Bandwidth related to the extension of existing ICLs which are connected to non-saturated APs, will be delivered within the lead times mentioned below (depending on the installation of new equipment or cable at the OLO site):

- no installation of additional equipment: one (1) months

- installation of an additional port on the OLTE: two (2) months
- installation of an additional OLTE (including a new optical fibre cable): the lead time will be determined in accordance with Section 11.1.2.1

11.2 Provision of co-location facilities (Proximus-Sited Interconnection)

Lead time for the provision of the Colocation Room and the Colocation Area: see Colocation Agreement; 1,5 - 3 months to install optical cabling between the OLO Colocation Area and a Proximus OMDF or Proximus distribution frame for Transport Interconnect.

11.3 Re-arrangement of the Interconnection

The Section 10.2 describes how a re-arrangement can be ordered.

- 1 month to reconfigure an existing SIP trunk;
- 1 month to open the access to a new number range or service code;
- 1 month to change the routing of traffic between both Parties' Networks.

12. Provisioning

12.1 Provisioning of IC-links

This section describes the total process for the provisioning of IC-links as described in Service Plan 001. This process is applicable for Proximus-Sited and OLO-Sited IC-links. A complete flowchart of the actions and decisions that need to be taken starting from the ordering until the installation of an Interconnect Link can be found in Appendix 1. The overall action flow can be divided in three main sub-processes: the Order Process, the Site Preparation and the Installation of the IC-links.

The total duration of the process for the provisioning of IC-links is specified in chapter 8. The sections below provide a more detailed overview of the specific actions to be taken during the process for provisioning of IC-links. If the Parties have agreed a RFS-date which is planned more than 4 months after the ordering date, then all intermediary timers as of RFP will be applicable.

12.1.1 Subprocesses

12.1.1.1 Order process

A detailed overview of the Order Process is inserted under Appendix 2. The Order Process starts with the receipt of the Firm Order, and is preceded by the procedures, for which the terms and conditions are described in chapter 8. The Order Process ends with the Order Acceptance.

After the receipt of the Firm Order, the receiving Party can decide whether that clarification of the Firm Order is needed and organise a meeting. In this case both Parties have a maximum of 15 Working Days to agree on an acceptable Firm Order (in case the order is an Initial Order: see section 8.2). In case a part of the total Firm order is not accepted a 'To-Solve issue 1'⁸ will occur.

After the notification of the Firm Order a Field Survey can be requested in case a new site needs to be built. If it was not possible for the requesting Party to have a complete Field Survey, a 'To-Solve issue 2' will occur. The field survey will take place within 10 Working Days after the receipt of the firm order.

⁸ 'To-Solve'-issues have been detected in the process and can give cause for escalation. All these issues with the appropriate scenario for escalation will be defined under Section 12.4.

Maximum 5 Working Days after the Field Survey or after the receipt of the additional information, the RFS-dates should be communicated and the orders will be accepted (=order acceptance).

The time between firm order and RFS is specified in chapter 8.

12.1.1.2 Site Preparation

A detailed overview of the process for Site Preparation is inserted in Appendix 3.

A Site survey can be requested if needed. This survey should be done within ten Working Days (for extensions) or within a maximum of 2 months (in case new infrastructure is required) following the Order Acceptance and at the latest 2 months before RFS. In case a complete Site Survey was not possible within the here above mentioned timeframe a 'To-Solve issue 3' will occur.

After the Order Acceptance, or if applicable after the site survey, both Parties need to agree on a RFP or RFO date and confirm the RFS date. The RFP or RFO must be scheduled at the latest at 'RFS-2 months'. In case where problems are identified to establish a RFP or RFO date, a 'To-Solve issue 4' will occur.

If RFP or RFO was successful, the installation should be ready to start the test procedure 20 Working Days before RFS. In case an RFP or RFO is missed or has to be changed, a 'To-Solve issue 5' will occur. An installation is 'ready for test' if both Parties have completed the realisation of their transmission path.

12.1.1.3 Installation of IC-links

A detailed overview of the process for Installation of IC-links is inserted in Appendix 4.

12.1.1.3.1 E2E Transmission tests.

Proximus will take the lead for a CSIL. The OLO will take the lead for a PSIL.

Proximus will send a standard mail to OLO during the 4th week preceding the RFS to propose a date on which transmission tests can take place and a contact point. The OLO SPOC has to confirm the proposal. On the agreed date, Proximus will then contact OLO to perform the tests.

If the OLO does not reply on the test schedule, proposed by Proximus, before the end of the week preceding the transmission tests, it is assumed that these tests are not needed.

The transmission test is a continuity check in 2 consecutive steps:

- a) OLO installs a loop on the IC-link termination point in the OLO Network, close to the OLO switch if required and Proximus checks the continuity with a test pattern. If OK then step b) may be skipped.
- b) OLO installs a loop on OLO-side of the Access Point of the OLO and Proximus checks the continuity with a test pattern.

If test b) is successful, but test a) is not, than this is an indication that the fault is in the OLO Network. If test b) is not successful, than no localisation of the fault can be done.

In case the fault cannot be exactly located, both Parties will try to solve this with internal tests by having a 24 hour double check in their respective networks. If still no solution has been found Proximus and OLO have to agree mutually on a date to visit the Access Point. An appointment is made for a visit and the transmission problems should be resolved within 5 Working Days, and in each case before the end of week 2 before RFS. The other Party must be informed if timing could not be kept due to transmission problem.

12.1.2 Escalation.

Two escalation levels are foreseen if the above described formal communication is not correctly applied by one of the Parties.

12.1.2.1 Escalation Level 1

The fact that a Party decides to a Level 1 escalation implies that the communication between the Parties will be held at a more formal level and thus, that traces of the communications are kept. These traces will be either e-mails or via a commonly agreed method of inter-operator communication.

In case no escalation has been done within the foreseen delay, the other Party can not be held responsible for the issue on which no escalation has been done in case where faults or delays occur.

The fact that a Party chooses to switch to a Level 1 escalation is an official sign to the other Party that the identified problems need to be solved within a reasonable timing by the people involved. A Level 1 escalation does not require involving extra people.

The requested Party needs to react in an appropriate manner to the Level 1 escalation within the following timeframes:

Time before RFS	Time to respond and to react
More than 2 months	5 Working Days
Between 2 months and 1 week	3 Working Days
Less than 1 week	1 Working Day

In case a Party does not react in a relevant manner to the Level 1 escalation within the defined timing, the escalation will become automatically a Level 2 escalation.

12.1.2.2 Escalation Level 2

If no solution to the problem has been reached within escalation Level 1, an escalation to Level 2 might be required. Escalation Level 2 can imply the discussion of the issue during an Interconnection Coordination Group meeting, depending on the specific 'To-Solve' point.

Communication at this escalation level will always be formalized in writing (minutes of meeting, letter...).

12.1.3 Compensations between both Parties.

In case during the process for provisioning of IC-links an appointment has been missed that leads to a 'To-solve-issue' the following compensations can be requested from the absent Party:

- If an appointment at the site of the requesting Party has been missed: 250 EUR
- If an appointment at another site has been missed: 500 EUR

12.2 Provisioning of Switching capacity

All Parties shall use their best effort to deliver or modify a SIP trunk at the agreed RFS-date, even if one or both of the Parties did not succeed to respect all timers in the sub-processes.

Switching tests have to be performed during a 15 Working Days period preceding the RFS. If these tests are successful, the SIP trunk(s) will be brought into service at the latest on the RFS date. In case problems occur during the test phase, a 'To-Solve issue 6' can be initiated.

12.2.1 E2E Switching tests.

Proximus will take the lead for BIT capacity orders. The OLO will take the lead for OIT capacity orders.

After the transmission tests, OLO has to contact Proximus during the second week before the RFS, to agree on a date (in week 1 before RFS) for the switching test and the activation of the circuits. On the agreed date, OLO has to contact Proximus for the following tests:

- Ping test with the signalling and RTP interfaces;
- OPTIONS test with the IBCF;
- Basic call test.

12.2.2 **In service.**

When the E2E switch tests have been finalized with a positive result the IC links are no longer under construction but in service.

12.2.3 **Compensations between both Parties.**

If a shift RFS occurs, the terms and conditions as defined in section 8.3.1.4 are applicable for the Party which is identified as responsible for the shift RFS.

12.3 **Provisioning of Service Plans**

12.3.1 **Timing**

For the opening of existing or new service plans, the timing and rules as defined in the Interconnect agreement are applicable.

12.3.2 **Process to implement an existing Service Plan**

This process is applicable under the conditions that a Service Plan and the Technical Specifications for the specific service are available.

The detailed process for the provisioning of an existing Service Plan is provided under Appendix 5.

The requesting Party must add the following documentation to his request to open a Service Plan:

- A copy of the reservation certificate for a number block (if any);
- A test number (if any).

In chronological order the following actions and checks are performed by the requested Party after the receipt of the request to open the Service Plan:

- a. Check if all regulatory and technical requirements are met to accept the request. If not, inform the requesting Party.
- b. Determine a target BIS date and hour
- c. Engineering and implementation
- d. Perform an Interface test and proceed if successful. This test consists of a protocol test between both Parties POCs
- e. Perform routing tests from every Base Unit concerned, and proceed if successful⁹.
- f. Check if a commercial agreement has been reached on terms and conditions of the Service Plan.
- g. Validation of the target BIS date and hour¹⁰
- h. Unblock service
- i. Start supervision and billing

12.3.3 **Process to close a service plan.**

When a Party closes a Service Plan, the following actions and checks are to be performed by that Party:

⁹ In the future, Proximus foresees to add to the process also a billing test. This test will not have an impact on the timing to implement an existing Service Plan.

¹⁰ The BIS date can only be respected in case the technical implementation has been done successfully and all regulatory and commercial obligations are respected.

- a. Check if all regulatory, commercial and technical conditions are met to perform the closure of the service;
- b. Notify at least one month in advance all concerned Parties, in particular about the taking out of service of one or more numbers;
- c. Remove service from network.

12.4 To-Solve issues

12.4.1 To-Solve issue 1: An order or a part of the order is not accepted

In case the receiving Party does not accept the order, or a part of the order, the requesting Party can escalate this issue on the following manner:

12.4.1.1 Escalation Level 1

At escalation Level 1 a co-ordination meeting will be scheduled to discuss the order and to provide additional information. This Level can be initiated if the order is not accepted due to lack of technical information or inconsistencies in the information.

12.4.1.2 Escalation Level 2

If after a Level 1 escalation the complete order is still not accepted a Level 2 escalation can take place. With a Level 2 escalation the issue will be discussed during an Interconnection Coordination Group meeting.

12.4.2 To-Solve issue 2: No complete Field Survey was possible

Before the Order Acceptance a Field Survey can be requested. If the complete Field Survey can not be performed within the foreseen delay escalation is possible.

12.4.2.1 Escalation Level 1

Escalation to Level 1 can be done if:

- no date could be set to perform the Field Survey within the foreseen delays
- Party was not present at the scheduled date
- crucial information could not be provided

12.4.2.2 Escalation Level 2

Escalation to Level 2 is possible if:

- The appropriate Parties were not present at the scheduled moment to inspect the site.
- The relevant information was not available and a new site survey has to be scheduled. The issue and eventual penalties will be set on the agenda of an Interconnection Coordination Group meeting.

12.4.3 To-Solve issue 3: No complete Site Survey was possible

After the Order Acceptance a Site Survey can be requested. If the complete Site Survey can not be performed within the foreseen delay, escalation is possible.

12.4.3.1 Escalation Level 1

Escalation to Level 1 can be done if:

- no date could be set to perform the site survey within the foreseen delays
- a Party was not present at the scheduled date
- crucial information could not be provided

12.4.3.2 Escalation Level 2

Escalation to Level 2 is possible if:

- The appropriate Parties were not present at the scheduled moment to inspect the site.

- The relevant information was not available and a new site survey has to be scheduled. The issue and eventual penalties will be set on the agenda of an Interconnection Coordination Group meeting.

12.4.4 **To-Solve issue 4: Problems with RFP/RFO communication**

During the process for site preparation a RFP/RFO date needs to be communicated within 5 Working Days after the site survey. This RFP/RFO date needs to be fixed at a date no later than 2 months before the RFS date.

12.4.4.1 **2.1.3.4.1 Escalation Level 1**

Parties can decide to start up an escalation of Level 1 because:

- No RFP/RFO is communicated within 5 Working Days after the site survey
- An RFP/RFO date is communicated within 5 Working Days if this date is scheduled later than 2 months before RFS. By escalating Parties will try to achieve a date at the latest 2 months before RFS.

12.4.4.2 **Escalation Level 2**

No Level 2 escalation is foreseen for this To-Solve issue 4. The actual penalisation for not complying with the agreed rules to exchange information on RFP/RFO will be reflected in the compensation set for a shift RFS. An indication of fault for shift RFS will be given.

12.4.5 **To-Solve issue 5: Change of RFP/RFO date**

During the installation and preparation of the site some events can take place so that the RFP/RFO cannot be respected. The following escalation levels are possible for the identified events.

12.4.5.1 **Escalation Level 1**

Escalations to Level 1 are possible in case:

- The RFP/RFO date is changed after the RFP/RFO communication
- The site is not RFP/RFO on the date the installation should start. Via the Level 1 escalation a new date can be scheduled
- The site was not accessible at the date installation should have started.

12.4.5.2 **Escalation Level 2**

Escalation to Level 2 can be initiated for the following cases:

- The RFP/RFO date is changed after the RFP/RFO communication and the new date is scheduled in less than 2 months before RFS. The actual compensation for not complying with the agreed rules to schedule RFP/RFO will be reflected in the compensation set for a shift RFS. An indication of fault for shift RFS will be given.
- The site is not RFP/RFO on the date that the installation should start. The actual compensation for not complying with the agreed rules to schedule RFP/RFO will be reflected in the compensation set for a shift RFS. An indication of fault for shift RFS will be given.
- The site was not accessible at the date that installation should have started. The compensation for not complying with the agreed rules to schedule RFP/RFO will be reflected in the compensation set for a shift RFS. An indication of fault for shift RFS will be given.

12.4.6 **To-Solve issue 6: Problems during test**

During the process for installation of the IC-links transmission and switching tests will be performed. If during these tests problems occur which threaten the foreseen RFS-date, escalations of these issues are possible.

12.4.6.1 **Escalation Level 1**

The following scenario's have been identified that can give cause to a Level 1 escalation if:

- OLO has not provided a SPOC or SPOC is not available
- A transmission test has been scheduled but this test did not start at the agreed date.

- Internal tests, performed within 24 hours after unsuccessful end-to-end transmission tests, were not conclusive and no suitable date for both Parties was found to further investigate transmission problems on the Access Point within 5 Working Days. Via Level 1 escalation a date will be looked for within the shortest delays.
- Transmission problems are not solved at RFS-5 Working Days.
- No appointment for switching test is made 5 Working Days before RFS. Via Level 1 escalation a date will be looked for within the shortest delays.
- A switching test has been scheduled but did not start at the agreed date.
- Problem could not be fixed for switching or second switching test was unsuccessful.

12.4.6.2 Escalation Level 2

The following scenario's have been identified which can give cause to a Level 2 escalation if:

- A transmission test has been scheduled but this test did not start at the agreed date. An indication of fault for shift RFS will be given.
- Internal tests were not conclusive and no suitable date for both Parties was found to further investigate transmission problems on the Access Point within 5 Working Days. An indication of fault for shift RFS will be given.
- Transmission problems are not solved at RFS-5 Working Days. Both Parties need to deeper investigate the problem.
- No appointment for switching test is made 5 Working Days before RFS. An indication of fault for shift RFS will be given if no appointment can be set up within the shortest delays.
- A switching test has been scheduled but did not start at the agreed date. An indication of fault for shift RFS will be given
- A problem could not be fixed for switching or second switching test was unsuccessful. An indication of fault for shift RFS will be given.

13. Repair & Maintenance

13.1 SCOPE.

This part of the P&O refers to the trouble handling on "Interconnect Services" and "Interconnect Network Elements" which are already in service.

Each Party shall be responsible for the integrity and the operations of its own Network and shall bear all related costs.

A Party is allowed to take all reasonable measures to protect its Network during failures in the other Party's Network. This can include measures that have a financial impact, which will be discussed on Interconnection Manager level afterwards.

13.2 MAIN OBLIGATIONS OF BOTH PARTIES.

To ensure the smooth functioning of the repair process, both Parties need to respect some general rules as set out hereunder and need to have the disposal of a number of technical tools as the repair process is based on the bilateral use of tools and testing procedures.

13.2.1 Organization of a SPOC for Network Maintenance.

13.2.1.1 Network Operations Centre

Both Parties must have a Network Operations Centre (NOC) which is reachable and attended twenty-four (24) hours per day, seven (7) days per week. The phone number and email address of the operator in duty and of 2 escalation levels for both Parties' NOCs will be included in an appropriate annexe to the Interconnect Agreement concluded between both Parties.

13.2.12 Languages used between NOC's.

Proximus NOC

The languages to be used by the Proximus NOC are Dutch and French. English can only be supported as a best effort.

NOC of OLO.

The standard language for communication procedures with the NOC of the other parties is English.

13.2.13 Escalation levels.

Each Party will organize 3 levels of escalation.

13.2.14 Language between escalation levels.

The standard language used between escalation levels is English.

13.2.15 Co-ordinates of the NOC and escalation levels .

The co-ordinates of the SPOC are inserted in to the interconnect agreement.

These coordinates include the full name, telephone number (fix and mobile for escalation level), , e-mail address.

The NOC is to be considered as a back-end office of which the co-ordinates can not be communicated to customers.

13.2.16 Change process.

The change of coordinates or names of the NOC or escalation levels will be done by formal notification of the requesting Party on the TIC meeting.

A complete reviewed interconnect agreement should be handed over during the meeting.

The date to come into effect should be mentioned in the notification, which should be sent at least 5 Working Days before that date.

13.2.2 Building Access

13.2.2.1 Proximus-Sited Interconnection

See Collocation Agreement

13.2.2.2 OLO-Sited Interconnection

In case a Demarcation Point is located in OLO's building, Proximus must have access 24 hours per day, 7 days per week to that part of the building where its equipment is located, for implementation, repair and maintenance works. The access procedures as well as additional conditions such as safety procedures, allowed rooms, contact persons, etc... must be described in an appropriate document.

13.2.3 Maintenance tools.

As the whole repair process is based upon bilateral use of tools and testing procedures, some minimal technical obligations apply to each Party.

In some cases the requested Party needs a maintenance tool (e.g. protocol trace, test number) to be put available by the requesting Party before or during the repair process. If this maintenance tool is missing or unavailable the requested Party can send a intake reject or defer request to the requesting Party.

An independent tool is required to allow reachability and quality testing between the Parties. This tool might even serve to the Parties' needs when establishing his own QOS reports.

The availability of the following tools is mandatory to keep the service levels as specified in this document.

13.2.3.1 Test numbers.

Each operator will publish the robot numbers and loop numbers that are available on its network. Each operator is responsible for the update of this list. In case of update, the updated information has to be sent to the NOC of the other operators.

For each of these numbers, the operator will specify:

- the nature of the number: test or loop
- the compatibility restrictions, if applicable: audio, data or all

Calls to these test and loop numbers will be considered as normal calls, i.e. billing will be handled as for normal calls.

13.2.3.2 Robot numbers

A robot number is a number that simulates a device which accepts the incoming call and sends in-band the following content to the calling party, when a call is made to it:

- a MFC-tone equivalent to the A1-signal (R2-signalling), 1020+1140 Hz (to indicate the start of conversation phase);
- a spoken message (to measure the MOS).

The robot should at least accept the basic CODECS (PCMA for fixed interconnect and AMR for mobile interconnect).

Each operator must at least have one robot number available on his network:

- per numbering area, i.e. per zone, for the GEO numbers
- per 10.000, 1000 or 100 numbers for the VAS numbers
- per mobile number block or per MSC

Calls to such a robot number must terminate on the Operator's own network without being forwarded to another Operator, so that no doubt exists on the location of the trouble in case of unexpected results.

13.2.3.3 Loop-back numbers

Each operator shall at least install one number in his network with a redirection to a test number of Proximus. This number shall be called regularly from the Proximus network, to check that:

- the interconnect is still operational;
- the speech quality is OK;
- the accounting function is working properly.

The redirection must be done at subscriber level (not at network level) and media release is not allowed.

13.2.3.4 Numbers for CSC testing

A Proximus number per Base Unit, will be permanently activated in the customer database of each OLO. These numbers will enable Proximus to perform a test if there are complaints on the Collecting Access Services.

OLO will not invoice Proximus for calls done via these test numbers for tests made on its own request

A List of these numbers can be consulted on a Proximus website through a secured access.

13.2.3.5 Numbers for GEO, MOB and VAS NP testing.

It is advised that each OLO and Proximus will have a number of ported-in and ported-out numbers for test purposes. The ported-in numbers will behave as normal or test numbers.

13.2.3.6 Protocol tracings.

Both Parties must be able to take protocol tracings on the interconnection links between both.

The use of protocol tracings is submitted to rules, which are described under Appendix 7.

Though the agreement is related only to tracings on Interconnection links, it might be necessary for the Requesting Party to take user-interface protocol tracings; for these tracings identical rules apply as for the Interconnection tracings.

13.2.3.7 **Switch based information.**

Information, provided by the switch, can be used during the Trouble Intake procedure, in order to clarify certain events. However, this information is only indicative as it is not as reliable as the information obtained through independent measurement devices such as protocol analyzers, because the switch might discard or change information in stress situations or during SW-operations (SW-replacement).

Basic rules for the use of switch based information is inserted under Appendix 8.

13.3 **PRO-ACTIVE MAINTENANCE.**

13.3.1 **Scope.**

13.3.2 **SPOC for Pro-Active Maintenance.**

Refer to SPOC for Maintenance.

13.3.3 **Routine tests.**

The routine test described hereafter is recommended but not mandatory. The technical implementation and activation are to be agreed between both Parties possibly during the Technical Interconnect Council meeting.

The invoicing of these calls between both Parties will be subject of the Interconnect Coordination group.

13.3.3.1 **Loop test**

The end-to-end test is done from a call generator, connected on a Proximus line to a non-ported number in the OLO network. A CF-U (Call Forwarding – unconditional) is programmed on this OLO number towards a Proximus line on which an automatic responder is connected:

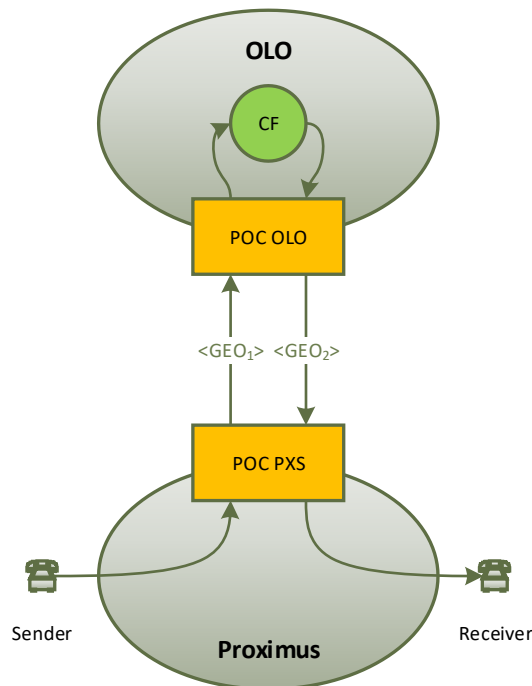


Figure 1: Loop test

There is an OLO test number in every interconnect area. It is called at least 4 times a day.

The CLI must be propagated back to Proximus.

13.3.4 **Maintenance Windows (Planned works).**

13.3.4.1 **Definition**

Planned works refer to maintenance and enhancement works, which are planned to be carried out on Interconnect Links, Interconnect Switches, STP's and IN platforms. This concerns only the planned works with a foreseeable impact on the Interconnection.

13.3.4.2 **Planned outages**

Both Parties shall inform each other about planned upgrade works, which cause a temporary unavailability of one or more Interconnect Services. The information exchange procedures are defined in this document. Each Party shall use its reasonable endeavors to minimize disruption and where possible provide alternative routing at no additional charge to the other Party for a reasonable period of time with respect to the duration of the disruption.

Maintenance or repair works that cause a temporary unavailability of one or more interconnect services must be delayed if possible till the relevant maintenance window and the other Party must be informed as soon as reasonably possible.

13.3.4.3 **Procedure for Maintenance Window**

13.3.4.3.1 **Notification of maintenance window**

In case Planned works are scheduled, the Operator concerned needs to communicate the following information to the SPOC's for Pro-Active Maintenance of all operators that could be impacted by these works in writing (e-mail):

- Planned Works reference number.
- Interconnect Links and/or Interconnect Switches that will be impacted.
- Short description of the works.
- Date, time and duration of the works.

The following optional information can be added if relevant:

- Estimated impact on the Interconnection services
- Special attention related to Emergency Services
- Fallback scenarios
- Specific temporary contact points (if appropriate)

This information should be communicated at the latest three Working Days in advance or earlier if possible.

Where possible, the Operator that performs the works, will take appropriate actions in order to minimize the impact on the Interconnect Services. For this, it is free to contact the other Operators with alternative proposals. These proposals must be considered as options to be negotiated.

In case of Package Replacement on an Interconnect Switch, a specific communication process will be applied with main milestones as mentioned hereafter:

- Package Replacement announcement: at least 3 months beforehand.
- Package Replacement planning (for all involved nodes): at least 3 weeks beforehand.
- Package Replacement confirmation (for a specific node): 3 Working Days beforehand.

13.3.4.3.2 **Request to postpone Maintenance Window.**

If the time window is not appropriate to the requested operator then the requested operator should promptly respond to the message coming from the requesting, explaining why the proposed time window could not be accepted.

This response must be sent to the requesting operator at the latest on the next Working Day COB.

13.3.4.4 Exceed of maintenance window.

If a trouble exists after the maintenance window has been exceeded, re-active maintenance or crisis management processes will started up.

13.3.4.5 Special requirement for packet replacement

A packet replacement should retrofit completely unless communicated otherwise in advance. The requested operator has 5 Working Days to react after the notification of the packet replacement.

If a problem due to packet changes occurs, the service should be restored within the related repair time.

13.4 RE ACTIVE MAINTENANCE –METHOD OF OPERATIONS.

13.4.1 Scope.

When a Party detects a trouble, that can affect the quality of an Interconnect Service, and whose origin is located in the network of the other Party, the hereafter procedure will be applied.

13.4.2 SPOC for Re-Active Maintenance.

Refer to the SPOC for Maintenance.

13.4.3 Severity Levels.

A Severity Level has to be assigned to each trouble. This Severity Level will determine the repair time objective, the escalation timings and the relevant compensations, if applicable.

The severity levels are a crucial element in the Trouble Handling Procedure, and may therefore not be abused. Especially the use of the higher severity levels might lead to an overload of the receiving NOC and to less attention for more important problems. All Parties must be aware that basic rules, as described hereafter, apply for the severity levels.

13.4.3.1 Classification of troubles into Severity Levels.

The Parties can use 4 different Severity Levels: Check, Minor, Major, and Critical. These levels are defined as follows:

13.4.3.1.1 Check:

This severity level will be used by the requesting Party when he is not sure of the location of the problem, i.e. whether the problem is located on its network or on another network. For this reason, it may open a trouble ticket with the severity level “Check”. This means that it asks for the support of the Requested NOC for a trouble that is not really clear to him.

- This severity level can also be used for problems that need investigation without any urgency.
- This severity level will also be used if critical, major or minor are not applicable.

13.4.3.1.2 Minor:

This severity level will be used for all problems of minor nature. Some general rules can be applied to define this Level:

- This severity level applies to problems whereby the customer is not exempt of communication possibilities.
- This severity level applies to single customer problems or problems of a more general nature which do not lead to major customer dissatisfaction.
- This severity level applies to infrastructure problems which are not service affecting due to built-in redundancy.

13.4.3.1.3 Major:

This severity level will be used for all problems of a major service affecting nature. Some general rules can be applied to define this Level:

- This severity level applies to problems whereby the customer is exempt of communication possibilities.
- This severity level applies to a group of customers, which can be linked to certain office codes.

13.4.3.1.4

Critical:

This severity level will only be used for problems that are considered as really menacing by the requesting Party. Some general rules can be applied to define this Level:

- This severity level applies to problems that cause the interruption of traffic for a large group of customers (in case the interruption of traffic could have been avoided by the requesting Party by making use of the possibility of redundancy offered by Proximus such as load-sharing, the severity level is reduced to “Major”).
- This severity level applies to problems that (can) lead to important interconnection problems whereby (almost) no redundancy can be guaranteed to solve the problem.

13.4.3.2

Mapping of errors into severity levels.

This list should bring practical approach to severity levels. This list is not complete and not limitative, for all errors not inside the list the general rules inside § 13.4.3.1 should be used.

Service	Minor	Major	Critical
Transport layer			
Customer-Sited Interconnect Link or Proximus-Sited Interconnect Link	One Interconnect Link down, BGP switched to the backup Interconnect Link	One Interconnect Link down, BGP failed to switch to the backup Interconnect Link, but there is still an Interconnect Link available in another area	One Interconnect Link down, BGP failed to switch to the backup Interconnect Link, no other Interconnect Link is available
IP routing problem	BGP alarm, without impact on IP routing	One IBCF unreachable. One subnet for IBGF unreachable	All subnets unreachable
Signalling layer			
IBCF	One IBCF is down, remaining IBCFs handle all traffic	One IBCF is down, remaining IBCFs unable to handle all traffic	All IBCFs are down
Media layer			
IBGF	One IBGF is down, remaining IBGFs handle all traffic	One IBGF is down, remaining IBGFs unable to handle all traffic	All IBGFs are down
Speech quality	For one single number or number block	For one codec type	General speech quality problem
Interconnect Services: Issue in the receiving network			
To geographic or mobile numbers.	Isolation to a single number . Service degradation to a single number or number block	Isolation to a number block. Service degradation to a complete area	Isolation to a complete area • to geo numbers: access area • to mobile numbers: all calls originated in a particular access area fail
To VAS Number. Except HTR number ranges.	Isolation to a single number Service degradation to a single number or multiple of numbers.	Isolation to a multiple of numbers. Service degradation to all numbers of a specific VAS service plan in a particular access area	Isolation to all numbers related to a specific VAS service plan via all AGEs in a particular access area
To VAS [HTR] Number.	Isolation to a single number	Isolation to a multiple of numbers.	-
To Directory Services. Range 12xx-13xx-14xx	Service degradation to specific directory service number	Isolation to specific directory service number	-
To Emergency Services Range 1xx	-	-	All service outage or degradation
To International Destinations.	Isolation to a single number. Service degradation to a single number or international destination	Isolation to an international destination Service degradation to a complete country	Isolation to a complete country
Interconnect Services: Issue in the sending network			

Service	Minor	Major	Critical
Collecting Services: CPS – CS, FPH. Range 15xx-16xx- 17xx-18xx	Service outage from one specific customer line. Service degradation from a single number or multiple of numbers.	Service outage from multiple of customer lines [multiple CLI] within the same number block. Service degradation from a complete area	Service outage from all customers spread over an access area.
To Emergency Services Range 1xx	-	Wrong Centre Indicator	All service outage or degradation
To geographic or mobile numbers.	Isolation from a single number Service degradation from a single number or number block	Isolation from a number block. Service degradation from a complete area	Isolation from a complete area • geo numbers: access area • mobile numbers: coverage area
To VAS Number. Except HTR number ranges.	Isolation from a single number Service degradation from a single number or multiple of numbers.	Isolation from a multiple of numbers. Service degradation from a complete area	Isolation from a complete area • geo numbers: access area • mobile numbers: coverage area
To VAS [HTR] Number.	Isolation from a single number	Isolation from a multiple of numbers.	-
To Directory Services. Range 12xx-13xx-14xx	Service degradation from a single number	Isolation from a multiple of numbers	-

13.4.3.3 Upgrade of a Severity Level.

The requesting Party can upgrade the severity level mentioned in a previously sent Trouble Intake Form to a higher severity level, by sending a new request. The new Repair Time Objective will apply at the confirmation of this new request.

13.4.3.4 Downgrade of a severity Level.

Downgrade of a severity level is however not allowed.

13.4.4 Pre-Requisites.

As a general rule, the requesting Party will perform minimal internal checks before initializing the "Trouble Handling Procedure". These checks can be done on the basis of its own measurement systems and verification procedures; some guidelines related to these minimal checks are inserted in Appendix 6

13.4.5 Trouble Communication Process.

13.4.5.1 In General.

The trouble communication process is based on the formal exchange of information between requesting and requested Party by means of an email. In addition and if applicable, an alert can be sent to the other Party.

The time window for trouble communication is:

Severity level	Time Window
Critical	7/24
Major	7/24
Minor	Business Hours
Check	Business Hours

13.4.6 Alert procedure.

13.4.6.1 When

The alert is only required when all following conditions are met:

- Intake request to the other Party is sent out.
- Outside business hours.
- The severity level is Critical or Major.

The requesting Party is free to alert the SPOC of the requested Party any time during the repair process.

13.4.6.2 **How.**

The alert from requesting to requested Party is done via telephone. Therefore the requesting Party will call the SPOC for reactive maintenance of the requested Party to alert him that a Intake request is sent out.

Escalation:

If the SPOC for reactive maintenance of the requested Party is not available then the escalation procedure can start.

13.4.6.3 **Overview**

Severity Level	Transition	Alert Required	
		During Business Hours	Outside Business Hours
Critical	Intake Request	No	Yes
Major	Intake Request	No	Yes
Minor	Intake Request	No	No
Check	Intake Request	No	No

13.4.7 **Formal Information Exchange Procedure.**

13.4.7.1 **When.**

Must be used for all communication between both Parties.

13.4.7.2 **How.**

Standard procedure:

An E-mail will be sent to the SPOC for reactive maintenance.

Subject of the E-mail:

Trouble Ticket: <Name of requesting Party> <TT number of requesting Party>

Backup procedure:

The back up procedure will be used if the standard procedure seems to fail. This procedure has two steps.

- Alert telephone call to the SPOC of the other Party;
- A print-out of the email will be sent by fax to the other Party.

13.4.7.3 **Status Transition Flow.**

This information exchange procedure will be the formal used during the complete outage time.

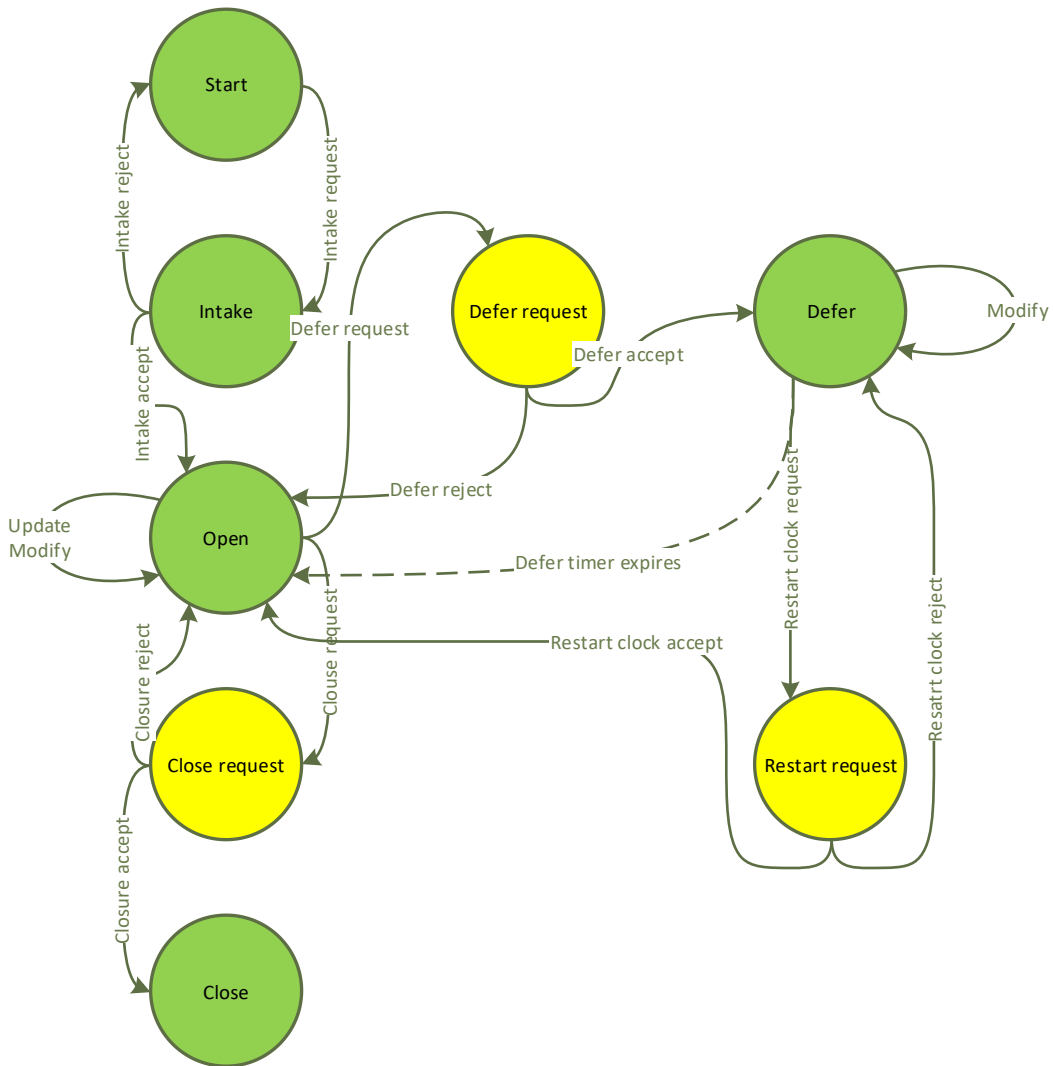


Figure 2: process flow

13.4.8 **Trouble Repair Process.**

13.4.8.1 **Post mortem.**

Each Party can ask after the closing of the ticket with severity level “major” or “critical” to have a detailed description of the cause of the problem. This will be handled within the TIC meeting. The post mortem will indicate the cause of the problem and also evaluate the processes and procedures used to get to service restoration and total repair. If this evaluation shows a possible technical, organization, process or procedure issue the change process including time lines will be explained to the other Party.

13.4.9 **Process Timers**

13.4.9.1 **Overview**

In general four important time stamps have been identified related to the repair process:

- T0: Intake request Object of the “Intake Request”
- T1: Intake Accept: Start Clock Object of the “Intake Request Accept “
- T2: Closure Request: Stop Clock Object of the “Closure Request”
- T3: Closure Accept Object of he ”Closure Accept”

3 process timers are related to these milestones, the intake repair and closure timer.

These timers can be used by both Parties to follow the status of the repair and are the drivers for real time escalation and post mortems.

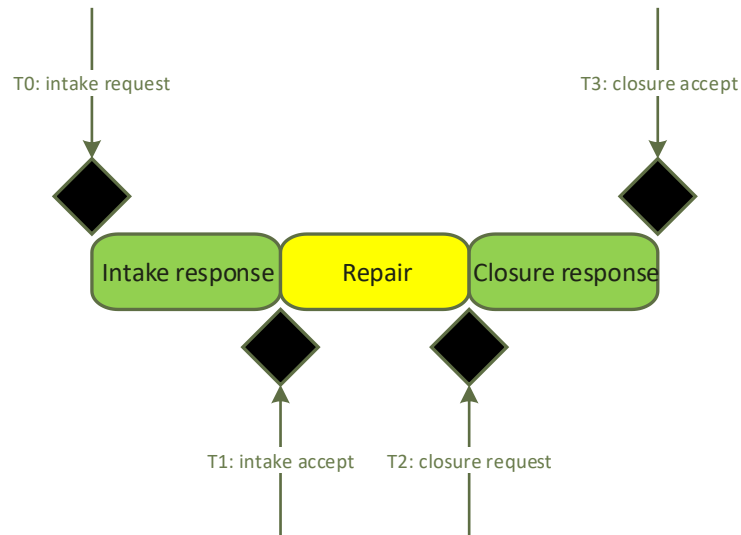


Figure 3: overview of the repair process

13.4.9.2 Intake Response Timer.

The intake response time is by definition the time between the instant at which the requesting Party sends out the “intake request” and the instant at which that Party receives an accept or refuse message from the requested Party. The timer includes the delay times caused by the sending of e-mails between the Parties and the time needed for the first formal validation of the request.

$$\text{Intake Response Time} = T1' - T0$$

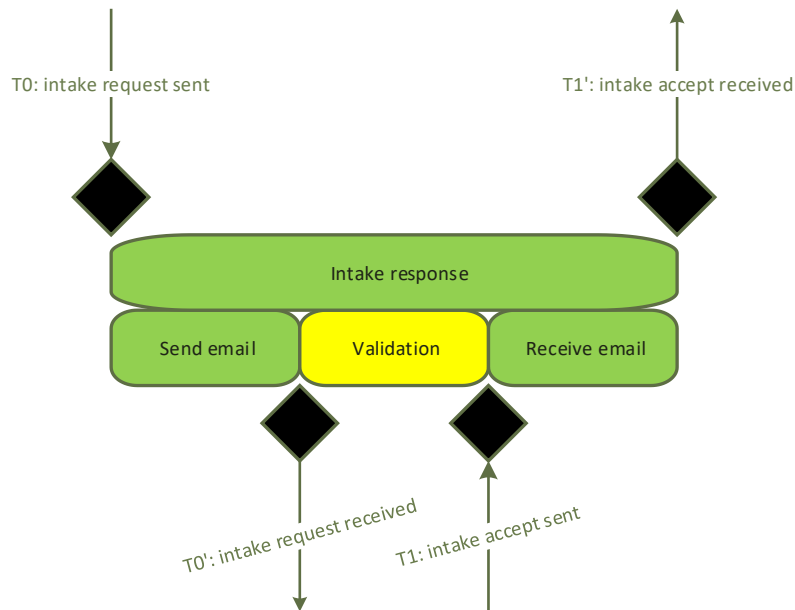


Figure 4: intake sub-process

13.4.9.2.1 **Maximum time**

The maximum “intake response time” is depending on the severity level.

Severity Level	Maximum Intake Response time.
Critical	30 min
Major	1 hour
Minor	1 hour
Check	1 hour

If the maximum time is exceeded the requesting Party can start the escalation procedure.

13.4.9.3 **Closure Response Time.**

The closure response time is by definition the time between the instant at which the requested Party sends out the “closure request” and the instant at which that Party receives an accept or refuse message from the requesting Party. The timer includes the delay times caused by the sending of e-mails between the Parties and the time needed to verify that the trouble was solved..

Closure Response Time = T3' - T2

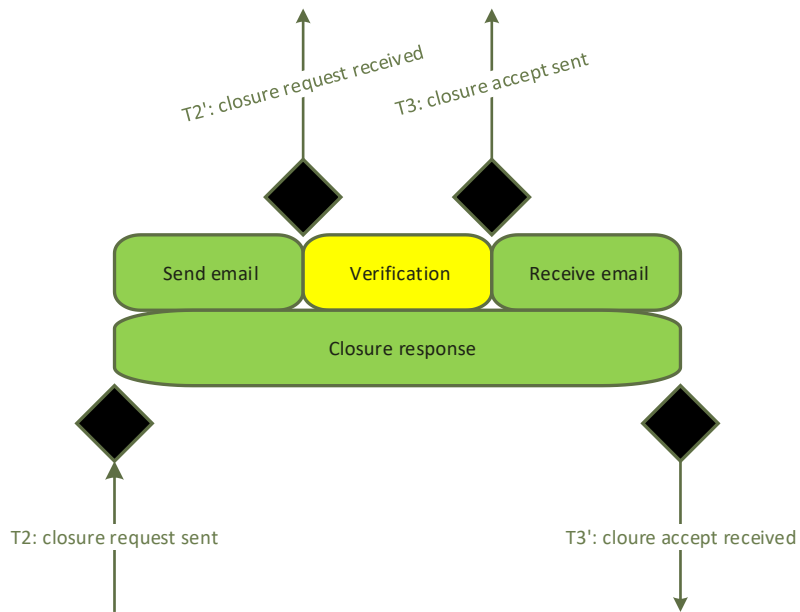


Figure 5: closure sub-process

13.4.9.31 **Maximum time**

The maximum “closure response time” is depending on the severity level:

Severity Level	Maximum Intake Response time.
Critical	30 min
Major	1 hour
Minor	1 hour
Check	1 hour

If maximum time is exceeded the requesting Party can start the escalation procedure.

13.4.9.4 **Defer Response Time.**

The defer response time is by definition the time between the instant at which the requested Party sends out the “defer request” and the instant at which that Party receives an accept or refuse message from the requesting Party. The timer includes the delay times caused by the sending of e-mail between the Parties and the time needed to verify that the trouble was solved..

Closure Response Time = T4 – T5'

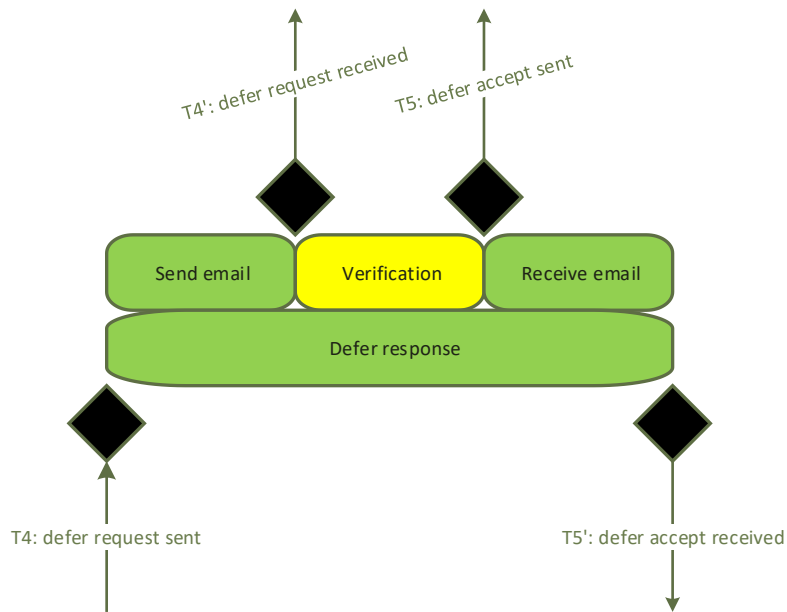


Figure 6: defer sub-process

13.4.9.4.1 **Maximum time**

The maximum “defer response time” is depending on the severity level:-

Severity Level	Maximum Defer Response time.
Critical	30 min
Major	1 hour
Minor	1 hour
Check	1 hour

If maximum time is exceeded then the request is accepted and the repair timer is stopped.

13.4.9.5 **Repair Timer .**

Time to Repair= (T2 – T1)

The “Repair Time” is by definition the time between the instant at which the requested Party sends out the “Intake Accept” and the instant at which that Party sends the final “Closure Request” or “Forced Closure”

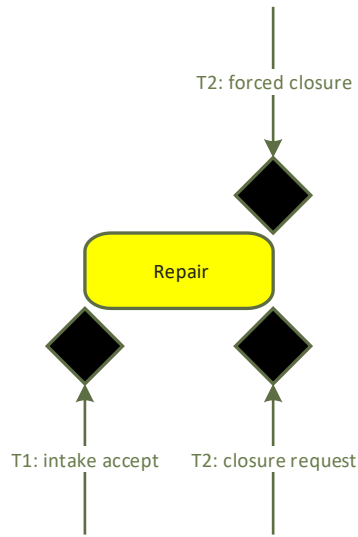


Figure 7: definition of the repair time

For the maximum repair time pls. refer to § 13.6.2

Escalation procedure can start as from Target repair Time was expired.

13.4.9.5.1 **Impact of Defer Request on Repair Timer.**

Each request for defer will defer the repair timer, this until the maximum defer timer expires or the restart is accepted.

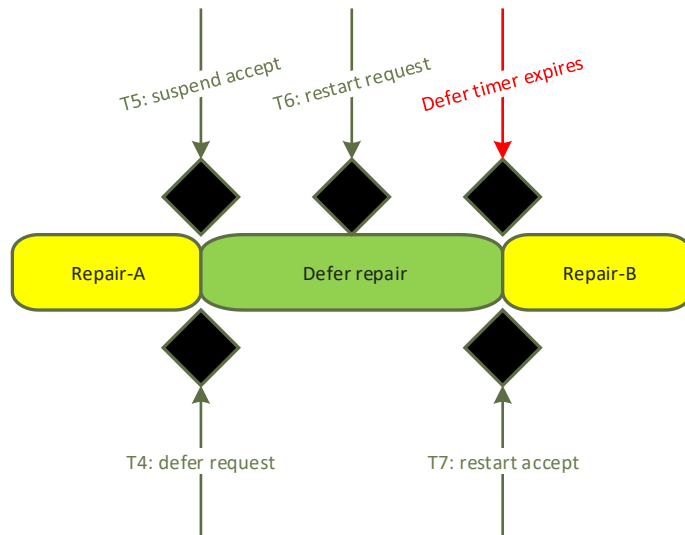


Figure 8: definition of the repair time with defer

New Repair time = Repair Timer A + Repair Timer B

13.4.9.5.2 **Impact of Defer Request to Repair Timer.**

If the request for defer is rejected then the repair timer will not have been deferred

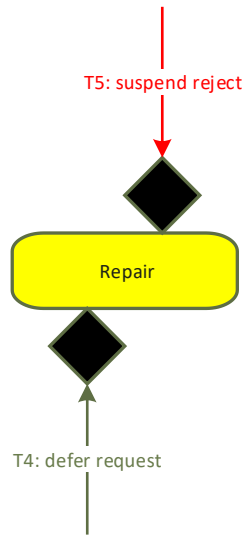


Figure 9: definition of repair time with rejected defer

13.4.9.5.3 **Impact of Refused Closure on repair timer.**

Definition: The total repair time is the sum of the partial repair times. i.e. the time between the acceptance of the intake request and the acceptance of the closure. The total repair time does not include the closure response and suspend times.

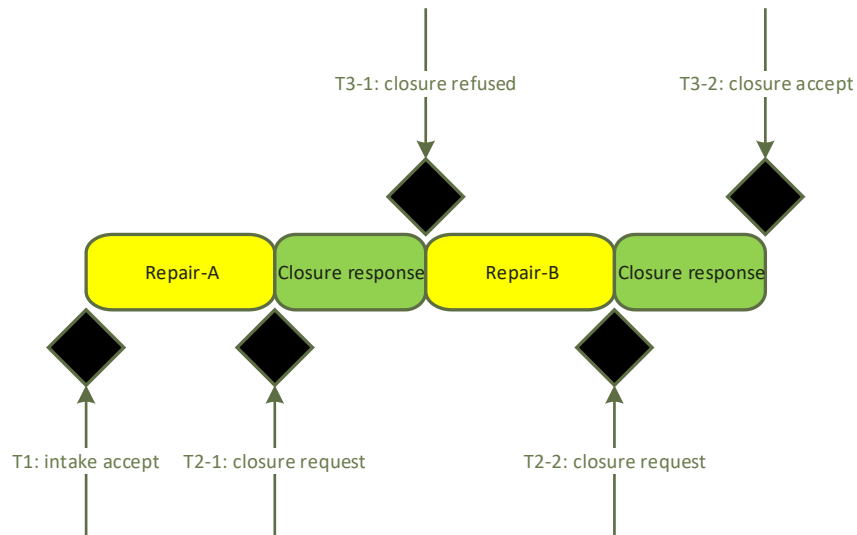


Figure 10: definition of repair time with rejected closure

13.4.10 **Trouble Escalation Procedure.**

13.4.10.1 Overview

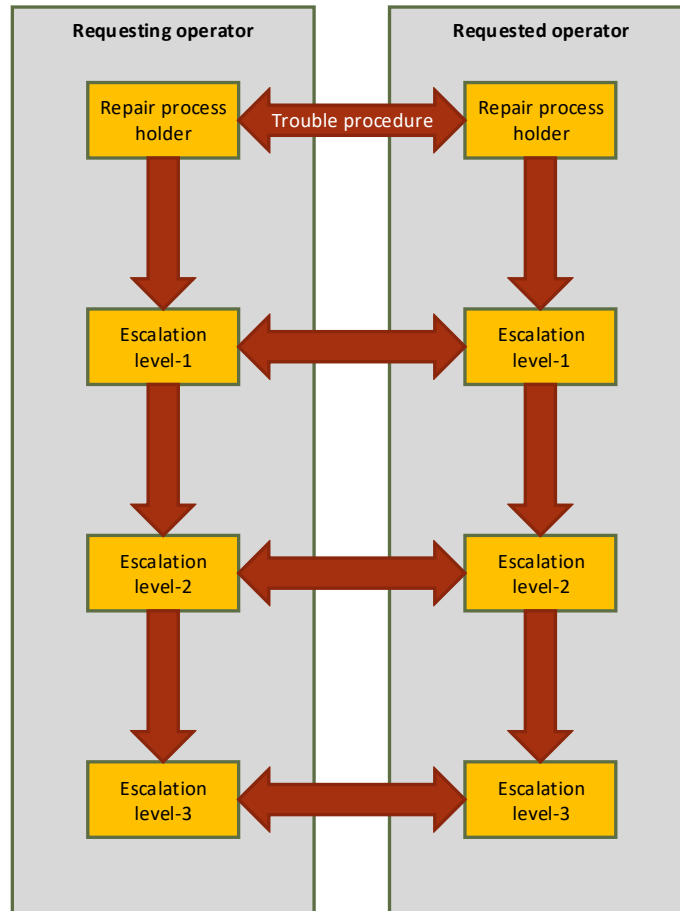


Figure 11: overview of the trouble escalation procedure

13.4.10.2 Escalation from Normal to First Escalation level.

An escalation procedure is the process of referring the problem to an organizational entity with a higher degree of expertise and authority.

Matrix of the different levels must be provided and updated when a change occurs (e-mail, phone numbers).

If in case of escalation, the level L+1 is not reachable, the problem can be escalated to L+2.

The trouble escalation procedure, which is described hereafter, has to be used between the Parties when:

- it appears that a trouble will not be resolved within the repair time objective
- exceed of response timers
- no agreement about refuse

Matrix of the different levels must be provided (email and phone numbers)

The escalation communication will occur horizontally between peer levels, i.e. between the escalation points of a same escalation level. When the peer does not respond within the escalation response time the problem can be escalated to L+1.

All escalation communication will be done by telephone.

As the trouble escalation procedure is part of the trouble resolution process, the involved escalation point of each Operator will keep its own NOC informed about the actions taken up for clearing the reported problem.

The trouble escalation points of each Operator are mentioned in the interconnect agreement.

The relationship between the severity level of a trouble and the corresponding escalation timings are given hereafter (T1 = Trouble Intake Request):

13.4.10.3 Escalation to higher level.

Escalation to higher level is allowed when

- the escalation timer expires
- the escalation response timers expire
- there is no agreement about the refuse by lower level

13.4.10.4 Escalation timers.

Severity Level	First escalation L0 ⇒ L1	Second escalation L1 ⇒ L2	Third escalation L2 ⇒ L3
Minor	20 hours	24 hours	48 hours
Major	6 hours	8 hours	12 hours
Critical	2 hours	4 hours	6 hours

13.4.10.5 Escalation response time.

Severity Level	First escalation L0 ⇒ L1	Second escalation L1 ⇒ L2	Third escalation L2 ⇒ L3
Minor	Only during Proximus Business hours	Only during Proximus Business hours	Only during Proximus Business hours
Major			
Critical			

13.5 CRISIS MANAGEMENT.

13.5.1 Trouble Distribution

As soon as an Operator identifies a trouble occurring on its own network, which may have an adverse effect on the network of other Operators, his NOC shall promptly and regularly inform by phone the NOC of the other Operators about the trouble and about the actions taken to clear it.

13.6 QUALITY OF SERVICE FOR RE ACTIVE MAINTENANCE.

13.6.1 Introduction.

The repair process is defined in Chapter 13.4. It describes the whole process of the trouble management procedure. The parameters defined hereafter measure the performance of the repair management, based on statistical figures.

As a general rule, the Party requesting compensations for ratios that are not respected has to provide the necessary data so that the Party receiving the invoice can validate the requested amount.

13.6.2 Repair time objectives.

13.6.2.1 Definitions:

Target repair time: 80 % of all opened "Intake Requests" must be fixed or solved in the defined timeframe

Committed repair time: 100% of all opened "Intake Requests" must be fixed/solved in the defined timeframe.

13.6.2.2 Objectives.

Depending from the Severity Level has the following Repair Time Objectives been defined:

Severity Level	Target Repair Time	Committed Repair Time
Critical	4 hours	6 hours
Major	8 hours	12 hours
Minor	1 Working Day	2 Working Day
Check	5 Working Days	10 Working Days

13.6.3 Solving Ratio Performance: Calculation.

13.6.3.1 General rules.

QoS calculations are done over a three-month period and are based on the Trouble Tickets, received by one Party from the other Party.

The calculations are performed per severity class at the end of every quarter. They relate to all the Trouble Tickets, which have been closed during that quarter.

13.6.3.2 Total Number of Trouble Tickets.

The Total Number of Trouble Tickets is defined as the count of reported “Intake Requests” between both Parties. This count is presented in a quarterly reporting.

$$TotalNumberOfTroubleTickets = \sum_{severity} TotalNumberOfTroubleTickets(severity)$$

Remark: even the “wrongly sent” TT should be handled and will be taken into account as handled in time.

13.6.3.3 Number of Trouble Tickets Solved in Target Time

The Number of Trouble Tickets Solved in Time is the Total Number of Trouble Tickets which have been solved or fixed within their respective Target repair time.

$$NumberOfTroubleTicketsSolvedInTargetTime = \sum_{severity} NumberOfTroubleTicketsSolvedInTargetTime(severity)$$

13.6.3.4 Number of Trouble Tickets Solved in Committed Time

The Number of Trouble Tickets Solved in Time is the Total Number of Trouble Tickets which have been solved or fixed within their respective Committed repair time.

$$NumberOfTroubleTicketsSolvedInCommittedTime = \sum_{severity} NumberOfTroubleTicketsSolvedInCommittedTime(severity)$$

13.6.3.5 Solving Ratio in Target Time (SRTT)

$$\%SRTT = \frac{NumberOfTroubleTicketsSolvedInTargetTime}{TotalNumberOfTroubleTickets} * 100\%$$

$$\%SRTT(severity) = \frac{NumberOfTroubleTicketsSolvedInTargetTime}{TotalNumberOfTroubleTickets(severity)} * 100\%$$

13.6.3.6 Solving Ratio in Committed Time(SRCT)

$$\%SRCT = \frac{NumberOfTroubleTicketsSolvedInCommittedTime}{TotalNumberOfTroubleTickets} * 100\%$$

$$\%SRCT(severity) = \frac{NumberOfTroubleTicketsSolvedInCommittedTime}{TotalNumberOfTroubleTickets(severity)} * 100\%$$

13.6.4 **Compensations related to SRTT degradation**

The present version of this document does not include compensation schemes to be applied among the Parties. During the first year of operation, all Parties commit to exchange scorecards on a bilateral basis related to the repair times with respect to the trouble tickets opened at the Parties' respective NOC's.

13.6.5 **Mean Time To Repair (MTTR).**

The Mean Time To Repair reflects the average time needed for the fixing or the solving of reported failures, expressed in hours. The calculation is performed at the end of every quarter. It includes all the Trouble Tickets which have been closed during that quarter.

$$MTTR(severity) = \frac{\sum_{severity} RepairTime(severity)}{TotalNumberOfTroubleTickets(severity)}$$

13.6.6 **MTTR performance indicator.**

The MTTR performance indicator $PI_{Severity}$ is defined as follows:

$$MTTR(severity) = \frac{MTTR(severity)}{CommittedRepairTime(severity)} * 100\%$$

13.6.7 **Compensations related to MTTR degradation.**

The present version of this document does not include compensation schemes to be applied among Parties. During the first year of operation, all Parties commit to exchange scorecards on a bilateral basis related to the repair times with respect to the trouble tickets opened at the Parties' respective NOC's.

13.6.8 **Scorecard**

The scorecard exchanged between the Parties on a bilateral basis at the end of each quarter will include the following information:

- Total number of closed trouble tickets which were opened at the Party's NOC by the other Party, during the quarter concerned:
 - Number of wrongly sent TT's
 - Number of TT's distributed according to severity level:
 - ✓ check:
 - ✓ minor:
 - ✓ major:
 - ✓ critical:
 - Average repair time, per severity level (defer time is deducted from repair time)
 - ✓ check: expressed in Working Days
 - ✓ minor: expressed in Working Days
 - ✓ major: expressed in hours
 - ✓ critical: expressed in hours
 - Performance indicator (ratio average repair time versus committed repair time) in %
 - ✓ check:
 - ✓ minor:
 - ✓ major:
 - ✓ critical:

14. **Other recommendations**

14.1 **Service User trouble report handling**

Each Party will advise its Service Users to report all troubles to its appropriate reporting centre. If a Party's Service User reports a trouble on its service to the trouble reporting centre of the other Party, that Party will invite the Service User to report the trouble to its own Operator/Service Provider.

Information about the appropriate reporting centre, supplied to Third Parties such as CPE suppliers will be complete, correct and non-discriminative.

In case a Party receives multiple trouble reports from its Service Users for which the root cause is located in the other Party's Network, this trouble affecting more than one Service User, shall be reported to the other Party's NOC as indicated in Section 13.4.7.

14.2 **Co-operation regarding fraud and assistance to Law Enforcement Authorities**

Both Parties shall agree about a procedure to exchange information to detect and stop fraud and to determine the total impact of fraud.

Both Parties shall co-operate in assisting the Law Enforcement Authorities by identifying calling parties with malicious intent or by intercepting Calls on behalf of the Examining Magistrate, provided that they are formally required to do so by the competent Authorities.

Each Party will therefore take the required measures to transmit correct CLI values for calls originating on its own network. In case a Party acts as a national transit network and receives a trouble report indicating the presence of erroneous CLI values, that Party will guarantee the forwarding of that trouble report to the correct Party.

14.3 **Performance standards**

The Parties shall co-operate to maintain the overall quality for the Interconnect Services, provided between the Parties, and to adopt the general principles and methodology, as contained in the 3GPP and ETSI standards, to achieve the quality agreed in this document. Each Party is responsible for the transmission quality on its own Network.

14.4 Overflow traffic

The traffic that is routed via the interconnect between PXS and OLO must be direct traffic or first-route transit traffic. It is not allowed to route final transit traffic via the interconnect, unless a commercial agreement has been closed for this traffic type, with specific pricing and conditions.

Both parties can however agree to accept overflow traffic in case of significant network disturbance, that cannot be solved in short term.

Calls originated in one of the Parties' Networks and destined to the other Party's Network, which have overflowed because of an isolation or a failure either in one of the Parties' switching nodes, either in an ICL, shall be given by the receiving Party the same priority as primary traffic.

In case a Party pre-plans to re-route (part of) its interconnect traffic to another Circuit Group in case of failure in the own Network, the re-routing plan shall be discussed at the TIC.

It is not allowed to overflow internal traffic to the other Party's Network, except if this is provided for by a dedicated Service Plan under the terms and conditions set out therein.

Any traffic increase has to be communicated to Proximus at least four months in advance.

After investigation Proximus can decide to block part of the additional traffic or can treat part or all of the traffic with lower priority if one of the following conditions is applicable until further reasonable solutions are put in place:

- The notice period is shorter than 4 months
- No agreement could be reached with one of the concerned parties to increase interconnection capacity
- In case of usage of EAA transit: when structural congestions impacting Proximus and/or other operators cannot be avoided

As the increased traffic is destined to a Third Party, the requesting Party will be responsible for all the additional costs incurred by Proximus if the increased traffic is not maintained during a period of 1 year.

Each Party shall route the other Party's traffic in accordance with the following routing principles:

- there shall be no discrimination in the routing of traffic in a Party's Network between the traffic of such Party's Service Users and the other Party's Service Users;
- the Parties shall develop and apply Network management strategies and procedures to maintain service quality and to protect the Parties' Networks as appropriate;
- destinations with a low Answer Bid Ratio (e.g. Hard To Reach destinations or destinations with an "explosive" call pattern) will be characterised by one or more specific sub-ranges within the VAS number ranges allocated to a Party, in order to allow the other Party in whose Network the Calls originate, to protect its Network against the negative effects of such kind of traffic by isolating the traffic concerned from normal ABR traffic or by applying Protection call control on HTR or explosive traffic destinations characterised by the predefined low ABR sub-range. A Party may also apply these measures on the complete VAS number ranges allocated to the other Party, if it finds that the other Party is operating low ABR services without reserving a dedicated sub-range for it.

In addition to this, both Parties can agree about protection measures like route diversity on the transmission or the switching level. Full details of these measures will be defined and updated through the Implementation Meetings after they have been commercially agreed.

15. Appendices

15.1 APPENDIX 1: OVERALL FLOW FOR PROVISIONING OF IC-LINKS.

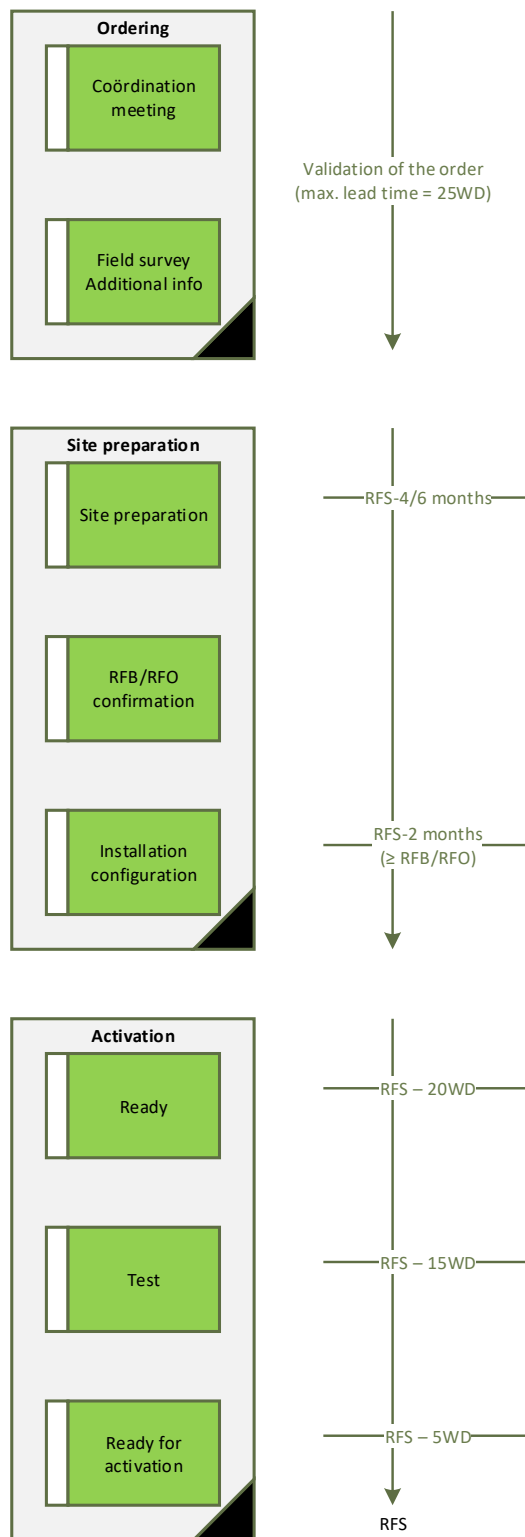


Figure 12: provisioning of Interconnect Links (overall view)

15.2 APPENDIX 2: ORDER PROCESS

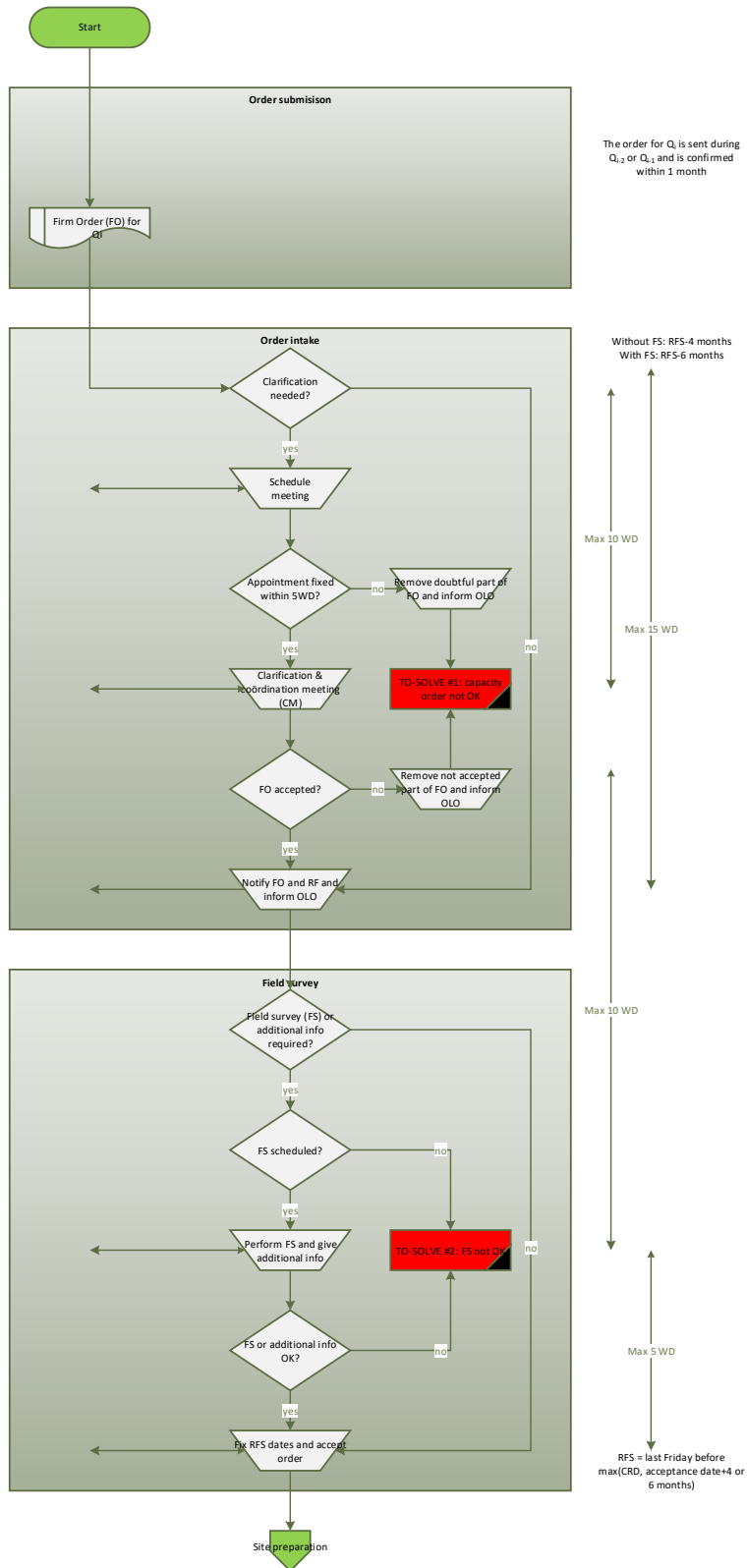


Figure 13: sub-process: ordering

15.3 APPENDIX 3: SITE PREPARATION

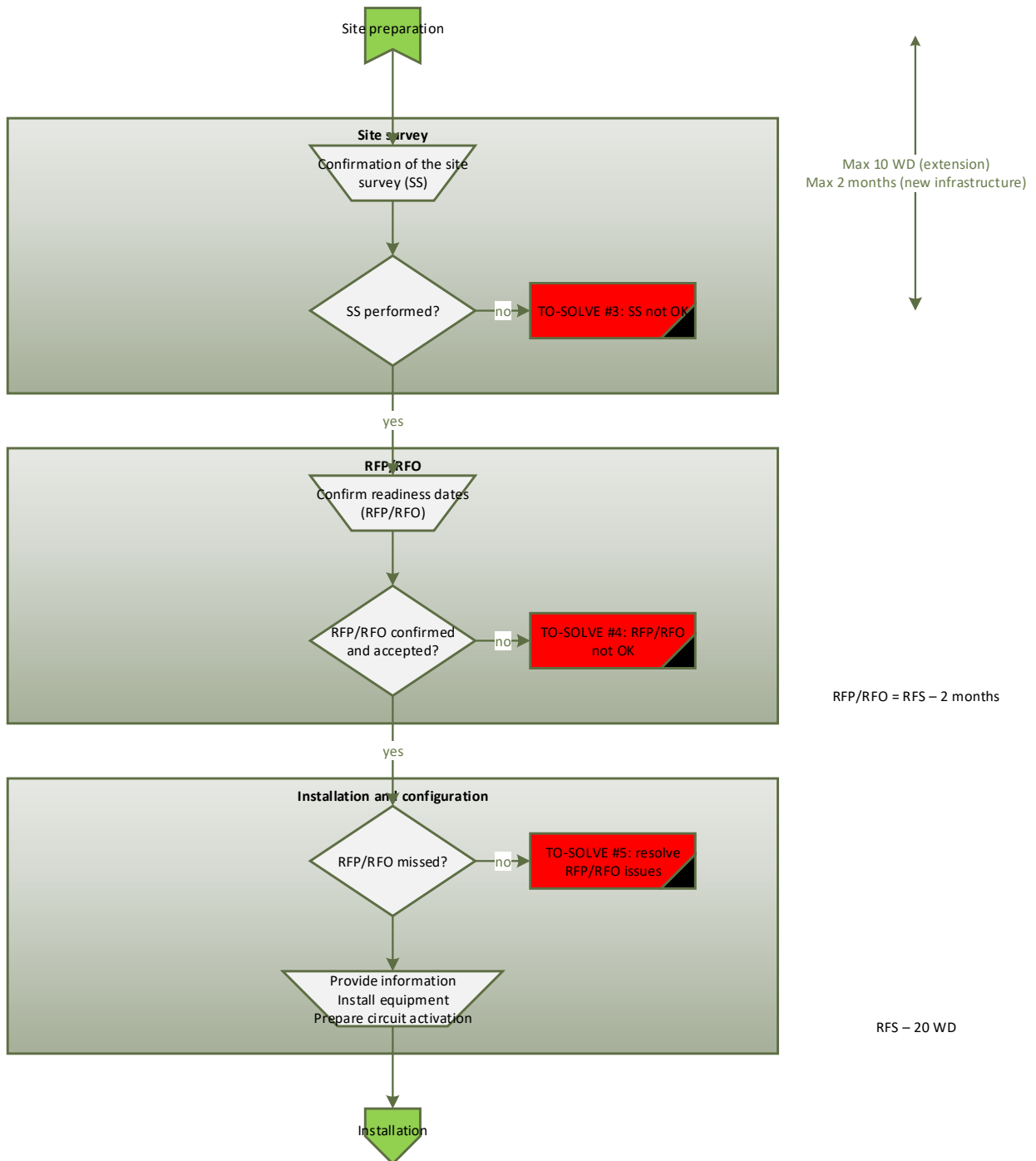


Figure 14: sub-process: site preparation

15.4 APPENDIX 4: INSTALLATION OF THE IC-LINK

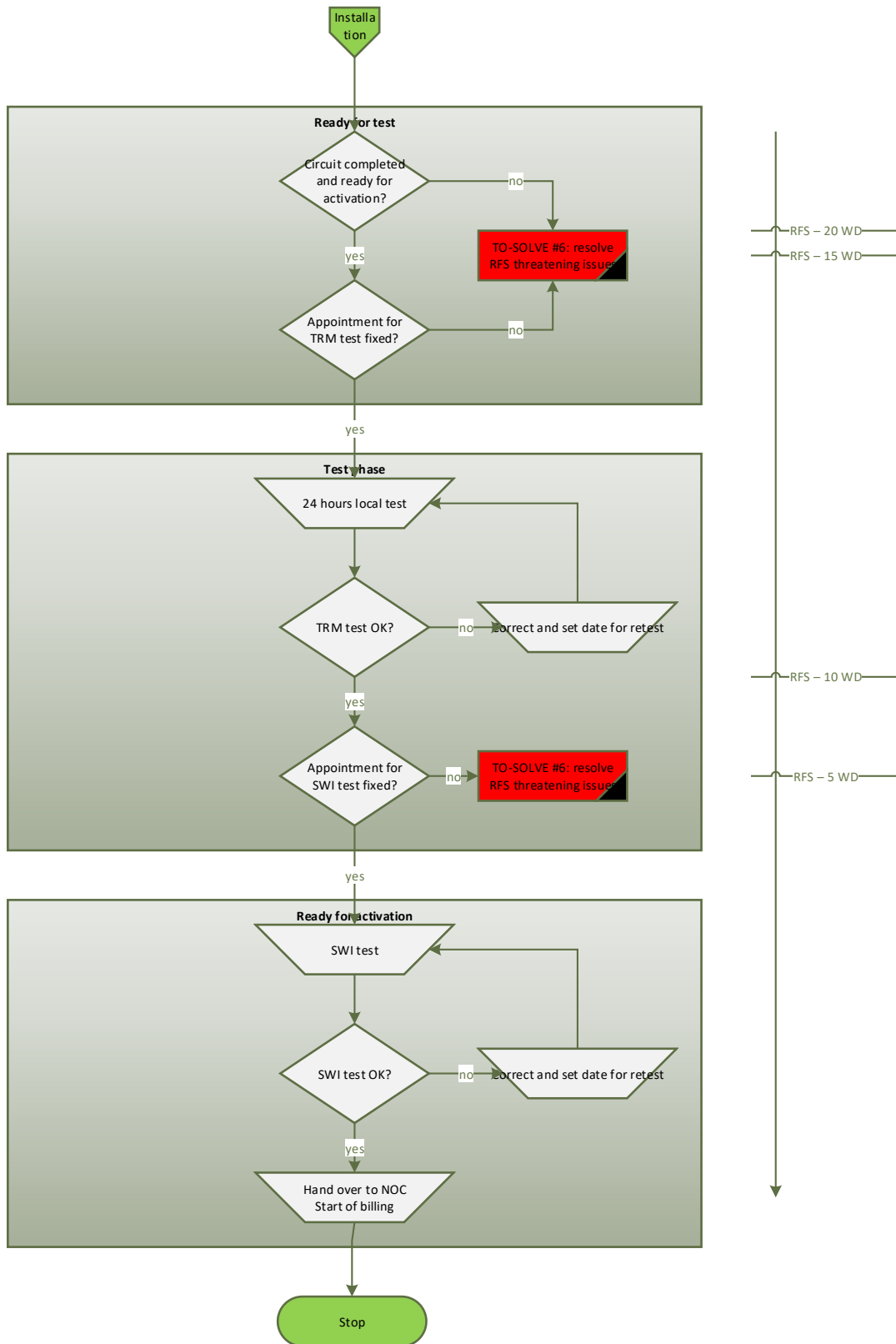


Figure 15: sub-process: installation

15.5 APPENDIX 5: FLOW FOR PROVISIONING OF SERVICE PLANS

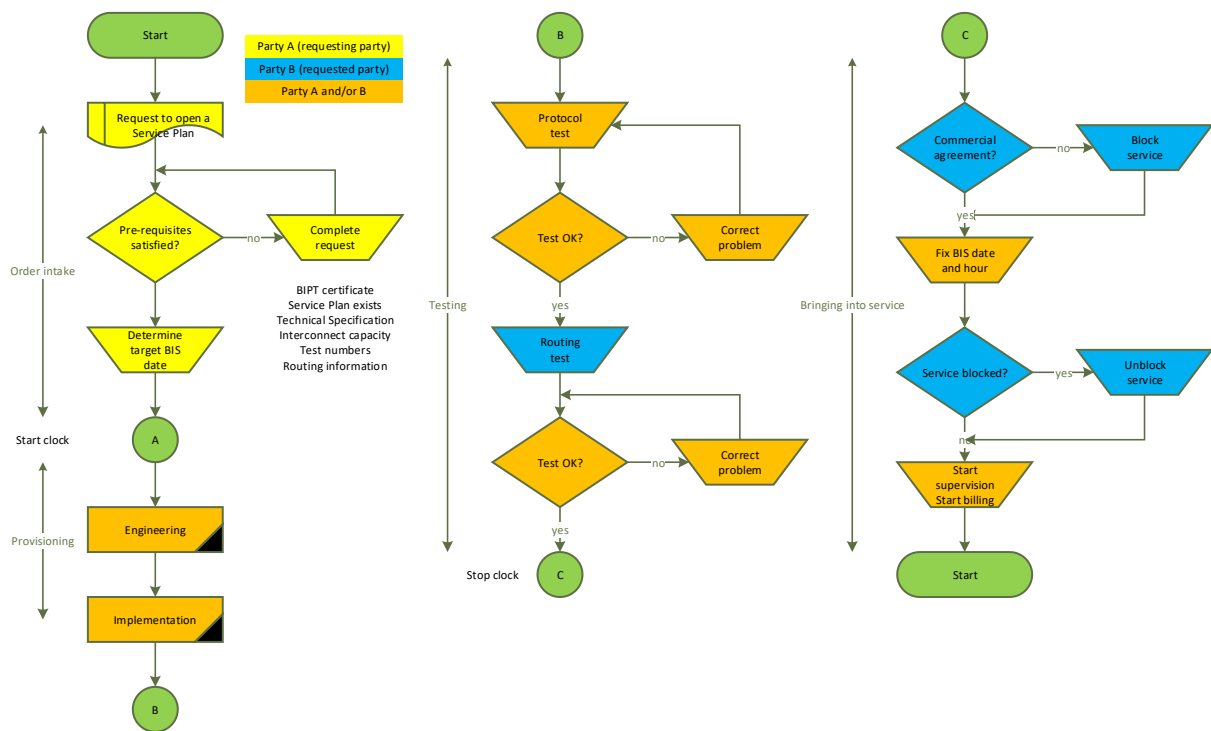


Figure 16: Opening of a Service Plan

15.6 APPENDIX 6: ADVISED BASIC CHECKS

15.6.1 Advised Basic checks in case of traffic problems

- Impacted destinations;
- Impact (completely unreachable, congestion, speech quality, ...);
- Traffic reports.

15.6.2 Advised Basic checks in case of transmission problems

15.6.2.1 On organizational level:

- **Check** if any planned works are going on
- **Check** if the circuit-in-alarm has already been given in service

15.6.2.2 On transmission level:

- **Check** the status of the optical transmitter / receiver;
- **Check** if the problem can be isolated via local or remote optical loop-back
- **Check** if the PE-router in the other network is reachable;
- **Check** if BGP is running and advertising the subnets of the other network;
- **Check** if the IBCF and IBGF function in the other network is reachable;
- **Check** if the problem is linked to one alarm, or if several alarms can be correlated
- **Check** if the problem has a constant or an intermediate presence: An intermediate alarm can indicate a bad connection, a timing trouble or a degrading card
- **Check**, via performance monitoring of the affected circuit(s), what the alarm events are and where they might be located

15.6.2.3 On switch level:

- **Check** the status of the carrier
- **Check** the datafill of the interconnection circuit
- **Check** if the affected circuit is still in service

15.6.3 **Advised Basic Checks in case of Carrier Selection problems .**

- 15.6.3.1 **Does the problem occur before the complete introduction of the dialed nb by the customer, or after this introduction?**
- In case of problems during number introduction: problem probably linked to Proximus or to PABX if manual dialing of CS-code from an internal set (PABX is using a 'numbering plan' and does not allow strings starting with 1 to be longer than ... digits)
- 15.6.3.2 **Does the problem, in case of complete number introduction, occur immediately or not ?**
- In case of immediate occurrence: Proximus might be the reason if very short (less than 0.5 to 1 sec)
 - In case of delayed occurrence: lower probability of problem on Proximus side
- 15.6.3.3 **Which destinations are affected?**
- **Check** if the nature of the destinations is compatible with the use of the CSC-code, for Proximus as well as for your own network
 - **Check** if this problem has a general nature, or is to be linked to just one number (which might be out-of-service)
 - In view of NP:
 - **Check** the identity of the recipient operator
 - **Check** the identity of the transit network
- 15.6.3.4 **What are the tones or messages heard by the customer?**
- **Check** if the message heard is typical for your own network or not, in case of national destinations
 - Attention for PABX customers: especially for ISDN PABXes, the messages (display prompts) or tones might be generated by the PABX, basing upon the network coding, and not by the public network
- 15.6.3.5 **What is the frequency of the problem?**
- **Take** a relevant number of samples (at least 5 attempts)
- 15.6.3.6 **Does the problem occur for every CLI of the customer site?**
- **Check** also if these CLI belong to the same block of 10.000 numbers
 - If not, **check** if CLI is introduced in switch
- 15.6.3.7 **Has the customer already taken contact with other parties (PABX, other operator) and what is their result analysis?**
- 15.6.3.8 **Is incoming traffic affected, and if so, what is the impact ?**
- 15.6.3.9 **Check if the customer has activated or subscribed supplementary features: call forwarding, call barring**
- 15.6.3.10 **On NOC-site (OLO):**
- **Simulate** destination via
 - Proximus directly
 - Proximus + own CSC
 - OLO directly
 - **Compare** results. These can be part of the problem description sent to BINOC.

15.7 **APPENDIX 7: USE OF PROTOCOL TRACINGS**

15.7.1 **SCOPE:**

Protocol tracings are important attachments for the Trouble Intake procedure. These tracings must be relevant to the signaled problem, and are by preference obtained via independent measurement equipment. The transmitting party must also give an indication of the point where the tracing has been taken

15.7.2 **Basic rules for the use of protocol tracings**

Spontaneously or on demand, a protocol tracing must be sent to the requesting operator within 30' (if on demand)

- This protocol tracing must refer to the problem;

- This protocol tracing must not only contain hexadecimal information, but also contain a translated result whereby at least the names of the messages must be presented when a signaling flow is transmitted;
- This protocol tracing must exactly reflect, up to the bit level, the messages as they are exchanged (no editing);
- The protocol tracing must be captured by an independent device (not the interconnect platform itself);
- The protocol tracing must be exchanged in the following formats (in order of preference):
 - PCAP (for analysis in WireShark);
 - HTTP;
 - Plain text.

For SIP-related tracings, the mandatory information to include in a tracing are

- IP-layer;
- Transport layer (UDP);
- SIP layer (including Headers and Body);
- Timing information ;
- Description of call context (facilities, ...);
- Call scenario;
- Place where the tracings have been taken
- Info in case of use of (proprietary) abbreviations or denominations.

15.8 APPENDIX 8: SWITCH BASED INFORMATION.

15.8.1 SCOPE:

Switch based information can be used during the Trouble Intake procedure, in order to clarify certain events. However, the relevance of this information is not as high as the information obtained through independent measurement devices such as protocol analyzers, for the simple reason that the switch might discard or change information in stress situations or during SW-operations (SW-replacement).

15.8.2 Basic rules for the use of Switch based information

- Traffic counters can be sent as additional information to the TIF-document, in order to give an indication of
 - Congestion occurrence
 - Distant failure
- AMA records can be included in the trouble description
 - These records are acceptable in certain circumstances, but the sending party must include a description of the data format and the interpretation of the contents
 - Only records which are related to the Interconnection trunks must be sent; other linked AMA-tickets must not be sent since they are only relevant to the switch itself

Switch logs can be sent as additional information to the TIF-document, but these are considered as less reliable. If these are sent, they must contain an accurate timestamp, a clear problem indication and an indication of the trunk(set) where the log has been taken from.

15.9 Appendix 9: Information exchange during the trouble solving process

This appendix describes the information, to be exchanged between both parties' NOC, during the trouble solving process. This information is exchanged by email .

15.9.1 Transitions between START and END.

15.9.1.1 Intake Request.

Information inside the email:

Object	Add/ Modify	Mandatory/Optional
Transition	A	M

REQUESTING OPERATOR. Name of Requesting Operator Name of Requesting Agent. Direct telephone number of Requesting Agent. Trouble Ticket number of Requesting Operator.	A	M
	A	<Text> M
	A	<Text> M
	A	<Text> M
REQUESTED OPERATOR. Name of Requested Operator	A	M
REQUEST SUMMARY. Related Service	A	M
Trouble Summary	A	M
Request Triggered by	A	M
Severity level.	A	M
Start day of the trouble	A	O
Start time of the trouble	A	O
Request Time Stamp [TO] TO BE ALIGNED WITH PROCESS CLOCK	A	AUTO AUTO
Requested feedback time window (refer to:3.4.9.5). If field is empty default will be used. First Increment	A A	AUTO AUTO
Originating Network Owner	A A A	O O
Type of connection	A	O
Calling Party Number	A	O
Terminating Network Owner	A A	O O
Type of connection	A	O
Called Party Number	A	O
Ported Number	A	O
Recipient Network	A	O
Donor Network	A	O
Network		O
Originating switch		
Terminating switch		
Codification Number		
CIC		
Any useful info, e.g. Protocol Trace:	A	O

Valid severity Levels. Refer to 3.4.3

- Critical
- Major
- Minor
- Check (default setting)

Valid Trouble summaries:

- Network element partial outage
- Network element OOS
- Interconnect service partial outage
- Interconnect service OOS
- Protocol error
- Call procedure error
- Long duration calls
- Fraud indication
- Unspecified

Valid Request triggers:

- Other Operator
- Calling Customer
- Called Customer

- Network Monitor

Valid Related Services:

- OIT or BIT Interconnect Links.
- Terminating to geographic numbers
- Termination to Mobile Numbers
- Termination to VAS Numbers
- Terminating to Operator Services
- Terminating to Emergency Services
- Collecting from network: This for CPS or CS.
- Collecting to VAS
- Collecting to Operator Services

Valid Type of Connection

- PSTN
- ISDN
- PSTN+ISDN
- GSM
- ALL
- UNKNOWN

15.9.1.2 Intake Request Accepted.

The Requested Operator checks and confirms that the trouble exists by using the intake accept procedure. From the moment that the request is accepted, the clock will be started.

Information inside the email

Object	Add/ Modify	Mandatory/Optional
Transition	M	M
Name of requested agent	A	M
Direct telephone number of requested agent	A	M
Trouble Ticket number of Requested Operator	A	M
Time stamp: start clock [T1]	A	AUTO
	A	AUTO
Expected Time of Service Restoration	A	O
	A	O

Response Timer: see Section 13.4.9

Escalation: If the requesting Party doesn't agree with the Start Clock time stamp then he can start the escalation procedure.

15.9.1.3 Intake Request Rejected.

Information inside the email:

Object	Add/ Modify	Mandatory/Optional
Transition	M	M
Name of requested agent	A	M
Direct telephone number of requested agent	A	M
Reason of rejection.	A	M
Description of Reason of rejection	A	M

Valid reasons for rejecting.

- Requested is not involved: the Text field should explain why the requested Party is not involved.
- Mandatory information is missing: the Text field should describe the missing mandatory field.
- Not a network or interconnect service problem.

Escalation after reject of intake

If the requesting Party does not agree with the reason of rejection he can start the escalation procedure.

Response Timer: see Section 13.4.9

15.9.1.4 Trouble Modify.

The modify procedure is used by the requesting Party to add new information to the ticket and forward this to the requested

It is not allowed to modify the content of the fields of the intake request.

Information inside the email:

Object	Add/ Modify	Mandatory/Optional
Transition	M	M
Time stamp	A	M
Object description	A	M
Change Request	A	M
Modification	A	M

Valid Change Request.

- Add: To add the text to the existing intake request
- Modify: to delete and add new text to an existing intake request
- Delete: to delete the contents of an existing intake request

Multi Modifies:

The modify transition procedure can be run through multiple times during the trouble handling. In that case the new <text> in the modification field is added to the previous <text>.

15.9.1.5 Trouble Update.

The update procedure is to keep the requesting Party informed about the status of the restoration or repair by the requested Party.

The expiring of the trouble update interval timer triggers the update.

Information inside the email

Object	Add/ Modify	Mandatory/Optional
Transition	M	M
Repair status information	A	M
Expected restoration time	A	M

Time window and interval:

The Trouble Severity Level determines the time between updates unless otherwise agreed between both Parties during the trouble intake phase. From the second update the new <text> in the repair status information field is added to the previous <text>.

Severity Level	First Update	Interval	Trouble update window
Critical	1 hour	2 hour	24/7
Major	1 hour	4 hours	24/7
Minor	4 hours	On occurrence	Business hours
Check		1 Working Day	

15.9.1.6 Closure Request.

As soon as the trouble has been completely cleared the requested Party can start the closure procedure.

From the moment that the request is sent the clock will be stopped.

Information inside the email:

Object	Add/ Modify	Mandatory/Optional
Transition	M	M
Cause	A	M
Description	A	M
Time stamp: End clock time [T2]	A	AUTO
	A	AUTO

Valid Cause:

- No problem found
- Failure in own network
- Failure in requester network
- Failure in 3rd party network
- Unspecified

15.9.17 3.4.9.7 Closure Request Accepted

The Requesting Operator checks and confirms that the trouble has disappeared by using the closure accept procedure.

Information inside the email:

Object	Add/ Modify	Mandatory/Optional
Status	M	M
Closure Accept Time	A	AUTO
	A	AUTO

Response Timer: see Section 13.4.9

Escalation: If the requesting Party doesn't agree with the End Clock time stamp then he can start the escalation procedure.

15.9.18 3.4.9.8 Closure Request Rejected.

If the closure request cannot be accepted, the Requesting Operator will reject it by returning an email to the Requested Operator, with mention of the reason of rejection.

Information inside the email:

Object	Add/ Modify	Mandatory/Optional
Transition	M	M
Reason of rejection.	A	M
Time stamp:	A	AUTO AUTO

Reasons to reject:

- Service restoration not accepted.
- Problem not solved.
- Mandatory information not provided

Escalation:

If the requested Party does not agree with the reason of rejection he can start the escalation procedure.

Response Timer: see Section 13.4.9 .

15.9.19 Forced Closure.

If the requesting Party detects during the process that the trouble disappears or that he is able to solve the problem himself then he can start the Forced Closure procedure.

Information inside the email:

Object	Add/ Modify	Mandatory/Optional
Transition	M	M
Reason	A	M
Comment	A	O

Time stamp: End clock time [T2]	A	AUTO
	A	AUTO

Valid Reasons for forced closure:

- Problem disappeared
- Problem in requesting network

15.9.1.10 Defer Request.

The stop-clock mechanism allows suspending the handling of a Trouble Ticket for a certain period.

A stop-clock must have a maximum length, to be negotiated between both involved Parties.

Information inside the email:

Object	Add/ Modify	Mandatory/Optional
Transition	M	M
Reason of defer request	A	M
Maximum requested suspend time	A	M
Defer time stamp [T4]	A	AUTO
	A	AUTO

Reasons to request Defer:

- Force majeure
- Supplementary testing required
- Access to equipment required
- Observation period needed

The observation period must be limited in time with a maximum of 1 week, in order to enable the requested Party to close the problem administratively. The observation period can be prolonged in common agreement between both Parties.

- Structural problem

In the case that a structural problem is identified (i.e. for instance related to the design of supplier software), where a solution within the above objectives cannot be guaranteed, an escalation of this type of problems will be necessary and the timers will be put 'on hold'.

A solution period will be agreed between the Third Level Escalation Points (see Escalation Procedure hereafter). At this escalation level, a specific meeting can be organized, with, if necessary, involvement of experts and /or higher management of both Operators, if needed. Since a solution might take a much longer period than the above-mentioned repair time objectives (e.g. a new software release is necessary), this type of problems is out of scope of this document and will be handled on a case-by-case basis.

- Third party testing required
- Problem to be solved by third party
- Unspecified

15.9.1.11 Defer Request Accepted

The Requesting Operator agrees by returning an email.

Information inside the email:

Object	Add/ Modify	Mandatory/Optional
Transition	M	M
Time stamp	A	AUTO
	A	AUTO

Response Timer: see Section 13.4.9 .

15.9.1.12 Defer Request Rejected.

If the above request cannot be accepted, the Requesting Operator will reject it by returning an email to the requested, with mention of the reason of rejection.

Information inside the email:

Object	Add/ Modify	Mandatory/Optional
Transition	M	M
Reason	A	M
Comment	A	M
Time stamp	A	AUTO
	A	AUTO

Valid reasons for reject:

- Mandatory information is not available;
- Reason of Defer request is not valid

Escalation:

If the requested Party does not agree with the reason of rejection he can start the escalation procedure.

Response Timer: see Section 13.4.9.

15.9.1.13 Re-Start Clock Requested.

After clearing the reason why the defer-clock mechanism became active the clock is restarted by the Restart clock procedure.

Information inside the email:

Object	Add/ Modify	Mandatory/Optional
Transition	M	M
Reason:	A	M
Comment	A	M
Restart Time Stamp	A	M

Valid reasons:

- Stop-clock condition not valid anymore
- Stop-clock timer expired
- Unspecified

15.9.1.14 Re-Start Clock Request Accepted.

The Re-start clock is agreed by returning an email.

Information inside the email:

Object	Add/ Modify	Mandatory/Optional
Transition	M	M
Time stamp	A	AUTO
	A	AUTO

Response Timer: see Section 13.4.9.

15.9.1.15 Re Start Clock Request Rejected.

If the above request cannot be accepted, it will be rejected by returning an email, with mention of the reason of rejection.

Information inside the email:

Object	Add/ Modify	Mandatory/Optional
Transition	M	M
Reason of rejection.	A	M
Time stamp	A	AUTO
	A	AUTO

Valid Reason of rejection:

- Mandatory information is not available;
- Reason of Defer request is still valid

Escalation:

If the requested Party does not agree with the reason of rejection he start the escalation procedure.

Response Timer: see Section 13.4.9 .

15.10 APPENDIX 10: GLOSSARY AND ABBREVIATIONS.

15.10.1 Glossary

For the sake of clarity, this Glossary explains all the terms used in this document. In case the concepts that are defined elsewhere (Acts, documents approved by the BIPT) undergo changes, those changes will be taken into consideration within this Glossary. The capitalised terms in the present document have the meaning as defined below:

Base Unit	Switching node that performs the call handling function for its own subscriber interfaces and for the subscriber interfaces of its Remote Units
Bringing into Service (BIS)	Bringing into service date for Proximus.
Field Survey	Survey of private (and public) domain around the POI to determine the ways of cable and connection points outside the building(s).
Correctly sent Trouble Ticket	Trouble Ticket describing a trouble whose cause is to be located in the Network of the Party receiving the Trouble Ticket
Large group of customers	Customers related to more then one number range bloc, or more then 10000 customers.
Loop	HW or SW implementation of a loop-back functionality on a certain OSI-layer that sends back transmitted data to sender.
Party	Depending on the context, Proximus and/or the OLO entering into an Interconnection Agreement to which the present document is annexed.
Ready for Proximus (RFP)	Date, on which all work, as agreed upon during the field and site survey, should be terminated by the OLO.
Ready for OLO (RFO)	Date, on which all work, as agreed upon during the field and site survey, with exception of splicing the fiber of the OLO en the fiber of Proximus together, should be terminated by Proximus.
Ready for Service (RFS)	Date on which the activation of the circuit is foreseen (Ready For Service).
Remote Unit	Switching node with subscriber interfaces that has no autonomous call handling function
Site Survey	Survey of the telecom room to determine the infrastructure works (cable trays, powering, equipment racks, ...) that need to be performed before installation and bringing into service is possible
Working Day	Each day except Saturday, Sunday and the national legal holidays in Belgium
Wrongly sent Trouble Ticket	Trouble Ticket describing a trouble whose cause is located in the Network of the Party sending the Trouble Ticket

15.10.2 Acronyms

AA	Access Area	
AAP	Area Access Point	
AP	Access Point	
BIPT	Belgian Institute for Postal services and Telecommunications	
BIS	Bringing into Service	
BIT	Proximus Interconnect Traffic	
CPS	Carrier Pre-selection	
CRD	Customer Requested Date	
CS	Carrier Selection	
CSC	Carrier Selection Code	
ICG	Interconnect Coördination Group	
ICL	Interconnect Link	
MOU	Memorandum of Understanding	
NOC	Network Operations Centre	
OIT	OLO's Interconnect Traffic	
OLO	Other Licensed Operator	
OMDF	Optical Main Distribution Frame	
P&O	Planning & Operations document	
POC	Point Of Interconnect	the SIP interface of an IBCF
LPOC	Local POC	an own POC
RPOC	Remote POC	a POC of the other operator
PRIO	Proximus Reference Interconnect Offer	
RFO	Ready For OLO	
RFP	Ready For Proximus	
RFS	Ready for Service	
SPOC	Single Point of Contact	
TIC	Technical Implementation Committee	
VAS	Value Added Service	