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IMS CORPORATE VoIP  
Address templates

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# 1. Document History

Every update of this document results in a complete new version with new version number and release date.

Version	Date	Main or important changes since previous version
2.0	May 07, 2019	First version
2.1	May 25, 2019	Small corrections
2.2	June 06, 2019	Update after comments from IP-PBX team:
2.3	September 19, 2019	Update of SW versions in Scope

Table 1: document history

## 2. Scope

This document defines the address templates to be used by IP-P(A)BXs on the VoIP interface of the Proximus IMS network. Address templates define the “format” of addressing information

This specification is applicable for Proximus business trunking services offered nationally as well as internationally.

This specification is applicable for the following IMS equipment and software packages:

- Nokia (Alcatel-Lucent) ISC – software package Release 13
- Oracle SBC 4600 – Software Version SCZ8.1.0 MR-1 patch 12
- Broadsoft application server – BroadWorks R22

This document is part of a set of documents describing the UNI interface of the Proximus IMS Network, for IP-P(A)BXs. Other documents in this set are:

- PXM IMS Corporate VoIP – UNI specification – SIP signalling – Business Trunking with IMS services [1]
- PXM IMS Corporate VoIP – UNI specification – SIP signalling – Wireless Office Extended [2]
- PXM IMS Corporate VoIP – UNI specification – SIP signalling – Enterprise Voice multi [3]
- PXM IMS Corporate VoIP – UNI specification – Testing
- PXM IMS VoIP – UNI specification – Fax over IP [8]
- PXM IMS Corporate VoIP – UNI specification – General [4]

## 3. References

Whenever a date of edition is mentioned, the document with this date should be consulted. If no date is present, the latest version of this document should be consulted.

### 3.1. Normative references

1	Proximus	PXM IMS Corporate VoIP – UNI specification – SIP signalling – Business Trunking with IMS services
2	Proximus	PXM IMS Corporate VoIP – UNI specification – SIP signalling – Wireless Office Extended
3	Proximus	PXM IMS Corporate VoIP – UNI specification – SIP signalling – Enterprise Voice Multi
4	Proximus	PXM IMS Corporate VoIP – UNI specification – General
5	ITU-T E.164	The international telecommunication numbering plan
6	IETF RFC 2119	Key words for use in RFCs to Indicate Requirement Levels
7	IETF RFC 3966	The tel URI for Telephone Numbers
8	Proximus	PXM IMS VoIP – UNI specification – Fax over IP

Table 2: normative references

### 3.2. Informative references

I1	BGC_D_48_9807_30_04_E.pdf	Information tones
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Table 3: informative references

## 4. Symbols, Definitions and Abbreviations

### 4.1. Symbols

For the purpose of the present document, the following symbols apply:

<CC>	Country code, as defined by ITU-T	
<NSN>	National significant number, as defined in ITU-T E.164	
<ZIP>	Postal code of the location of the calling user.	
<SPS>	4-digit short code	Used to call a Special Service

Note: The ZIP code is used to route emergency calls to the correct PSAP. A ZIP code is a 4 digit code.

### 4.2. Definitions

For the purpose of the present document, the following definitions apply:

**IP-P(A)BX:** The IP P(A)BX constitutes an Enterprise's collection of network elements that provides packetized voice call origination and termination services using the Session Initiation Protocol (SIP) and the Session Description Protocol (SDP) for signalling and the Real-time Transport Protocol (RTP) for media traffic.

### 4.3. Abbreviations

For the purpose of the present document, the following abbreviations apply:

PXM	Proximus
ETSI	European Telecommunications Standards Institute
IETF	Internet Engineering Task Force
NNI	Network Network Interface
RFC	Request For Comment
SIP	Session Initiation Protocol
TS	Technical Specification
UNI	User Network Interface



## 5. General

### 5.1. Principles

This clause contains some high level principles concerning the content of the Request-URI and/or the treatment of the content

#### 5.1.1. E.164 numbers

An E.164 number is dialable from any country in the world by prefixing it with the Country Code: <CC><NSN>. <CC> = 32 for Belgium.

The length of a Belgian mobile National (significant) Number is 9 digits, except for “machine-to-machine” numbers, where the length is 13 digits.

The length of a Belgian fixed (geographical or non-geographical) National (significant) Number is 8 digits.

The international trunk prefix is 00.

The national trunk prefix is 0. The first digit of a National (significant) Number is therefore 1,...,9.

The general principle is to always use the E.164 international format for E.164 numbers. Emergency numbers and short codes are exceptions to this rule.

Note: the number format as dialed i.e. 0<NSN> or 00<CC><NSN> is currently supported on the business trunking interface, but may be discontinued in the future

#### 5.1.2. Enum

The Proximus IMS platform includes a private ENUM database used for routing purposes. The Proximus IMS platform does an ENUM query for every call. The domain name received from an IP-P(A)BX is not used for routing until after the ENUM query.

#### 5.1.3. URI parameters

Only the URI parameters mentioned in this document are supported and should be used. Usage of IANA registered URI parameters not listed in this document may lead to call failure. URI parameters not registered at IANA MUST NOT be used.

A list of registered URI parameters can be found at the IANA website:

- Tel-URI parameters: <http://www.iana.org/assignments/tel-uri-parameters/tel-uri-parameters.xhtml#tel-uri-parameters-1>
- SIP/SIPS URI parameters: <http://www.iana.org/assignments/sip-parameters/sip-parameters.xhtml#sip-parameters-11>

#### 5.1.4. URI syntax

The format of the URIs used shall be exactly as shown in the remainder of this document. Escaping of characters as defined in RFC 3261 MUST NOT be applied.

## 6. Address templates for calls from Belgium

### 6.1. National (significant) Numbers

The address information template for a call to a National (significant) Number via a Business Trunk is as follows:

Dialed number	Request-URI	Remark
<u>0</u> <NSN>	sip:+ <u>32</u> <NSN>@<domain>; user=phone or tel:+ <u>32</u> <NSN>	The national dialling format is supported but not recommended.
<u>00</u> <CC><NSN>	sip:+<CC><NSN>@<domain>; user= phone or tel:+<CC><NSN>	The international dialling format is supported but not recommended.

Where:

- <domain> is any domain (see section 5.1.2).

### 6.2. Non-E.64 numbers in Belgium

#### 6.2.1. 3-digit numbers

3-digit numbers are dialled as 1xy, where x = 0 or 1 (except 116xxx, see section 6.2.4). The format on the Business trunk is:

Dialed Number	Request-URI
1xy	sip: <u>1xy</u> @<domain>;user=phone or tel: <u>1xy</u>

3-digit numbers are either emergency numbers or aid numbers and are routed to the nearest Public Safety Access Point (PSAP). The public network determines the location of the caller, based on the installation address of the access line. Some IP-P(A)BXes however cover several sites, with only one break-out to the public network. In that case the installation address of the access line can not be used to determine the location of the caller. A multi-site IP-P(A)BX must therefore communicate the location of the caller by adding a postal code <ZIP> to the Request-URI.

Dialed Number	Request-URI
1xy	sip: <u>19921xy</u> <ZIP>@<domain>;user=phone or tel: <u>19921xy</u> <ZIP>

Remark: it must be possible for the PSAP operator to locate the caller that placed an emergency call. A multi-site PABX must therefore insert a CLI that refers to the site from where the emergency call is placed. This CLI is called “Emergency Virtual Number” (EVN) and will be put by Proximus in the Emergency Database with the address of the site.

## 6.2.2. 4-digit short codes

4-digit short codes are dialled as 1xyz, where x = 2, 3, 4, 7, 8 or 9. The format on the Business Trunk is:

Dialled Number	Request-URI
1xyz	sip: 1xyz@<domain>;user=phone or tel: 1xyz

## 6.2.3. 4 digit access codes

4-digit access codes are dialled as 1xyz, followed by a number string, where x = 5 or 6. The format on a Business Trunk is:

Dialled Number	Request-URI
1xyz<SPS>	sip: 1xyz<SPS>@<domain>;user=phone or tel: 1xyz<SPS>
1xyz0<NSN>	sip: 1xyz0<NSN>@<domain>;user=phone or tel: 1xyz0<NSN>
1xyz00<CC><NSN>	sip: 1xyz00<CC><NSN>@<domain>;user=phone or tel: 1xyz00<CC><NSN>

## 6.2.4. 6-digit short codes

6-digit access codes are dialled as 116xyz. The format on a Business Trunk is:

Dialled Number	Request-URI
116xyz	sip: 116xyz@<domain>;user=phone or tel: 116xyz

# 7. Address templates for calls from other countries

## 7.1. National (significant) Numbers

The recommended address format for a call to a National (Significant) Number is a global URI, as shown in the column “Request-URI” of the table below. The table also suggests some local URIs that may be supported

Dialled number	Request-URI	Remark
<SN>	sip:+<CC <sub>orig</sub> ><NDC <sub>orig</sub> ><SN>@<domain>; user=phone or tel:+<CC <sub>orig</sub> ><NDC <sub>orig</sub> ><SN>	The local dialling format is not recommended, it is only offered on

		best effort base.
<PFX <sub>nat</sub> ><NSN>	sip:+<CC <sub>orig</sub> ><NSN>@<domain>; user=phone or tel:+ <CC <sub>orig</sub> ><NSN>	The national dialling format is supported but not recommended.
<PFX <sub>intal</sub> ><CC <sub>dest</sub> ><NSN>	sip:+ <CC <sub>dest</sub> ><NSN>@<domain>; user= phone or tel:+ <CC <sub>dest</sub> ><NSN>	The international dialling format is supported but not recommended.

Where:

- <SN> is the subscriber number
- <NDC<sub>orig</sub>> is the National Destination Code of the geographical area of the caller
- <PFX<sub>nat</sub>> is the national trunk prefix, applicable in the originating country;
- <PFX<sub>intal</sub>> is the international trunk prefix, applicable in the originating country;
- <CC<sub>orig</sub>> is the Country Code of the originating country;
- <CC<sub>dest</sub>> is the Country Code of the destination country.

## 7.2.Non-E.164 numbers

The address information template for a call to a non-E.164 number from outside Belgium via an International Business Trunk is as follows:

Dialled Number	Request-URI
<non164>	sip: <non164>@<domain>;user=phone or tel: <non164>

Remark: emergency numbers are in most countries non-E.164 numbers. They follow the above convention, even from a multi-site PABX. Routing to the nearest PSAP is accomplished, based on the EVN number, that the multi-site PABX must insert. See section 6.2.1 for more information about EVN numbers.