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The Belgacom Public OFFNET Service

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0. 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
1.0	23 SEP 2002	<ul style="list-style-type: none">• First version

1. Introduction

This document specifies the user network interface for the Belgacom Public OFFNET Service.

The BELGACOM Public OFFNET service enables customers connected to the BiLAN IP-VPN network to interact with the public switched network.

Paragraph 2 of this document contains the Reference Model on which this UNI is based. Reference is made to the User-Network interface specification for the Belgacom Private ONNET Service, described in document BGC_D_48_0202_30_01_E

This User-Network interface is limited to ISDN BA and PRA interfaces today.

Paragraph 3 details the transmission characteristics of the ISDN interfaces for Public OFFNET.

Paragraph 4 describes the ISDN services available for the Belgacom Public OFFNET users.

2. Reference Model

2.1. Network diagram of the Public OFFNET

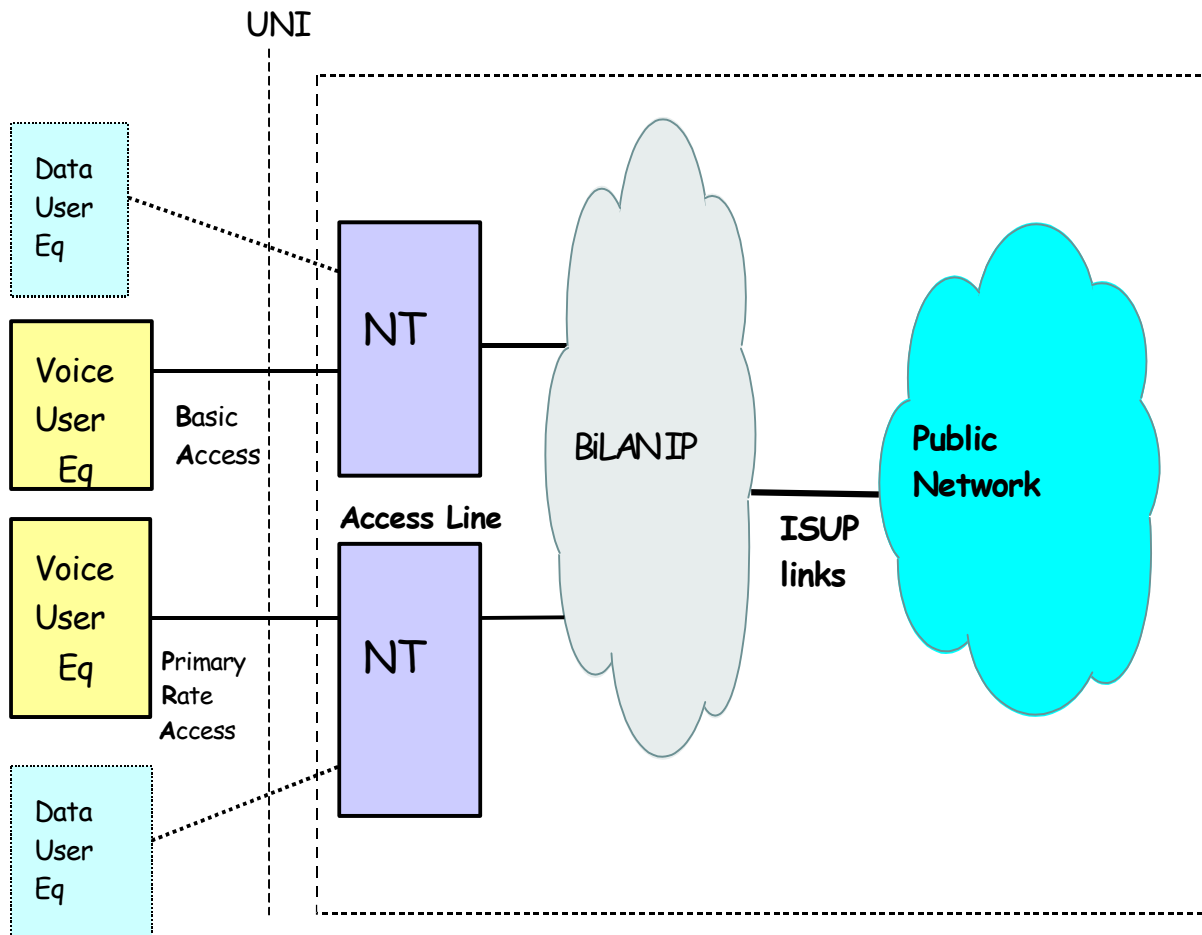


Figure 1: Belgacom Public OFFNET Service - UNI reference model

2.2. References for the BA and PRA interfaces

The following document describes the Public ONNET Service

Specification	Short description of the specification
BGC_D_48_0202_30_01_E	Belgacom User Network Interface Specification for "The Belgacom Private ONNET Service"

3. ISDN Interface and Transmission characteristics – BA & PRA

The ISDN interfaces are built up according to the relevant ITU-T and ETSI specifications. The interface points are specified according to ITU I.411, including the T interface.

The equipment and network termination points are defined in the context of the 7 layers OSI model, whereby only the three lower layers are used for the network part of it:

- Physical Layer
- Data Link Layer
- Network Layer

Overview Applied interfaces with their specifications

	Protocol	BA	PRA
Layer 1	I.430 - I.431	ETS 300 012	ETS 300 011
Layer 2	Q.921	EN 300 402	EN 300 402
Layer 3	Q.931	EN 300 403	EN 300 403

Restriction on the Basic Access interface: the user can connect only local powered devices (e.g. PABX, routers, PC boards) because the Basic Access interface has no power source.

The principal characteristics of the ISDN interfaces are:

	BA	PRA
Number of B-channels	2	30
Number of D-channels	1	1
Synchronisation	8 kbps	64 kbps (channel 0)
Bit rate B-channel	64 kbps	64 kbps
Bit rate D-channel	16 kbps	64 kbps (channel 16)
T-interface 4 wire	4 wire -100 Ohm female RJ45 connector Transmit 3-6 Receive 4-5	4 wire 120 Ohm female RJ45 connector Receive 1-2 Transmit 4-5
PS1 Power Normal & Restricted Power	Not provided Only local powered terminals can be connected	Na
CRC4 procedure	Na	Procedure CRC4 may or may not be activated. Default is CRC4 ON
Related interface specs	I.430 ETS 300 012	I.431 G.703/G.704 and G.706 ETS 300 011

Details of the pole numbering on the interfaces.

Basic Access

Pin Number	Contact	Network interface	Terminal interface	Signal Polarity
1	a	Not used	Not used	
2	b	Not used	Not used	
3	c	Transmit	Receive	+
4	d	Receive	Transmit	+
5	e	Receive	Transmit	-
6	f	Transmit	Receive	-
7	g	Not used	Not used	
8	h	Not used	Not used	

Primary Rate Access

Pin Number	Contact	Network interface	Terminal interface
1	a	Receive	Transmit
2	b	Receive	Transmit
3	c	Not Used	Not Used
4	d	Transmit	Receive
5	e	Transmit	Receive
6	f	Not used	Not used
7	g	Not used	Not used
8	h	Not used	Not used

4. Supported interworking services between the BA and PRA interfaces and the public Network user

4.1. Symbols, definitions and abbreviations

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

BA	Basic Access
BiLan	B ELGACOM Interconnection of L ocal area N etworks
CCBS	Call Completion Busy Subscriber
CLIP	Calling Line Identification Presentation
CLIR	Calling Line Identification Restriction
CNIP	Calling Name Identification Presentation
COLP	Connected Line Identification Presentation
COLR	Connected Line Identification Restriction
CRC4	Cyclic Redundancy Check 4
DSS1	Digital Subscriber Signalling System No. one
ICB	Incoming Call Barring
ISDN	Integrated Services Digital Network
MSN	Multi Subscriber Number
OCB	Outgoing Call Barring
PRA	Primary Rate Access
ISUP	ISDN Signaling User Part

4.2. Supported interworking services between the BA and PRA interfaces and the public Network user

Following ISDN PABX services, available on classical ISDN interfaces, will also be supported on the Public OFFNET Service:

Supported Services for Public OFFNET	Remarks
Speech / 3.1 kHz Audio calls	
64 kbit/s Unrestricted Digital Info	Bearer is supported, although no <u>guaranteed</u> 64kbps channel can be obtained
CLIP	The customer cannot subscribe to a CLIP service CLIP parameters set on the PABX are passed transparently
CLIR	The customer cannot subscribe to a CLIR service CLIR parameters set on the PABX are passed transparently
COLP	The customer cannot subscribe to a COLP service COLP parameters set on the PABX are passed transparently
COLR	The customer cannot subscribe to a COLR service COLR parameters set on the PABX are passed transparently
ICB	
OCB	Permanent OCB: YES <ul style="list-style-type: none"> • OCB – DCZ • OCB – DCI • OCB – DCX • OCB – 077 • OCB – 090X User-controlled OCB: NO
MSN	
ISDN indialing	Hunting = sequential or random; no cyclic
Fax calls	
0800 – 090X – 070 – 078 – 077 calls	
0908 – 0909 calls	
4 digit access codes calls 12BC 13BC 14BC	
Emergency calls 1AB	
GSM calls	Mobile number portability not supported yet
Paging destinations	
Calls to ported destinations	
Calls to international destinations	
Calls to OLOs via Carrier select 15BC 16BC	

Following ISDN PABX services, available on classical ISDN interfaces, will NOT be supported on the Public OFFNET Service:

NOT Supported Services for Public OFFNET	Remarks
Advice of Charge	If PABX sends AOC message, it is passed transparently through the network
Anonymous call rejection	
Automatic recall via 1919	Recall function from PABX can be used
CNIP	
Call forwarding	The call forwarding function on the PABX can be used instead
Call waiting	The call waiting function on the PABX can be used instead
Closed user group	A CUG with only IP-VPN sites can be made, not mixed with sites on PSTN
Fixed destination Call	
Message waiting indicator	
CCBS	
3-party conference	
User to user	
Modem calls	
X25 packet mode on D-channel	
Access code to data networks (17BC)	
Internet calls 78UVKH DU 90930H DU 90932H DU 90934H DU	
Calls to OLOs via Carrier pre-select	
Calls to collecting and collecting + 079	
Subaddressing	

4.3. Additional Info

Transparency of the calling party number Info element and Connected Party Number Info element

Parameter	Originating at the public Offnet user	Result at the public network side
Type Of Number	National	Always set to National
Numbering plan id.	Unknown or ISDN - Telephony numbering plan	Always set to ISDN/Telephony numbering plan
Presentation ind	Allowed/Restricted	Transparent
Screening ind.:	Any Screening indicator	Following the screening rules
CLI number	National Format	Always set to National
No CLI number	No CLI number	GDN number

Transparency of the called party number Info element

Parameter	Originating at the public Offnet user	Result at the public network side
Type Of Number	Unknown	National, unknown or international
Numbering plan id.	Unknown or ISDN - Telephony numbering plan	Always set to ISDN/Telephony numbering plan
Number Digits	Unknown Format	National, unknown or international Format

Default configuration parameters

Parameter	Default	Values that can be obtained on request
Codec	G.729	G.723.1, G.711
Echo cancellation	According to G.168	No change possible
Call procedure	En-bloc sending	Overlap sending