



SIN 324

Issue 3.5
February 2010

Suppliers' Information Note

For The BT Network

BT Featurenet Embark Service Description

Each SIN is the copyright of British Telecommunications plc. Reproduction of the SIN is permitted only in its entirety, to disseminate information on the BT Network within your organisation. You must not edit or amend any SIN or reproduce extracts. You must not remove BT trade marks, notices, headings or copyright markings.

This document does not form a part of any contract with BT customers or suppliers.

Users of this document should not rely solely on the information in this document, but should carry out their own tests to satisfy themselves that terminal equipment will work with the BT network.

BT reserves the right to amend or replace any or all of the information in this document.

BT shall have no liability in contract, tort or otherwise for any loss or damage, howsoever arising from use of, or reliance upon, the information in this document by any person.

Due to technological limitations a very small percentage of customer interfaces may not comply with some of the individual characteristics which may be defined in this document.

Publication of this Suppliers' Information Note does not give or imply any licence to any intellectual property rights belonging to British Telecommunications plc or others. It is your sole responsibility to obtain any licences, permissions or consents which may be necessary if you choose to act on the information supplied in the SIN.

This SIN is available in Portable Document Format (pdf) from: <http://www.sinet.bt.com/index.htm>

Enquiries relating to this document should be directed to: help@sinet.bt.com

CONTENTS

1. INTRODUCTION	3
1.1 PRODUCT OVERVIEW	3
1.2 FEATURENET EMBARK CENTREX.....	3
1.3 FEATURENET EMBARK DIGITAL.....	3
2. SERVICE AVAILABILITY	4
3. SERVICE OUTLINE	4
4. TYPICAL CUSTOMER DIGITAL/CENTREX CONFIGURATION	5
5. TARIFFS	6
6. FURTHER INFORMATION	6
7. ABBREVIATIONS	6
8. REFERENCES	6
9. HISTORY	6
APPENDIX. FEATURENET EMBARK COMPLIANCE WITH BTNR 188 / 189	8

1. Introduction

This Suppliers Information Note gives information about the BT Featurenet Embark service.

1.1 Product Overview

Featurenet Embark enables customers with both large and very small sites to link together into a corporate telephone network, giving the benefit of a private network. This service is available on a national basis.

The product delivers an integrated Virtual Private Network (VPN) and Centrex service.

NOTE: This product is designed for Normal Voice Telephony use and not for Non-Voice applications (eg Telemetry), which can generate high calling rates, or Voice applications, which can generate near instantaneous high calling rates concentrated to or from particular location(s).

At the time of writing it has come to light that a number of customers have been connected to Embark using telemetry type applications – this has caused Embark On-Net traffic management problems.

For higher volume applications Off-Net (i.e. PSTN) should be used.

The Service consists of two elements -

1.2 Featurenet Embark Centrex

Centrex Sites– Smaller sites will use lines based on BT 's existing Featureline product (See SIN 297^[1]). This replicates a customer's PBX functionality and is provided using standard PSTN access technologies.

1.3 Featurenet Embark Digital

Digital Sites – Large PBX sites which replicates the functionality of a private network by connecting the PBXs into the Core Network using 2 Mbit/s DPNSS links.

For OnNet calls only, the PBX Business Group (PBG) built within the System X data can operate in a number of ways depending on the type of call; consequently the way the PBG conforms to BTNR 188^[2] will vary. There is full OnNet call interworking (subject to BTNR 188 compliance) of DPNSS supplementary services between the Centrex sites and the Digital sites. The basic compliance with BTNR 188, plus compliance according to the 3 modes of operation, where appropriate, is given in the appendix to this SIN.

The way that the PBG operates for OffNet calls is described in BTNR 189^[3].

2. Service Availability

The Centrex service is available to customers served by System X and AXE 10 Digital Local Exchanges; the Digital service is only available to customers served by System X Digital Local Exchanges. At the time of writing it is not available to customers served by UXD5 exchanges.

3. Service Outline

Customers will connect to the service either via Centrex access lines or Featureline Corporate Access lines, which are based on the existing Featureline product, Low Band Digital Access, details for both are contained in SIN 297, or via 2 Mbit/s DPNSS 1 digital access. The service consists of the following elements.

Featurenet Embark Centrex Site: A single customer site comprising of a number of analogue Centrex extensions directly connected the customer's local BT exchange and provided with OnNet dialling capability to other sites within the customer's defined network.

Virtual Private Network (VPN): A VPN refers to the virtual equivalent of a private circuit network and includes functionality normally provided by a hub PBX. The VPN is virtually connected to Centrex sites and physically connected to PBX sites via VPN DPNSS1 trunks. A VPN connected PBX may itself be a hub to other PBXs thereby providing indirect VPN access to otherwise unconnected sites. Digit insertion facilities can be provided as an administrative option on incoming OnNet calls presented at the DPNSS access to the service. This enables the number of address digits to be indicated by the addition of prefix digits in the format "111X" where X identifies the number of address digits (Site Location Code + Extension Number).

Sites are connected in Private Number Plans. There is full interworking (subject to BTNR 188 compliance) of DPNSS supplementary services between the Centrex sites and the PBX e.g. Ring back when free, Ring back when next used, CLI display etc.

OnNet Call: Call made to or received from a site on the Virtual Network to another site within the customer's group using the Private Number Plan.

OffNet Call: Call made to or received from a location outside of the customers private network using the Public Directory Number.

Digital Site: A customer site comprising of a site located PBX connected by DPNSS1 2 Mbit/s link to a PBX Business Group on a local System X Exchange. This group would be configured as part of a Private Number Plan with OnNet dialling capability to other sites within their defined network.

Customers will be able to make OnNet calls to other sites within their customer group that are also connected to the service. Access to the PSTN from 2 Mbit/s sites via the service will be available from a customer defined 1 or 2 digit code. PSTN access from Centrex sites will be a customer defined 1 or 2 digit code.

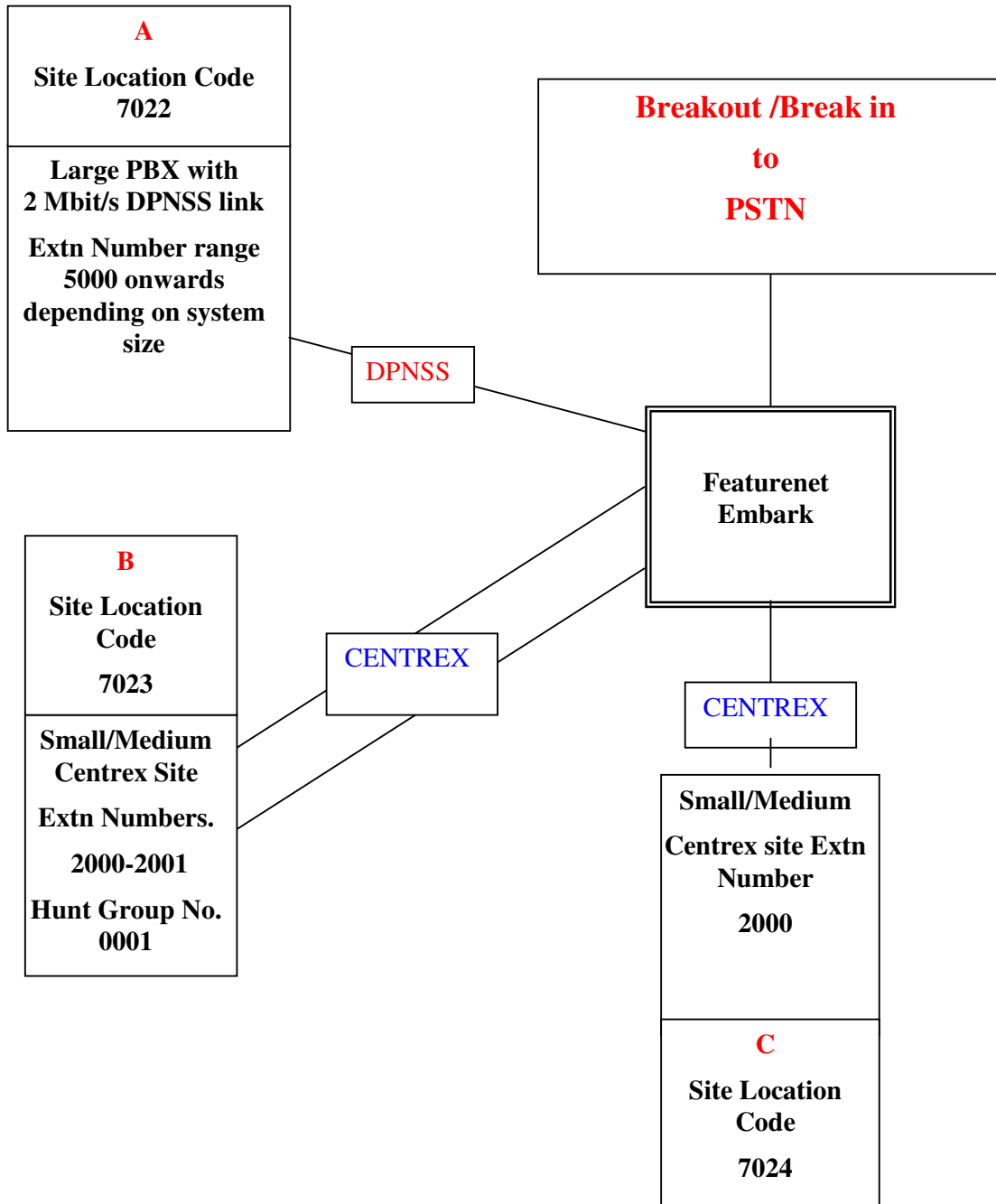
Private network numbers on Centrex sites are limited to 3-5 digit Site Location Code; Digital Site Location Codes are limited to 3 to 6 digits. Extension number ranges for both can be 2-6 digits in length.

4. Typical Customer Digital/Centrex Configuration

An OnNet call from site A to site B would dial the number 7023 2000 or 7023 2001 or if the lines are in a Hunt Group 0001.

An OnNet call from site C to Site A would dial 7022 5000 or 7022 5001.

An on site call on site B would dial 2000 or 2001.



5. Tariffs

Tariffs for the Featurenet Embark service are published in the BT Price List.

6. Further information

For information on the Featurenet Embark service please see the Useful Contacts page at <http://www.sinet.bt.com/usenum.htm>.

Alternatively please contact either:

- Your company's BT Account Manager, or
- If you have questions relating to this document then please contact: help@sinet.bt.com

7. Abbreviations

BTNR	British Telecom Network Requirement
DPNSS	Digital Private Network Signalling System
PBG	PBX Business Group
PBX	Private Branch Exchange
PSTN	Public Switched Telephone Network
SIN	Suppliers' Information Note (BT Publication)
VPN	Virtual Private Network
TIG	Technical Interface Guide

8. References

[1]	SIN 297	Featureline Service Description
[2]	BTNR 188	Digital Private Network Signalling System No 1
[3]	BTNR 189	Interworking Between DPNSS 1 and Other Signalling Systems

SINs are available from www.sinet.bt.com

For further information or copies of referenced sources, please see document sources page at <http://www.sinet.bt.com/usenum.htm#docsources>

9. History

Issue 1	January 1999	First Issued.
Issue 2	July 1999	Digit insertion facility added to section 4. Editorial changes.
Issue 3	May 2000	Business Highway added, compliance statement for DPNSS against BTNR 188/189 expanded and general review changes.
Issue 3.1	June 2001	Editorial Changes.

Issue 3.2	July 2002	Editorial Changes.
Issue 3.3	October 2003	Editorial Changes. Clause on terminal approval requirements deleted.
Issue 3.4	November 2004	Featureline Corporate Access lines added to Service Outline clause.
Issue 3.5	February 2010	Product Overview updated to reflect that Embark is suitable for normal Voice Calls only.

Appendix. Featurenet Embark compliance with BTNR 188 / 189

Section	Basic Compliance BTNR 188	Transit (OnNet Call) BTNR 188	Terminating (Outgoing OffNet call) BTNR 189	Originating (Incoming OffNet Call) BTNR 189
0 - 6 - Simple Call	Compliant	Compliant	Compliant	Compliant
7 - Data Call	Compliant	Compliant	Compliant	Compliant
8 - Swap	Compliant	Compliant	Compliant	Compliant
9 - Call Back When Free Request Free Notification Call Set Up Cancel Request	Compliant	Compliant Compliant Compliant Compliant	Compliant Compliant Compliant Compliant	Compliant Compliant Compliant Compliant
10 - Executive Intrusion Respond Correctly to IPL Request With Prior Validation Without Prior Validation Send IPL Request Apply Default IPL on SNU	Compliant	Compliant Compliant Compliant Compliant Not Applicable	Compliant Non Compliant Compliant Compliant Compliant	Not Applicable Non Compliant Compliant Not Applicable Not Applicable
11 - Diversion Registration & Validation Immediate On Busy On No Reply Follow Me Cancel Bypass of Call Diversion	Compliant	Compliant Compliant Compliant Compliant Compliant Compliant Compliant	Compliant Compliant Compliant Compliant Non Compliant Non Compliant Compliant	Compliant Compliant Compliant Compliant Non Compliant Non Compliant Compliant
12 - Hold Hold Request Reconnection Indication Holding Party Cleared Indication	Compliant	Compliant Compliant Compliant	Compliant Compliant Compliant	Compliant Compliant Compliant
13 - Three Party Enquiry Using Separate Path Shuttle Transfer Add-on Split After Add-on Clear Down After Add-on	Compliant	Compliant Not Applicable Compliant Compliant Compliant Compliant	Compliant Not Applicable Compliant Compliant Compliant Compliant	Compliant Compliant Compliant Compliant Compliant Compliant

Appendix. Featurenet Embark compliance with BTNR 188 /189 (continued)

Section	Basic Compliance BTNR 188	Transit (OnNet Call) BTNR 188	Terminating (Outgoing OffNet call) BTNR 189	Originating (Incoming OffNet Call) BTNR 189
14 - Call Offer Call Offer Request Accept By Clear Accept By Hold Reject Convert To Executive Intrusion	Compliant	Compliant Compliant Compliant Compliant Compliant	Compliant Compliant Compliant Compliant Not Applicable	Compliant Compliant Compliant Compliant Not Applicable
15 - Non Specific Information	Transit Only	Compliant	Non Compliant	Non Compliant
16 - Service Independent Strings DASS2 Service Indicator Code Password Trunk Identity VPN Initiated Clear VPN Nodal Identity All Others	Compliant	Compliant Compliant Compliant Compliant Compliant Compliant	Compliant Compliant Compliant Compliant Compliant Non Compliant	Compliant Compliant Compliant Compliant Compliant Non Compliant
17 - Call Waiting Call Waiting Indication Accept By Clearing Accept By Hold Reject Convert To Executive Intrusion	Compliant	Compliant Compliant Compliant Compliant Compliant	Compliant Compliant Compliant Compliant Non Compliant	Compliant Compliant Compliant Compliant Non Compliant
18 - Bearer Service Selection Able to select path based on Bearer Service requirements (BSS-M) Mandatory Able to select path based on Bearer Service requirements (BSS-P) Preferred Able to select path based on Bearer Service requirements (BSS-N) Notified	Compliant	Compliant Compliant Compliant	Not Applicable Not Applicable Not Applicable	Compliant Compliant Compliant
19 - Route Optimisation Route Optimisation Request Call Set-up via separate channel	Transit Only	Compliant Compliant	Non Compliant Non Compliant	Non Compliant Non Compliant
20 - Extension Status	Transit Only	Compliant	Non Compliant	Non Compliant

Appendix. Featurenet Embark compliance with BTNR 188 /189 (continued)

Section	Basic Compliance BTNR 188	Transit (OnNet Call) BTNR 188	Terminating (Outgoing OffNet call) BTNR 189	Originating (Incoming OffNet Call) BTNR 189
21 - Controlled Diversion Immediate Busy On No Reply	Transit Only	Compliant Compliant Compliant	Non Compliant Non Compliant Non Compliant	Non Compliant Non Compliant Non Compliant
22 - Redirection Via Separate Channel	Compliant	Compliant	Compliant	Compliant
23 - Series Call Request Cancel Set Up	Transit Only	Compliant Compliant Compliant	Non Compliant Non Compliant Non Compliant	Non Compliant Non Compliant Non Compliant
24 - Three Party Take-over Request Validation	Transit Only	Compliant Compliant	Non Compliant Non Compliant	Non Compliant Non Compliant
25 - Night Service Notification Different Channel Re-divert	Compliant	Compliant Compliant Compliant	Non Compliant Compliant Non Compliant	Non Compliant Compliant Non Compliant
26 - Centralised Operator 3 Party Service (Sec 13) Call Offer (Sec 14) Redirection (Sec 22) Executive Intrusion (Sec 10) Route Optimisation (Sec 19) Night Service (Sec 25) Extension Status (Sec 20) Controlled Diversion (Sec 21) Series Call (Sec 23) 3 Party Takeover (Sec 24) Hold (Sec 12)	Compliant	Compliant Compliant Compliant Compliant Compliant Compliant Compliant Compliant Compliant Compliant	Compliant Compliant Compliant Compliant Non Compliant Compliant Non Compliant Non Compliant Non Compliant Compliant	Compliant Compliant Compliant Compliant Non Compliant Compliant Non Compliant Non Compliant Non Compliant Compliant

Appendix. Featurenet Embark compliance with BTNR 188 /189 (continued)

Section	Basic Compliance BTNR 188	Transit (OnNet Call) BTNR 188	Terminating (Outgoing OffNet call) BTNR 189	Originating (Incoming OffNet Call) BTNR 189
27 - Traffic Channel Maintenance Back Busy Traffic Channel Loop Back on Same Channel Loop Back on Different Channel Cancellation of Loop Back Reject call on Back-busied Channel Status Request	Non Compliant	Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable	Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant	Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant
28 - Remote Alarm Reporting Request Report	Transit Only	Compliant Compliant	Non Compliant Non Compliant	Non Compliant Non Compliant
29 - Add -On Conference Enquiry Request Cleardown Split Obtain Conference Details	Transit Only	Compliant Compliant Compliant Compliant Compliant	Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant	Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant
30 - Time Synchronisation Time Notification Man Machine Interface Initiated Time Notification Console Initiated Time Notification at Configurable Time of Day Time Request	Transit Only	Compliant Compliant Compliant Compliant	Non Compliant Non Compliant Non Compliant Non Compliant	Non Compliant Non Compliant Non Compliant Non Compliant
31 - Call Back When Next Used	Compliant	Compliant	Compliant	Compliant
32 - Do Not Disturb Encountered Over-ride	Compliant	Compliant Compliant	Compliant Compliant	Compliant Compliant

Appendix. Featurenet Embark compliance with BTNR 188 /189 (continued)

Section	Basic Compliance BTNR 188	Transit (OnNet Call) BTNR 188	Terminating (Outgoing OffNet call) BTNR 189	Originating (Incoming OffNet Call) BTNR 189
33 - Remote Diversion Set Extension Diversion – Immediate Set Extension Diversion – On Busy Set Extension Diversion – On No Reply Cancel Extension Diversion – Immediate Cancel All Extensions Diversion – Immediate Cancel Extension Diversion – On Busy Cancel All Extensions Diversion – On Busy Cancel Extension Diversion – On No Reply Cancel All Extensions Diversion - On No Reply Cancel All Diversions on an Extension Cancel All Diversion on All Extensions	Compliant	Compliant Compliant Compliant Compliant Compliant Compliant Compliant Compliant Compliant Compliant Compliant	Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant	Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant
34 - Remote Do Not Disturb	Transit Only	Compliant	Non Compliant	Non Compliant
35 - Priority Breakdown Required by Term Node Required by Originating Node At Busy extension On Encountering Congestion	Non Compliant	Non Compliant Non Compliant Non Compliant Non Compliant	Non Compliant Non Compliant Non Compliant Non Compliant	Non Compliant Non Compliant Non Compliant Non Compliant
36 - Call Back Messaging Accept Call Back Message Request and Cancel Send Call Back Message Request and Cancel	Transit Only	Compliant Compliant	Non Compliant Non Compliant	Non Compliant Non Compliant
37 - Loop Avoidance Able to Insert Loop Avoidance String Able to Decrement Transit Count Able to Reject Call With Transit Count of Zero	Non Compliant	Non Compliant Non Compliant Non Compliant	Not Applicable Not Applicable Not Applicable	Non Compliant Not Applicable Not Applicable
38 - Forced Release	Transit Only	Compliant	Non Compliant	Non Compliant
39 - Text Message	Transit Only	Compliant	Non Compliant	Non Compliant

Appendix. Featurenet Embark compliance with BTNR 188 /189 (continued)

Section	Basic Compliance BTNR 188	Transit (OnNet Call) BTNR 188	Terminating (Outgoing OffNet call) BTNR 189	Originating (Incoming OffNet Call) BTNR 189
40 - Charge Reporting Respond to Request For Account Code Request Call Cost Respond to Request for Call Cost Send Unsolicited Call Cost Details Send Charge rate (Time/unit Based) Request Account Code Details Charging Active Indication	Transit Only	Compliant Compliant Compliant Compliant Compliant Compliant Compliant	Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant	Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant
41 - Network Address Extension	Transit Only	Compliant	Non Compliant	Non Compliant
42 - Call Park Accept / Request Ring Out Request Redirection on No Answer	Transit Only	Compliant Compliant Compliant	Non Compliant Non Compliant Non Compliant	Non Compliant Non Compliant Non Compliant
43 - Call Distribution Distributed Call Forward Investigation of Call Loading Call Queuing Accept Distributed Calls Extension / Operator Calls Can Be Distributed	Transit Only	Compliant Compliant Compliant Compliant Compliant	Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant	Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant
44 - Route Capacity Control VPN able to invoke over-Ride without an indication from PBX that it is required VPN able to indicate to PBX that over-ride is available VPN able to act upon indication from PBX that over-ride is required	Compliant	Compliant Compliant Non Compliant	Compliant Compliant Non Compliant	Compliant Compliant Non Compliant
45 - Wait On Busy Accept request Accept call when the existing call clears	Compliant	Compliant Compliant	Compliant Compliant	Compliant Compliant

Appendix. Featurenet Embark compliance with BTNR 188 /189 (continued)

Section	Basic Compliance BTNR 188	Transit (OnNet Call) BTNR 188	Terminating (Outgoing OffNet call) BTNR 189	Originating (Incoming OffNet Call) BTNR 189
46 – Call Pick-up Group Pick-up of ringing call Group Pick-up of waiting call Directed Pick-up of ringing call Directed Pick-up of waiting call Directed Pick-up of held call Directed Pick-up of parked call Night Bell / any extension Pick-up	Compliant	Compliant Compliant Compliant Compliant Compliant Compliant Compliant	Compliant Non Compliant Compliant Non Compliant Non Compliant Non Compliant Compliant	Compliant Non Compliant Compliant Non Compliant Non Compliant Non Compliant Compliant
47 - Travelling Class of Service Originate TCS request Respond to TCS request	Transit Only	Compliant Compliant	Non Compliant Non Compliant	Non Compliant Non Compliant
48 - Number Presentation Restriction Able to send a Number Presentation Restriction (NPR-A) string Able to act upon a Number Presentation Restriction (NPR-A) string Able to send a Number Presentation Restriction (NPR-B) string Able to act upon a Number Presentation Restriction (NPR-B) string Able to send a Number Presentation Restriction (NPR-O) string Able to act upon a Number Presentation Restriction (NPR-O) string Able to support restriction domains	Transit Only	Compliant Compliant Compliant Compliant Compliant Compliant Compliant	Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant	Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant Non Compliant

-END-

WE WOULD BE GRATEFUL IF YOU WOULD SPEND A FEW MINUTES TO COMPLETE AN ONLINE CUSTOMER SATISFACTION FORM AT [HTTP://WWW.SINET.BT.COM/HAPPY.HTM](http://www.sinet.bt.com/happy.htm).