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Suppliers' Information Note

For The BT Network

BT MediaNet "Plus" Network Service
Interface Characteristics & Withdrawal Notification

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1. Introduction

This Suppliers' Information Note (SIN) provides information relating to BT's MediaNet "Plus" Network Service. The purpose of publication is to provide technical information for use by Customer Premises Equipment (CPE) manufacturers, suppliers and developers.

This SIN should be read in conjunction with:-

SIN 314[1] BT Digital Video Broadcasting (DVB) Service using the Asynchronous Serial Interface (ASI).

SIN 265[2] BT MediaNet 34 and BT MediaNet 155 Range.

SIN 223[3] BT Megastream 1, BT Megastream 2 and BT Megastream 8.

SIN 360[4] Ethernet Customer Interfaces.

2. Service Description

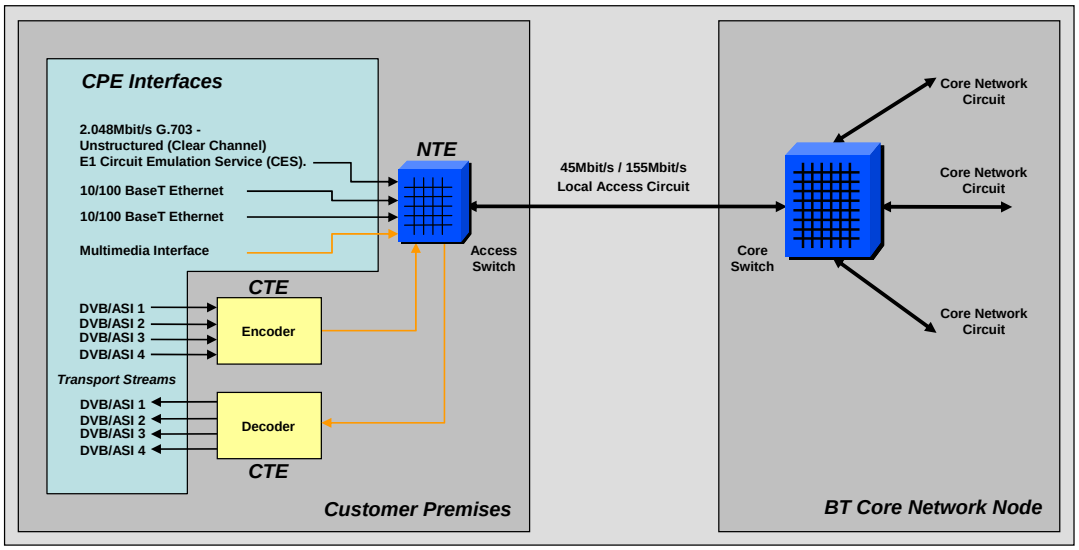

Figure 1

The BT MediaNet "Plus" Network Service is a permanent closed-user-group distribution network solution. The service provides a mechanism for aggregating a number of different signal types over a common transmission platform.

The service facilitates the propagation of the following signal types:-

1. DVB/ASI transport streams containing compressed video, audio and associated data
2. Voice
3. Ethernet
4. Multimedia

Figure 1 depicts the Local Access equipment arrangement installed at the customer premises. The Customer Premise Equipment (CPE) interfaces are those to which this SIN relates

Each of the signal types will be afforded a specific interface as a feature of the product. The aggregated signals will share the contracted local access bandwidth which provides connectivity to the Broadcast and Satellite Communications (B&SC) core network capacity via a core network node.

The BT MediaNet "Plus" Network Service will be offered at bit rates of 45Mbit/s and 155Mbit/s.

3. Service Availability.

The BT MediaNet "Plus" Network Service will only be available to customers with ***at least*** twenty (20) customer sites within the UK. Service launch is scheduled for 1st April 2004.

The availability of the service will be directly dependent on the existence of capacity and the radial distance between any customer premises and the respective core network node.

NB - BT's MediaNet products are now in the process of being withdrawn.

4. Service Resilience

The network service can be provided fully resilient. This entails the provision of a second installation of Network Terminating Equipment and provision of a separate local access circuit. It should be noted that both local access circuits will be connected to a common core switch.

5. CPE Interfaces

5.1 DVB/ASI Transport Streams (SIN 314 refers)

Both the ASI Encoder and the ASI Decoder are uni-directional devices, each having the capability of accommodating four (4) physical connections.

5.1.1 Electrical Input Interface (Encoder)

The network service accepts Digital Video Broadcast (DVB) compliant transport streams in ASI format. BT has a preference for non-interleaved, byte stuffed ASI streams optimised for maximum linearity conforming to A010 REV1.0[5].

ASI transport streams with data interleaving can be accepted, however, under such conditions, BT cannot provide full monitoring of the ASI stream.

Signals can be accepted in 188 or 204 byte packet form. Where 204 byte packets are used the equipment will accept signals either with or without Reed-Solomon forward error correction. In the absence of customer provided Reed-Solomon, this will be added by BT prior to the propagation of any signals through the network.

The termination /source impedance is 75ohms unbalanced.

5.1.2 Electrical Output Interface (Decoder)

BT will deliver to customers DVB compliant transport streams.

The streams will be in ASI format, byte stuffed and optimised for maximum linearity. If the input was interleaved then the output will be interleaved and vice versa.

The output from the BT network will be provided as follows:-

The signal interface will be DVB ASI as A010 REV 1.0[5].

The termination /source impedance is 75ohms unbalanced.

5.1.3 Physical Input / Output Interface

The physical input and output presentation of each transport stream is by BNC socket. The sockets conform to the generic requirements of IEC 169-8[6] with mating dimensions specified in annex B of BS ISO/IEC 10173.1991[7].

5.2 Voice (SIN 223 refers)

The network service will provide one Circuit Emulation Service (CES) interface which provides comparable functionality to that provided in time division multiplexing devices. The unstructured CES interface will be used to emulate a pont-to-point E1 2.048Mbit/s leased line and be presented as an electrical G.703[8] interface. This interface will be located on a card in the access switch.

5.2.1 Physical Input / Output Interface

The physical presentation of the CES interface is via a pair of BNC unbalanced 75ohm sockets, one for each direction of transmission. The sockets conform to the generic requirements of IEC 169-8[6] with mating dimensions specified in annex B of BS ISO/IEC 10173.1991[7].

N.B. The customer will be responsible for providing the required coaxial cables between the NTE and their CPE.

5.3 Ethernet (SIN 360 refers)

The network service will provide two (2) 10/100 BaseT Ethernet connections conforming to Ethernet/Fast Ethernet: IEEE 802.3[9] at 10/100Mbit/s respectively. These will be located on an interface card in the access switch.

5.3.1 Physical Input / Output Interface

The network service Ethernet interface is an RJ-45 type socket.

N.B. The customer will be responsible for providing the required category 5 cables between the NTE and their CPE.

5.4 Multimedia (SIN 265 refers)

The network service will provide a single multimedia interface. This interface will be in the form of a B-ISDN Private User to Network Interface (UNI) and will be located on an interface card in the access switch.

5.4.1 Physical Input / Output Interface

The network service multimedia interface is an SC type JIS C5973 optical connector and has a multimode fibre presentation. NRZ line coding will be used as specified in ITU-T Recommendation I.432[10].

The interface will operate on multimode optical fibre conforming to ITU-T Recommendation G.651[11]. The interface will also conform to ITU-T Recommendation I.432[10].

The laser wavelength is 1310nm and the maximum launch power of the laser shall not exceed -3dBm.

The optical fibre designated class of laser, as presented at the NTE, is conformant to BS EN 60825-1[12] and BS EN 60825-2[13].

6. Further Information

For “sales and marketing” information about this service please telephone the Marketing Team on 00800 28 27 28 27. If you are calling from outside the UK, please dial ++44 2890 344 536. Alternatively, please contact your Company’s BT account manager or email: bsmarketing@bt.com.

If you have enquiries relating to this document then please email: help@sinet.bt.com

7. References

[1]	SIN 314	BT Digital Video Broadcasting Service using the Asynchronous Serial Interface.	
[2]	SIN 265	BT MediaNet 34 and BT MediaNet 155 Range.	
[3]	SIN 223	BT Megastream 1, BT Megastream 2 and BT Megastream 8.	
[4]	SIN 360	Ethernet Interfaces.	
[5]	DVB Blue Book A010 Rev 1.0 Or Bs EN 50083-9, Edition 2 (May 1998)	Interfaces for CATV/SMATV Headends and Similar Professional Equipment. Interfaces for CATV/SMATV Headends and Similar Professional Equipment for DVB/MPEG-2 Transport Streams.	May 1997
[6]	IEC 169-8	Radio-frequency connectors – Part 8: R.F. coaxial connectors with inner diameter of outer conductor 6.5mm (0.256 in) with bayonet lock – Characteristic impedance 75 ohms (Type BNC).	1978
[7]	BS IOC/IEC 10173	Integrated Services Digital Network (ISDN) Primary Access Connector at Reference Point S and T 10173.	1991
[8]	ITU-T Recommendation G.703	Physical/Electrical Characteristics of Hierarchical Digital Interfaces. Section 6 for BT Megastream 2.	
[9]	IEEE 802.3	Standards for Local Area Networks: CSMA/CD Access Method.	
[10]	ITU-T Recommendation I.432	Integrated Services Digital Network (ISDN) B-ISDN User Network Interface (UNI) Physical layer Specification.	
[11]	ITU-T Recommendation G.651	Characteristics of a 50/125_m multimode grade index optical fibre cable (03/93).	
[12]	BS EN 60825-1	Safety of Laser Products Part 1 Equipment Classification.	1994
[13]	BS-EN 60825-2	Safety of Laser Products Part 2 Safety of Optical Fibre Communications Systems.	1995

8. Abbreviations

ASI	Asynchronous Serial Interface.
B-ISDN	Broadband Integrated Services Digital Network.
BNC	Bayonet Neill Concelman: a bayonet locking connector for coaxial cables.
B&SC	Broadcast & Satellite Communications.
CES	Circuit Emulation Services.
CPE	Customer Premises Equipment.
CTE	Customer Terminating Equipment.
DVB	Digital Video Broadcast.
IEEE	Institute of Electronic and Electrical Engineers
NRZ	Non Return to Zero.
NTE	Network Terminating Equipment.
Reed-Solomon Coding	A type of error correction coding adopted by the DVB Project.
SIN	Suppliers' Information Note (BT Publication).
UNI	User to Network Interface.

9. History

Issue 1.0	February 2004	First Issued.
Issue 1.1	May 2009	Withdrawal notice added.

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