SIN 430

Suppliers' Information Note

For The BT Network

BT LAN Extension Service 2500
Service Description

This SIN is available in Portable Document Format (pdf) from: http://www.btplc.com/sinet/

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

CONTENTS

1. Introduction

This Suppliers' Information Note (SIN) describes the BT Local Area Network (LAN) Extension Service 2500 (LES 2500). The SIN also provides information about the service for use by Customer Premises Equipment (CPE) manufacturers and developers.

NB - The BT Global service LES 2500 described in this SIN is now known as EES 2500 and is delivered using Openreach Wholesale End to End Extension Service 2500 (WEES 2500), which is described in SIN 459. However, this SIN 430 remains available for reference.

2. Service Outline

The LES 2500 service operates at a speed of 2.488Gbit/s (STM-16 rate as defined in ITU-T recommendation G707 [1]).

The LES 2500 service can be used to provide transparent transport for equipment with STM-16 interfaces such as SDH equipment, ATM switches or IP routers with POS interfaces.

The service is available as a protected LES 2500A service and an unprotected LES 2500B service:

- LES 2500A

The LES 2500A service is protected using dual fibre routes for additional route resilience. An optical line protection switch provides protection against loss of service due to network fibre breaks. The line protection is completely automatic.

- LES 2500B

The LES 2500B service is the unprotected version of the LES 2500 service. However if protection against both network fibre breaks and card failures is sought, 2 LES 2500B services may be used. The use of 2 LES 2500B circuits to provide additional resilience will result in 2 customer interfaces being presented at each site.

A typical LES 2500 service is shown in Figure 1.
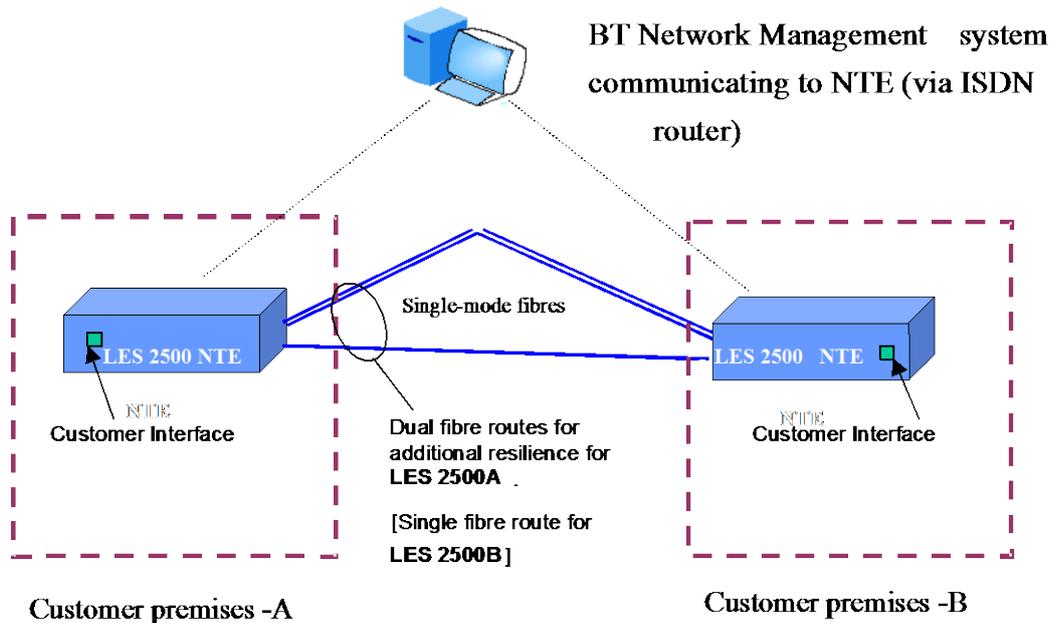
Figure 1 Typical LES 2500 configuration

3. Technical Specification

3.1. Interface

The LES 2500 NTE support the following customer interface:

2.488 Gbit/s STM-16 SDH
S16.1 optical presentation conforming to ITU-T Recommendation G.957 [2] and G.707 [1].

The interface is the Network Termination Point (NTP), i.e. the point of connection between the BT Network Terminating Equipment (NTE) and the CPE interface. The Customer Interface consists of a pair of SC/PC type fibre interface ports (transmit and receive). The customer provides the fibre patch connectors between the NTE and CPE; the maximum fibre length is shown in Table 1.

The STM-16 S16.1 interface is as specified in ITU-T G.957 [2] recommendations. Attention is drawn to the Intellectual Property Rights (IPRs) set out in the preface of this agreed International standard. It is the responsibility of the CPE supplier to ensure that they have the necessary rights from the owner of the IPR. The IPR owner has stated that they are willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world.

Protocol	G.707 STM-16 according to ITU-T G.707
Line Rate	2.48832 Gbit/s
Power Requirement	See Section 4.2
Customer Fibre Connector	SC/PC type
Customer interface Fibre *(Customer provided)*	Single-mode 1310nm, 9/125 micron
Customer interface Fibre Maximum Delivery Distance	10km from NTE's customer port.
Operating Temperature	5° to 40° C
Laser Safety	Class 1 under all conditions as per IEC 825-1 [3]

Table 1: STM-16 customer interface NTE technical specification

3.2. Network Fibre Break

In the event of a network fibre break, a LOS (Loss of Signal) is generated at the customer interface. The generation of the LOS condition is achieved by shutting down the customer port on the LES 2500 NTE.

3.3. Transparency

The LES 2500 service is a transparent physical layer transport service.

4. Physical Arrangements

4.1. Physical Location of Connectors

The User–Network Interface (UNI) is located at the connector on the BT Network Terminating Equipment (NTE) with a connector on the Customer side as described in the relevant part of Section 3 of this document.

4.2. NTE Power Supply Requirements

The NTE is locally powered and will require a local mains 50 Hz AC supply. It will be mounted in accordance with standard BT practices in agreement with the customer.

Where the NTE is powered by a customer provided –50 Volts, the NTE will be supplied with a connection lead that will be presented as wires only. As power supplies can vary slightly in output voltage and characteristics, the NTE will function with customer provided power supplies which are in accordance with the British Telecom Network Requirement, (BTNR) 2511 [4].

5. Service Availability and Tariffs

For further information on service availability and tariffs please contact:

     David Midson

     BT Global Services

     Telephone:-   01205 356390

Alternatively please contact either

- Your companies BT Account Manager.

- For Personal customers, BT Sales 0800 800150 for product and service information, sales and rental enquiries.

- For Business customers, BT Sales 0800 800152 for product and service information, sales and rental enquiries.

Information may also be obtained from the Data Connect Helpdesk, for which contact details are given at. http://www.btplc.com/sinet/

6. References

[1]	ITU-T Recommendation G.707 Network node interface for the synchronous digital hierarchy (SDH) SIN 333 SDH Customer Interfaces at the STM-N level (where N=1,4,16)
[2]	ITU-T Recommendation G.957 Optical Interfaces for Equipments and Systems Relating to the Synchronous Digital Hierarchy
[3]	IEC 825-1, International Electrotechnical Commission (IEC) Standard – Safety of Laser products Part 1
[4]	BTNR 2511 - Interface of telecomms equipment with a nominal 48v negative dc power supply

For further information or copies of referenced sources, please see document sources at
http://www.btplc.com/sinet/

7. Abbreviations

BT	British Telecommunications plc
CPE	Customers' Premises Equipment
IEC	International Electrotechnical Commission
IPR	Intellectual Property Right
LAN	Local Area Network
LOS	Loss of Signal
NTE	Network Termination Equipment
NTP	Network Terminating Point
POS	Packet over SONET (SDH)
SIN	Suppliers' Information Note [BT]
UNI	User-to-Network Interface

8. History

Issue	Date	Revisions
1.0	19 July 2004	First Issue
1.1	20 May 2009	Noted that the service is now delivered using Openreach Wholesale End to End Extension Service 2500 (WEES 2500), as described in SIN 459.
1.2	August 2014	Change SINet site references from http://www.sinet.bt.com to http://www.btplc.com/sinet/

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