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G.8011.1/Y.1307.1

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SERIES G: TRANSMISSION SYSTEMS AND MEDIA,
DIGITAL SYSTEMS AND NETWORKS

Digital networks – General aspects

SERIES Y: GLOBAL INFORMATION
INFRASTRUCTURE, INTERNET PROTOCOL ASPECTS
AND NEXT-GENERATION NETWORKS

Internet protocol aspects – Transport

Ethernet private line service

ITU-T Recommendation G.8011.1/Y.1307.1

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ITU-T Recommendation G.8011.1/Y.1307.1

Ethernet private line service

Summary

This Recommendation defines the service attributes and parameters for carrying Ethernet characteristic information over dedicated bandwidth, point-to-point connections, provided by SDH, PDH, ATM, MPLS, or OTH server layer networks. This type of service is referred to as Ethernet Private Line (EPL) service. This Recommendation is based on the Ethernet service framework as defined in ITU-T Rec. G.8011/Y.1307.

Source

ITU-T Recommendation G.8011.1/Y.1307.1 was approved on 22 August 2004 by ITU-T Study Group 15 (2001-2004) under the ITU-T Recommendation A.8 procedure.

FOREWORD

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ITU-T Recommendation G.8011.1/Y.1307.1

Ethernet private line service

1 Scope

This Recommendation defines the service attributes and parameters for carrying Ethernet characteristic information over dedicated bandwidth, point-to-point connections, provided by SDH, ATM, MPLS, PDH, ETY or OTH server layer networks. This type of service is referred to as Ethernet Private Line (EPL) service. This Recommendation is based on the Ethernet service framework as defined in ITU-T Rec. G.8011/Y.1307.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

- ITU-T Recommendation G.707/Y.1322 (2003), *Network node interface for the Synchronous Digital Hierarchy (SDH)*.
- ITU-T Recommendation G.709/Y.1331 (2003), *Interfaces for the Optical Transport Network (OTN)*.
- ITU-T Recommendation G.809 (2003), *Functional architecture of connectionless layer networks*.
- ITU-T Recommendation G.7043/Y.1343 (2004), *Virtual concatenation of plesiochronous digital hierarchy (PDH) signals*.
- ITU-T Recommendation G.8010/Y.1306 (2004), *Architecture of Ethernet layer networks*.
- ITU-T Recommendation G.8011/Y.1307 (2004), *Ethernet over Transport – Ethernet services framework*.
- ITU-T Recommendation G.8012/Y.1308 (2004), *Ethernet UNI and Ethernet NNI*.
- ITU-T Recommendation G.8021/Y.1341 (2004), *Characteristics of Ethernet transport network equipment functional blocks*.
- IEEE 802.3-2002, *IEEE Standard for Information technology – Telecommunications and information exchange between systems – Local and metropolitan area networks – Specific requirements – Part 3: Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications*.
- IEEE 802.3ae-2002, *IEEE Standard for Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications-Media Access Control (MAC) Parameters, Physical Layer and Management Parameters for 10 Gb/s Operation*.
- IEEE 802.3ah-2004, *Information technology – Telecommunications and information exchange between systems – Local and metropolitan area networks – Specific requirements – Part 3: Carrier sense multiple access with collision detection (CSMA/CD)*

access method and physical layer specifications – Media Access Control Parameters. Physical Layers and Management Parameters for Subscriber Access Networks.

- IEEE 802.1X-2001, *IEEE Standard for Local and metropolitan area networks – Port-based Network Access Control.*

3 Terms and definitions

3.1 This Recommendation uses the following terms defined in ITU-T Rec. G.8010/Y.1306:

- a) ETH link.

3.2 This Recommendation uses the following terms defined in ITU-T Rec. G.8011/Y.1307:

- a) Access link;
- b) Block;
- c) Committed Information Rate (CIR);
- d) Customer;
- e) Dedicated;
- f) Ethernet service;
- g) Network access point;
- h) Pass;
- i) Process (with respect to L2 control protocol frames);
- j) Service instance;
- k) Spatial.

3.3 This Recommendation uses the following terms defined in ITU-T Rec. G.809:

- a) Flow domain;
- b) Flow domain flow;
- c) Flow Point;
- d) Flow termination;
- e) Link flow;
- f) Network flow;
- g) Termination flow point;
- h) Traffic conditioning function.

3.4 This Recommendation uses the following terms defined in ITU-T Rec. G.8012/Y.1308.

- a) Ety-NNI;
- b) Ety-UNI.

3.5 This Recommendation defines the following terms:

3.5.1 EPL Type 1: An EPL Type 1 service carries the ETH_CI traffic units between two Ethernet UNIs.

3.5.2 EPL Type 2: An EPL Type 2 service carries the information from the 8B/10B symbol stream between two Ethernet UNIs.

3.5.3 N/R = not relevant: clause/subclause, which is not relevant to this Recommendation.

4 Acronyms and abbreviations

This Recommendation uses the following abbreviations:

ATM	Asynchronous Transfer Mode
CBR	Constant Bit Rate
CBS	Committed Burst Size
CI	Characteristic Information
CIR	Committed Information Rate
CLPS	Connectionless Packet Switched
CO-CS	Connection-Oriented Circuit Switched
CO-PS	Connection-Oriented Packet Switched
DA	Destination Address
EC	Ethernet Connection
EIR	Excess Information Rate
EPL	Ethernet Private Line
ETH	Ethernet MAC layer network
ETH_CI	Ethernet MAC Characteristic Information
ETH_FP	Ethernet Flow Point
ETY	Ethernet PHY layer
Ety-NNI	Ethernet NNI
Ety-UNI	Ethernet UNI
ETY _n	Ethernet physical layer network or order <i>n</i>
EVC	Ethernet Virtual Circuit
FCS	Frame Check Sequence
FD	Flow Domain
GFP	Generic Framing Procedure
LACP	Link Aggregation Control Protocol
LCAS	Link Capacity Adjustment Scheme
MAC	Media Access Control
MEF	Metro Ethernet Forum
MPLS	Multi-Protocol Label Switching
NNI	Network-to-Network Interface
OAM	Operations, Administration, Maintenance
OTH	Optical Transport Hierarchy
OTN	Optical Transport Network
PA	(Ethernet) Preamble
PDH	Plesiochronous Digital Hierarchy
PHY	Physical device