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

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aspects

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Internet protocol aspects – Transport

Terms and definitions for MPLS transport profile

Recommendation ITU-T G.8101/Y.1355



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Recommendation ITU-T G.8101/Y.1355

Terms and definitions for MPLS transport profile

Summary

Recommendation ITU-T G.8101/Y.1355 is a compilation of terms and abbreviations used in Recommendations associated with multiprotocol label switching transport profile (MPLS-TP).

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Recommendation ITU-T G.8101/Y.1355

Terms and definitions for MPLS transport profile

1 Scope

This Recommendation contains a complete listing of the definitions and abbreviations used in the Recommendations associated with multiprotocol label switching transport profile (MPLS-TP) listed in Appendix I.

This Recommendation provides a representation of the MPLS-TP technology using the methodologies that have been used for other transport technologies, e.g., synchronous digital hierarchy (SDH), optical transport network (OTN) and Ethernet¹.

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 G.704] Recommendation ITU-T G.704 (1998), *Synchronous frame structures used at 1544, 6312, 2048, 8448 and 44 736 kbit/s hierarchical levels.*
- [ITU-T G.705] Recommendation ITU-T G.705 (2000), *Characteristics of plesiochronous digital hierarchy (PDH) equipment functional blocks.*
- [ITU-T G.780] Recommendation ITU-T G.780/Y.1351 (2010), *Terms and definitions for synchronous digital hierarchy (SDH) networks.*
- [ITU-T G.805] Recommendation ITU-T G.805 (2000), *Generic functional architecture of transport networks.*
- [ITU-T G.806] Recommendation ITU-T G.806 (2012), *Characteristics of transport equipment – Description methodology and generic functionality.*
- [ITU-T G.808] Recommendation ITU-T G.808 (2016), *Terms and definitions for network protection and restoration.*
- [ITU-T G.832] Recommendation ITU-T G.832 (1998), *Transport of SDH elements on PDH networks – Frame and multiplexing structures.*
- [ITU-T G.7710] Recommendation ITU-T G.7710/Y.1701 (2012), *Common equipment management function requirements.*
- [ITU-T G.7712] Recommendation ITU-T G.7712/Y.1703 (2010), *Architecture and specification of data communication network.*
- [ITU-T G.8001] Recommendation ITU-T G.8001/Y.1354 (2016), *Terms and definitions for Ethernet frames over transport.*

¹ This ITU-T Recommendation is intended to be aligned with the IETF MPLS RFCs normatively referenced by this Recommendation.

- [ITU-T G.8112] Recommendation ITU-T G.8112/Y.1371 (2015), *Interfaces for the MPLS transport profile layer network*.
- [ITU-T G.8131] Recommendation ITU-T G.8131/Y.1382 (2014), *Linear protection switching for MPLS transport profile*.
- [ITU-T M.3010] Recommendation ITU-T M.3010 (2000), *Principles for a telecommunications management network*.
- [ITU-T M.3013] Recommendation ITU-T M.3013 (2000), *Considerations for a telecommunications management network*.
- [ITU-T M.3100] Recommendation ITU-T M.3100 (2005), *Generic network information model*.
- [ITU-T X.700] Recommendation ITU-T X.700 (1992), *Management framework for Open Systems Interconnection (OSI) for CCITT applications*.
- [ITU-T X.701] Recommendation ITU-T X.701 (1997), *Information technology – Open Systems Interconnection – Systems management overview*.
- [ITU-T X.731] Recommendation ITU-T X.731 (1992) | ISO/IEC 10164-2:1993, *Information technology – Open Systems Interconnection – Systems management: State management function*.
- [IETF RFC 3031] IETF RFC 3031 (2001), *Multiprotocol Label Switching Architecture*.
- [IETF RFC 3032] IETF RFC 3032 (2001), *MPLS Label Stack Encoding*.
- [IETF RFC 3270] IETF RFC 3270 (2002), *Multi-Protocol Label Switching (MPLS) Support of Differentiated Services*.
- [IETF RFC 5462] IETF RFC 5462 (2009), *Multiprotocol Label Switching (MPLS) Label Stack Entry: "EXP" Field Renamed to "Traffic Class" Field*.
- [IETF RFC 5586] IETF RFC 5586 (2009), *MPLS Generic Associated Channel*.
- [IETF RFC 5921] IETF RFC 5921 (2010), *A Framework for MPLS in Transport Networks*.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

3.1.1 1+1 (protection) architecture: [ITU-T G.808]

NOTE – 1+1 protection architecture is referred to in [ITU-T G.8131].

3.1.2 1:n (protection) architecture: [ITU-T G.808]

NOTE – 1:n protection architecture is referred to in [ITU-T G.8131].

3.1.3 1-phase (APS protocol): [ITU-T G.808]

NOTE – 1-phase is referred to in [ITU-T G.8131].

3.1.4 2-phase (APS protocol): [ITU-T G.808]

NOTE – 2-phase is referred to in [ITU-T G.8131].

3.1.5 3-phase (APS protocol): [ITU-T G.808]

NOTE – 3-phase is referred to in [ITU-T G.8131].

3.1.6 active transport entity: [ITU-T G.808]

NOTE – active transport entity is referred to in [ITU-T G.8131].

3.1.7 access point: [ITU-T G.805]

NOTE – Access point is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.8 adapted information: [ITU-T G.805]

NOTE – Adapted information is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.9 administrative domain: [ITU-T G.805]

NOTE – Administrative domain is referred to in [b-ITU-T G.8110.1].

3.1.10 agent: [ITU-T X.701]

NOTE – Agent is referred to in [b-ITU-T G.8151].

3.1.11 administrative state: [ITU-T X.731]

NOTE – Administrative state is referred to in [b-ITU-T G.8110.1].

3.1.12 alarm reporting: [ITU-T M.3013]

NOTE – Alarm reporting is referred to in [b-ITU-T G.8151].

3.1.13 alarm reporting control (ARC): [ITU-T M.3013]

NOTE – Alarm reporting control (ARC) is referred to in [b-ITU-T G.8151].

3.1.14 APS protocol: [ITU-T G.808]

NOTE – APS protocol is referred to in [ITU-T G.8131].

3.1.15 architecture: [ITU-T G.808]

NOTE – architecture is referred to in [ITU-T G.8131].

3.1.16 associated channel header: [IETF RFC 5586]

NOTE – Associated channel header is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.17 atomic function (AF): [ITU-T G.806]

NOTE – Atomic function (AF) is referred to in [b-ITU-T G.8151].

3.1.18 bidirectional protection switching: [ITU-T G.780]

NOTE – Bidirectional protection switching is referred to in [ITU-T G.8131].

3.1.19 bridge: [ITU-T G.808]

NOTE – bridge is referred to in [ITU-T G.8131].

3.1.20 bottom of stack: [IETF RFC 3032]

NOTE – Bottom of stack is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.21 characteristic information: [ITU-T G.805]

NOTE – Characteristics information is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.22 client/server relationship: [ITU-T G.805]

NOTE – Client/server relationship is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.23 connection: [ITU-T G.805]

NOTE – Connection is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.24 connection point: [ITU-T G.805]

NOTE – Connection point is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.25 connection supervision: [ITU-T G.805]

NOTE – Connection supervision is referred to in [b-ITU-T G.8110.1].

3.1.26 customer edge (CE): [IETF RFC 5921]

NOTE – CE is referred to in [ITU-T G.8112].

3.1.27 data communication network (DCN): [ITU-T G.7712]

NOTE – Data communication network (DCN) is referred to in [b-ITU-T G.8151].

3.1.28 defect: [ITU-T G.806]

NOTE – Defect is referred to in [b-ITU-T G.8113.1], [b-ITU-T G.8113.2] and [ITU-T G.8131].

3.1.29 dual-ended: [ITU-T G.8001]

NOTE – Dual-ended is referred to in [b-ITU-T G.8152].

3.1.30 explicitly TC-encoded-PSC LSP: [IETF RFC 5462]

NOTE – Explicitly TC-encoded-PSC LSP is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.31 failure: [ITU-T G.806]

NOTE – Failure is referred to in [b-ITU-T G.8113.1], [b-ITU-T G.8113.2] and [ITU-T G.8131].

3.1.32 forced switch: [ITU-T G.808]

NOTE – forced switch is referred to in [ITU-T G.8131].

3.1.33 G-ACh label: [IETF RFC 5586]

NOTE – G-ACh Label is referred to in [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.34 G-ACh packet: [IETF RFC 5586]

NOTE – G-ACh packet is referred to in [b-ITU-T G.8110.1].

3.1.35 G-ACh packet payload: [IETF RFC 5586]

NOTE – G-ACh packet payload is referred to in [b-ITU-T G.8110.1].

3.1.36 generic associated channel: [IETF RFC 5586]

NOTE – Generic associated channel is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.37 hold-off time: [ITU-T G.808]

NOTE – hold-off time is referred to in [ITU-T G.8131].

3.1.38 label: [IETF RFC 3031]

NOTE – Label is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.39 label inferred PHB scheduling class LSP: [IETF RFC 3270]

NOTE – Label inferred PHB scheduling class LSP is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.40 label stack: [IETF RFC 3031]

NOTE – Label stack is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1], and [b-ITU-T G.8121.2].

3.1.41 label switched path: [IETF RFC 3031]

NOTE – Label switching path is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.42 label value: [IETF RFC 3032]

NOTE – Label value is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.43 layer network: [ITU-T G.805]

NOTE – Layer network is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.44 link: [ITU-T G.805]

NOTE – Link is referred to in [b-ITU-T G.8110.1].

3.1.45 link connection: [ITU-T G.805]

NOTE – Link connection is referred to in [b-ITU-T G.8110.1].

3.1.46 local craft terminal: [ITU-T G.7710]

NOTE – Local craft terminal is referred to in [b-ITU-T G.8151].

3.1.47 maintenance entity: [ITU-T G.8001]

NOTE – Maintenance entity is referred to in [b-ITU-T G.8110.1] and [b-ITU-T G.8152].

3.1.48 maintenance entity group: [ITU-T G.8001]

NOTE – Maintenance entity group is referred to in [b-ITU-T G.8110.1] and [b-ITU-T G.8152].

3.1.49 maintenance entity group intermediate point compound function: [ITU-T G.8001]

NOTE – Maintenance entity group intermediate point compound function is referred to in [b-ITU-T G.8110.1] and [b-ITU-T G.8152].

3.1.50 matrix: [ITU-T G.805]

NOTE – Matrix is referred to in [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.51 management application function (MAF): [ITU-T G.7710]

NOTE – Management application function (MAF) is referred to in [b-ITU-T G.8151].

3.1.52 managed entity: [ITU-T M.3013]

NOTE – Managed entity is referred to in [b-ITU-T G.8151].

3.1.53 managed object (MO): [ITU-T X.700]

NOTE – Managed object (MO) is referred to in [b-ITU-T G.8151].

3.1.54 managed object class (MOC): [ITU-T X.700]

NOTE – Managed object class (MOC) is referred to in [b-ITU-T G.8151].

3.1.55 management interface: [ITU-T M.3013]

NOTE – Management interface is referred to in [b-ITU-T G.8151].

3.1.56 management point (MP): [ITU-T G.806]

NOTE – Management point (MP) is referred to in [b-ITU-T G.8151].

3.1.57 manager: [ITU-T X.700]

NOTE – Manager is referred to in [b-ITU-T G.8151].

3.1.58 manual switch: [ITU-T G.808]

NOTE – manual switch is referred to in [ITU-T G.8131].

3.1.59 message communication function (MCF): [ITU-T M.3013]

NOTE – Message communication function (MCF) is referred to in [b-ITU-T G.8151].

3.1.60 MPLS label stack: [IETF RFC 3031]

NOTE – MPLS label stack is referred to in [b-ITU-T G.8121], [b-ITU-T G.8121.1], [b-ITU-T G.8121.2] and [b-ITU-T G.8110.1].

3.1.61 MPLS transport profile (MPLS-TP): [IETF RFC 5921]

NOTE – MPLS transport profile (MPLS-TP) is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8113.1] and [b-ITU-T G.8113.2].

3.1.62 MPLS-TP LSP: [IETF RFC 5921]

NOTE – MPLS-TP LSP is referred to in [b-ITU-T G.8110.1].

3.1.63 MPLS-TP PE: [IETF RFC 5921]

NOTE – MPLS-TP PE is referred to in [ITU-T G.8112].

3.1.64 MPLS-TP-NNI: [ITU-T G.8112]

3.1.65 network: [ITU-T G.805]

NOTE – Network is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.66 network connection: [ITU-T G.805]

NOTE – Network connection is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.67 network element (NE): [ITU-T M.3010]

NOTE – Network element (NE) is referred to in [b-ITU-T G.8151].

3.1.68 network element function (NEF): [ITU-T M.3010]

NOTE – Network element function (NEF) is referred to in [b-ITU-T G.8151].

3.1.69 network survivability: [ITU-T G.808]

NOTE – Network survivability state is referred to in [b-ITU-T G.8110.1].

3.1.70 network-to-network interface (NNI): [ITU-T G.8001]

NOTE – NNI is referred to in [ITU-T G.8112].

3.1.71 non-revertive (protection) operation: [ITU-T G.808]

NOTE – non-revertive (protection) operation is referred to in [ITU-T G.8131].

3.1.72 normal traffic signal: [ITU-T G.808]

NOTE – normal traffic signal is referred to in [ITU-T G.8131].

3.1.73 on-demand monitoring: [ITU-T G.8001]

NOTE – On-demand monitoring is referred to in [b-ITU-T G.8110.1] and [b-ITU-T G.8152].

3.1.74 one-way: [ITU-T G.8001]

NOTE – One-way is referred to in [b-ITU-T G.8152].

3.1.75 operations system (OS): [ITU-T M.3013]

NOTE – Operations system (OS) is referred to in [b-ITU-T G.8151].

3.1.76 operations system function (OSF): [ITU-T M.3013]

NOTE – Operations system function (OSF) is referred to in [b-ITU-T G.8151].

3.1.77 per-hop behaviour: [IETF RFC 3270]

NOTE – Per-hop behaviour is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.78 permanent bridge: [ITU-T G.808]

NOTE – permanent bridge is referred to in [ITU-T G.8131].

3.1.79 persistence interval: [ITU-T M.3013]

NOTE – Persistence interval is referred to in [b-ITU-T G.8151].

3.1.80 proactive monitoring: [ITU-T G.8001]

NOTE – Pro-active monitoring is referred to in [b-ITU-T G.8110.1] and [b-ITU-T G.8152].

3.1.81 protected domain: [ITU-T G.808]

NOTE – protected domain is referred to in [ITU-T G.8131].

3.1.82 protection: [ITU-T G.808]

NOTE – Protection is referred to in [b-ITU-T G.8110.1] and [b-ITU-T G.8131].

3.1.83 protection transport entity: [ITU-T G.808]

NOTE – protection transport entity is referred to in [b-ITU-T G.8131].

3.1.84 PSC protocol: [ITU-T G.8131]

3.1.85 pseudowire: [IETF RFC 5921]

NOTE – Pseudowire is referred to in [b-ITU-T G.8110.1].

3.1.86 Q-Interface: [ITU-T M.3010]

NOTE – Q-Interface is referred to in [b-ITU-T G.8151].

3.1.87 qualified problem: [ITU-T M.3013]

NOTE – Qualified problem is referred to in [b-ITU-T G.8151].

3.1.88 reference point: [ITU-T G.805]

NOTE – Reference point is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.89 reset threshold report: [ITU-T M.3013]

NOTE – Reset threshold report is referred to in [b-ITU-T G.8151].

3.1.90 restoration: [ITU-T G.808]

NOTE – Restoration is referred to in [b-ITU-T G.8110.1].

3.1.91 revertive (protection) operation: [ITU-T G.808]

NOTE – revertive (protection) operation is referred to in [ITU-T G.8131].

3.1.92 selector: [ITU-T G.808]

NOTE – selector is referred to in [ITU-T G.8131].

3.1.93 selector bridge: [ITU-T G.808]

NOTE – selector bridge is referred to in [ITU-T G.8131].

3.1.94 signal: [ITU-T G.808]

NOTE – signal is referred to in [ITU-T G.8131].

3.1.95 signal degrade (SD): [ITU-T G.806]

NOTE – signal degrade (SD) is referred to in [ITU-T G.8131].

3.1.96 signal fail (SF): [ITU-T G.806]

NOTE – signal fail (SF) is referred to in [ITU-T G.8131].

3.1.97 single-ended: [ITU-T G.8001]

NOTE – Single-ended is referred to in [b-ITU-T G.8152].

3.1.98 standby transport entity: [ITU-T G.808]

NOTE – standby transport entity is referred to in [ITU-T G.8131].

3.1.99 sublayer: [ITU-T G.805]

NOTE – Sublayer is referred to in [b-ITU-T G.8110.1].

3.1.100 subnetwork: [ITU-T G.805]

NOTE – Subnetwork is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.101 subnetwork connection: [ITU-T G.805]

NOTE – Subnetwork connection is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.102 subnetwork connection protection: [ITU-T G.808]

NOTE – subnetwork connection protection is referred to in [ITU-T G.8131].

3.1.103 switch: [ITU-T G.808]

NOTE – switch is referred to in [ITU-T G.8131].

3.1.104 tandem connection [ITU-T G.805]

NOTE – Tandem connection is referred to in [b-ITU-T G.8110.1].

3.1.105 termination connection point [ITU-T G.805]

NOTE – Termination connection point is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.106 threshold report: [ITU-T M.3013]

NOTE – Threshold report is referred to in [b-ITU-T G.8151].

3.1.107 time to live: [IETF RFC 3031]

NOTE – Time to live is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.108 timed interval: [ITU-T M.3013]

NOTE – Timed interval is referred to in [b-ITU-T G.8151].

3.1.109 trail: [ITU-T G.805]

NOTE – Trail is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1], [b-ITU-T G.8121.2] and [ITU-T G.8131].

3.1.110 trail termination: [ITU-T G.805]

NOTE – Trail termination is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.111 transport: [ITU-T G.805]

NOTE – Transport is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.112 traffic signal: [ITU-T G.808]

NOTE – traffic signal is referred to in [ITU-T G.8131].

3.1.113 trail protection: [ITU-T G.808]

NOTE – trail protection is referred to in [ITU-T G.8131].

3.1.114 transport entity: [ITU-T G.805]

NOTE – Transport entity is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.115 transport entities: [ITU-T G.808]

NOTE – transport entities is referred to in [ITU-T G.8131].

3.1.116 traffic class: [IETF RFC 5462]

NOTE – Traffic class is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.117 transport processing function: [ITU-T G.805]

NOTE – Transport processing function is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.118 two-way: [ITU-T G.8001]

NOTE – Two-way is referred to in [b-ITU-T G.8152].

3.1.119 unidirectional connection: [ITU-T G.805]

NOTE – Unidirectional connection is referred to in [b-ITU-T G.8110.1], [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.120 unidirectional protection switching: [ITU-T G.780]

NOTE – Unidirectional protection switching is referred to in [ITU-T G.8131].

3.1.121 unidirectional trail: [ITU-T G.805]

NOTE – Unidirectional trail is referred to in [b-ITU-T G.8121], [b-ITU-T G.8121.1] and [b-ITU-T G.8121.2].

3.1.122 user-to-network interface (UNI): [ITU-T G.8112]

3.1.123 wait-to-restore time: [ITU-T G.808]

NOTE – wait-to-restore time is referred to in [ITU-T G.8131].

3.1.124 working transport entity: [ITU-T G.808]

NOTE – working transport entity is referred to in [ITU-T G.8131].

3.1.125 workstation function (WF): [ITU-T M.3010]

NOTE – Workstation function (WF) is referred to in [b-ITU-T G.8151].

3.2 Terms defined in this Recommendation

This Recommendation defines the following terms:

3.2.1 intra-domain interface (IaDI): A physical interface within the domain of a single network operator.

NOTE – IaDI is referred to in [ITU-T G.8112] and [b-ITU-T G.8012]

3.2.2 inter-domain interface (IrDI): A physical interface that represents the boundary between the administrative domains of different network operators.

NOTE – IrDI is referred to in [ITU-T G.8112] and [b-ITU-T G.8012]

3.2.3 MPLS-TP adapted information (MPLS-TP_AI) traffic unit: The MPLS-TP adapted information (MPLS-TP_AI) traffic unit is an instance of characteristic information and a unit of usage, which consists of an MPLS-TP_AI header containing the bottom of stack indicator (S-bit) field of the MPLS shim header and an MPLS payload field.

NOTE – See more details in [b-ITU-T G.8110.1].

3.2.4 MPLS-TP characteristic information (MPLS-TP_CI) traffic unit: The MPLS-TP characteristic information (MPLS-TP_CI) traffic unit is an instance of characteristic information and a unit of usage, which consists of an MPLS-TP_AI traffic unit or of a MPLS-TP OAM traffic unit, extended with an MPLS-TP_CI header containing the time-to-live (TTL) field of the MPLS shim header.

NOTE 1 – See more details in [b-ITU-T G.8110.1].

NOTE 2 – MPLS-TP CI traffic unit is referred to in [ITU-T G.8112].

3.2.5 MPLS-TP management network (MT_MN): An MPLS-TP management network is a subset of a telecommunication management network (TMN) that is responsible for managing those parts of a network element that contain MPLS-TP layer network entities. An MT_MN may be subdivided into a set of MPLS-TP management subnetworks.

NOTE – MPLS-TP management network (MT_MN) is referred to in [b-ITU-T G.8151].

3.2.6 MPLS-TP management subnetwork (MT_MSN): An MPLS-TP management subnetwork (MT_MSN) consists of a set of separate embedded control channels (ECC) and associated intra-site data communication links which are interconnected to form a data communications network (DCN) within any given MPLS-TP transport topology. For MPLS-TP, the physical channel supporting the ECC is the MPLS-TP management communication channel (MCC) as defined in [ITU-T G.7712]. An MT_MSN represents a MPLS-TP specific local communication network (LCN) portion of a network operator's overall DCN or TMN.

NOTE – MPLS-TP management subnetwork (MT_MSN) is referred to in [b-ITU-T G.8151].

3.2.7 MPLS-TP network element (MT_NE): That part of a network element that contains entities from one or more MPLS-TP layer networks. An MT_NE may therefore be a standalone physical entity or a subset of a network element. It supports at least network element functions (NEF) and may also support an operations system function (OSF). It contains managed objects (MO), a message communication function (MCF) and a management application function (MAF). The functions of an MT_NE may be contained within an NE that also supports other layer networks. These layer network entities are considered to be managed separately from MPLS-TP entities. As such they are not part of the MT_MN or MT_MSN.

NOTE – MPLS-TP network element (MT_NE) is referred to in [b-ITU-T G.8151].

4 Abbreviations and acronyms

The following abbreviations and acronyms are used in a series of MPLS-TP Recommendations.

NOTE – The purpose of this clause is to define a single abbreviation or acronym and avoid overlap of abbreviations or acronyms among MPLS-TP Recommendations.

1DM one-way Delay Measurement

ACH	Associated Channel Header
AcSL	Accepted Signal Label
AF	Atomic Function
AI	Adapted Information
AIS	Alarm Indication Signal
ALM	Alarm reporting
AP	Access Point
APC	Automatic Protection Coordination
APS	Automatic Protection Switching
ARC	Alarm Reporting Control
BFD	Bidirectional Forwarding Detection
CC	Continuity Check
CD	Current Data
CC/CV	Continuity Check or Connectivity Verification
CCM	Continuity Check Message
C-DCI	Client – Defect Clear Indication
CFI	Client Failure Indication
CI	Characteristic Information
CII	Common Interworking Indicators
CLNE	Client Layer Network Entity
CoS	Class of Service
CSF	Client Signal Fail
CtrlP	Control Plane
CW	Control Word
CO-PS	Connection-Oriented Packet Switched
CP	Connection Point
CV	Connectivity Verification
DA	Destination Address
DCC	Data Communication Channel
DCN	Data Communication Network
DE	Drop Eligibility
DEG	Degraded
dFOP	Failure of Protocol defect
DLM	Direct Loss Measurement
DSMap	Downstream Mapping
DM	Delay Measurement
DMM	Delay Measurement Message

DMo	on-demand Delay Measurement
DMp	proactive Delay Measurement
DMR	Delay Measurement Reply
DNR	Do-not-Revert
DP	Drop Precedence
DPath	Data Path
DT	Diagnostic Test
ECC	Embedded Communication Channels
ECMP	Equal Cost Multi-Path
E-LSP	Explicitly TC-encoded-PSC LSP
EMF	Equipment Management Function
EML	Equipment Management Layer
EMS	Equipment Management System
ES	Experimental Specific
ETH	Ethernet MAC layer network
ETH_CI	Ethernet MAC Characteristic Information
ETY	Ethernet PHY layer network
EXER	Exercise
EXM	Experimental OAM Message
EXP	Experimental
EXR	Experimental OAM Reply
FC	Frame Count
FCAPS	Fault management, Configuration management, Account management, Performance management and Security management
FDI	Forward Defect Indication
FEC	Forwarding Equivalence Class
FP	Flow Point
FPath	Fault Path
FS	Forced Switch
FTP	Flow Termination Point
GAL	Generic Associated channel (G-ACh) Label
G-ACh	Generic Associated Channel
GFP	Generic Framing Procedure
GFP-F	Frame mapped-Generic Framing Procedure
GNE	Gateway Network Element
GUI	Graphical User Interface
HD	History Data

HTML	Hypertext Markup Language
IANA	Internet Assigned Numbers Authority
ICC	ITU Carrier Code
IaDI	Intra-Domain Interface
IF	Interface
ILM	Inferred Loss Measurement
IP	Internet Protocol
IrDI	Inter-Domain Interface
iPHB	Incoming Per Hop Behaviour
LAN	Local Area Network
LBM	Loopback Message
LBR	Loopback Reply
LC	Link Connection
LCAS	Link Capacity Adjustment Scheme
LCK	Locked [b-ITU-T G.8121] or Locked Signal [b-ITU-T G.8113.1] and [b-ITU-T G.8113.2]
LCN	Local Communication Network
LCT	Local Craft Terminal
LER	Label Edge Router
LI	Lock Instruct
LKI	Lock Instruct
LKR	Lock Report
L-LSP	Label-Only-Inferred PSC LSP
LM	Loss Measurement
LMM	Loss Measurement Message
LMo	on-demand Loss Measurement
LMp	proactive Loss Measurement
LMR	Loss Measurement Reply
LO	Lockout of protection
LOC	Loss of Continuity
LOS	Loss of Signal
LSE	Label Stack Entry
LSP	Label Switched Path
LSR	Label Switch Router
LStack	Label Stack
MAC	Media Access Control
MAF	Management Application Function

MCC	Management Communication Channel
MCF	Message Communication Function
MD	Mediation Device
ME	Maintenance Entity
MEL	MEG Level
MEG	Maintenance Entity Group
MEP	Maintenance entity group (MEG) End Point
MIP	Maintenance entity group (MEG) Intermediate Point
MF	Mediation Function
MgmtP	Management Plane
MI	Management Information
MIB	Management Information Base
MIP	Maintenance entity group Intermediate Point
MMG	Mis-merge
MN	Management Network
MO	Managed Object
MOC	Managed Object Class
MoE	MPLS-TP over ETH
MoO	MPLS-TP over OTH
MoP	MPLS-TP over PDH
MoS	MPLS-TP over SDH
MP	Management Point
MPLS	Multi-Protocol Label Switching
MPLS-TP	Multi-Protocol Label Switching – Transport Profile
MPLS-TP_AI	MPLS-TP Adapted Information
MPLS-TP_CI	MPLS-TP Characteristic Information
MPLS-TPP	MPLS-TP Path
MPLS-TPT	MPLS-TP Tandem connection monitoring
MS	Manual Switch
MS-P	Manual Switch to Protection transport entity
MS-W	Manual Switch to Working transport entity
M_SDU	MAC Service Data Unit
MSN	Management Subnetwork
MS-PW	Multi-Segment Pseudowire
MT	Multi-Protocol Label Switching – Transport Profile
MT_C	MPLS-TP Channel layer [b-ITU-T G.8151] or MPLS-TP Connection [ITU-T G.8131]

MT_CP	MPLS-TP Connection Point
MT_MN	MPLS-TP Management Network
MT_MSNN	MPLS-TP Management Subnetwork
MT_NE	MPLS-TP Network Element
MT_P	MPLS-TP Path layer
MT_S	MPLS-TP Section layer
MT_TT_Sk	MPLS-TP Trail Termination Sink
MTDe	MPLS-TP MEP Diagnostic function
MTDi	MPLS-TP MIP Diagnostic function
MTH	MPLS-TP Layer Network
MTH-NNI	MPLS-TP Layer Network Network Node Interface
MTM-n	MPLS-TP Transport Module layer n
MTP	MPLS-TP path layer
MTS	MPLS-TP Section
MTU	Maximum Transmit Unit
NALM	No Alarm reporting
NALM-CD	No Alarm reporting, Count Down
NALM-NR	No Alarm reporting, Not Ready
NALM-QI	No Alarm reporting, Qualified Inhibit
NALM-TI	No Alarm reporting, Timed Inhibit
NC	Network Connection
NE	Network Element
NEF	Network Element Function
NEL	Network Element Layer
NR	No Request
NSP	Native Service Processing
NNI	Network Node Interface or Network Network Interface
NMS	Network Management System
Num	Number
OAM	Operation, Administration and Maintenance
OAM&P	Operations, Administration, Maintenance and Provisioning
OC	Operator Clear
ODCV	On-Demand Connectivity Verification
ODU	Optical channel Data Unit
ODUj	Optical Channel Data Unit – order j
ODUj-Xv	Virtual concatenated Optical Channel Data Unit – order j
ODUk	Optical Channel Data Unit – order k

ODUk-Xv	Virtual concatenated Optical Channel Data Unit – order k
OpCode	Operations Code
oPHB	Outgoing Per Hop Behaviour
OPU	Optical Payload Unit
OPUk	Optical Payload Unit of level k
OPUk-Xv	Virtually concatenated Optical Payload Unit of level k
OS	Operations System
OSF	Operations System Function
OSI	Open Systems Interconnection
OTH	Optical Transport Hierarchy
OTN	Optical Transport Network
p2mp	point-to-multipoint
p2p	point-to-point
P11s	1544 kbit/s PDH path layer with synchronous 125 μ s frame structure according to [ITU-T G.704]
P12s	2048 kbit/s PDH path layer with synchronous 125 μ s frame structure according to [ITU-T G.704]
P31s	34368 kbit/s PDH path layer with synchronous 125 μ s frame structure according to [ITU-T G.832]
P32e	44 736 kbit/s PDH path layer according to [ITU-T G.705]
PA	(Ethernet) Preamble
PD	Packet Delay
PDH	Plesiochronous Digital Hierarchy
PDU	Protocol Data Unit
PDV	Packet Delay Variation
PHB	Per Hop Behaviour
PHP	Penultimate Hop Popping
PHY	Physical
PID	Protocol Identifier
PM	Performance Monitoring
PMC	Performance Monitoring Clock
PRBS	Pseudo-Random Bit Sequence
PSC	PHB Scheduling Class [b-ITU-T G.8121.1] or Protection State Coordination [ITU-T G.8131]
PSI	Payload Structure Indication
PSN	Packet Switched Network
PT	Payload Type
PW	Pseudowire

PWE3	Pseudowire Emulation Edge-to-Edge
QoS	Quality of Service
QTF	Querier's Timestamp Format
RES	Reserved overhead
Req	Request
Resp	Response
RFC	IETF Request for Comments
RDI	Remote Detect Indication
RI	Remote Information
RP	Remote Point
RPTF	Responder's Preferred Timestamp Format
RR	Reverse Request
RTF	Responder's Timestamp Format
RT	Route Trace
RTC	Real Time Clock
Rx	Receive
SA	Source Address
S-bit	Bottom of Stack indicator
S-PE	Switching Provider Edge
SCC	Signalling Communication Channel
SCN	Signalling Communication Network
SD	Signal Degrade
SDH	Synchronous Digital Hierarchy
SD-P	Signal Degrade on Protection transport entity
SD-W	Signal Degrade on Working transport entity
SF	Signal Fail
SFD	Start of Frame Delimiter
SF-P	Signal Fail on Protection transport entity
SF-W	Signal Fail on Working transport entity
Sk	Sink
SLA	Service Level Agreement
SLNE	Server Layer Network Entity
SN	Sub-Network
SNAP	Sub-Network Access Protocol
SNC	Sub-Network Connection
SNC/S	SNCP with Sublayer monitoring
SNCP	Sub-Network Connection Protection

SNMP	Simple Network Management Protocol
So	Source
SPME	Sub-Path Maintenance Element
SQI	Session Query Interval
SRV	Server
SSF	Server Signal Fail ²
SS-PW	Single-Segment Pseudowire
STM-N	Synchronous Transport Module – level N
T-PE	Terminating Provider Edge
TC	Traffic Class
TCM	Tandem Connection Monitoring
TCP	Termination Connection Point
TFP	Termination Flow Point
TH	Throughput
TNE	Transport Network Element
TLV	Type Length Value
TMN	Telecommunication Management Network
TrCP	Traffic Conditioning Point
TS	Timestamp
TSFmt	Timestamp Format
TSB	Telecommunication Standardization Bureau
TSD	Trail Signal Degrade
TSNUM	Tributary Slot Number
TSF	Trail Signal Fail
TST	Test
TT	Trail Termination
TTL	Time-To-Live
TTSI	Trail Termination Source Identifier
Tx	Transmit
UAS	Unavailable Second
UNI	User Network Interface
UNL	Unexpected (MEG) Level
UNM	Unexpected MEP
UNP	Unexpected Period
UNPr	Unexpected Priority

² The IETF has not yet selected a term for this abstract information element.

VC	Virtual Container
VCCV	Virtual Circuit Connectivity Verification
VC-m	Lower Order VC – order m
VC-n	Higher Order VC – order n
VC-n-Xc	Contiguous concatenated VC – order n
VC-n-Xv	Virtual concatenated VC – order n
vcPT	virtual concatenation Payload Type
VcPLM	Virtual concatenation Payload Mismatch
VS	Vendor Specific
VSM	Vendor Specific (OAM) Message
VSR	Vendor Specific (OAM) Reply
WAN	Wide Area Network
WS	WorkStation
WTR	Wait To Restore

Appendix I

List of source Recommendations

(This appendix does not form an integral part of this Recommendation.)

This text is an updated version of Recommendation ITU-T G.8101/Y.1355 (2014), *Terms and definitions for MPLS transport profile*. The abbreviations and terms were taken from the Recommendations listed below. Where the definitions were not a part of an explicit Definitions clause of the source Recommendation, the source Recommendation is referenced in a note following the definition. After this Recommendation is finally approved, corrigenda or revisions to the original sources of these terms will be proposed to replace the definitions in those documents by references to this one (except where the definition is part of the source Recommendation text and not in a definitions clause). The end result should be a single normative definition for each term in this subject area, contained in this Recommendation.

Recommendation	Latest version	MPLS-TP specific definitions
ITU-T G.7712/Y.1703	09/2010 with Amd. 1	No
ITU-T G.8110.1/Y.1370.1	12/2011	No
ITU-T G.8112/Y.1371	08/2015	Yes
ITU-T G.8113.1/Y.1372.1	04/2016	Yes
ITU-T G.8113.2/Y.1372.2	08/2015	Yes
ITU-T G.8121/Y.1381	04/2016	No
ITU-T G.8121.1/Y.1381.1	04/2016	No
ITU-T G.8121.2/Y.1381.2	04/2016	No
ITU-T G.8131/Y.1382	07/2014 with Amd. 1 and 2	Yes
ITU-T G.8151/Y.1374	01/2015	Yes
ITU-T G.8152/Y.1375	2016	No

Appendix II

Terms and definitions for MPLS transport profile defined by the IETF

(This appendix does not form an integral part of this Recommendation.)

[b-IETF RFC 6291] and [b-IETF RFC 7087] contain provisions which, through reference in this text, constitute provisions of this appendix. At the time of publication, the editions indicated were valid. All RFC/I-D are subject to revision; users of this list are therefore encouraged to investigate the possibility of applying the most recent editions of [b-IETF RFC 6291] and [b-IETF RFC 7087].

II.1 Definitions

The following terms are defined in [b-IETF RFC 6291]:

II.1.1 Mgmt.

II.1.2 OAM

II.1.3 O&M

II.1.4 SDO

The following terms are defined in [b-IETF RFC 7087]:

II.1.5 associated bidirectional path

II.1.6 bidirectional path

II.1.7 client layer network

II.1.8 communication channel

II.1.9 concatenated segment

II.1.10 control plane

II.1.11 co-routed bidirectional path

II.1.12 data communication network (DCN)

II.1.13 defect

II.1.14 domain

II.1.15 embedded communication channel (ECC)

II.1.16 equipment management function (EMF)

II.1.17 failure

II.1.18 fault

II.1.19 layer network

II.1.20 link

II.1.21 maintenance entity (ME)

II.1.22 maintenance entity group (MEG)

- II.1.23 maintenance entity group end point (MEP)**
- II.1.24 maintenance entity group intermediate point (MIP)**
- II.1.25 management communication channel (MCC)**
- II.1.26 management communication network (MCN)**
- II.1.27 monitoring**
- II.1.28 path segment tunnel (PST)**
- II.1.29 sub-path maintenance element (SPME)**
- II.1.30 tandem connection**
- II.1.31 MPLS section**
- II.1.32 MPLS transport profile (MPLS-TP)**
- II.1.33 MPLS-TP NE**
- II.1.34 MPLS-TP network**
- II.1.35 MPLS recovery**
 - II.1.35.1 end-to-end recovery**
 - II.1.35.2 link recovery**
 - II.1.35.3 segment recovery**
- II.1.36 MPLS-TP ring topology**
 - II.1.36.1 MPLS logical ring**
 - II.1.36.2 MPLS physical ring**
- II.1.37 OAM flow**
- II.1.38 operations support system (OSS)**
- II.1.39 path**
- II.1.40 protection priority**
- II.1.41 section layer network**
- II.1.42 segment**
- II.1.43 server layer**
- II.1.44 server MEPs**
- II.1.45 signaling communication channel (SCC)**
- II.1.46 signaling communication network (SCN)**
- II.1.47 span**
- II.1.48 sublayer**
- II.1.49 transport entity**
 - II.1.49.1 working entity**

II.1.49.2 protection entity

II.1.49.3 recovery entity

II.1.50 transmission media layer

II.1.51 transport network

II.1.52 transport path

II.1.53 transport-path layer

II.1.54 transport-service layer

II.1.55 unidirectional path

II.2 Abbreviations

The following abbreviations are used in IETF RFCs/I-Ds:

CE	Customer Edge
DCC	Data Communication Channel
DCN	Data Communication Network
ECC	Embedded Communication Channel
EMF	Equipment Management Function
EMS	Equipment Management System
GAL	Generic Associated Channel Label
LER	Label Edge Router
LSR	Label Switching Router
MCC	Management Communication Channel
MCN	Management Communication Network
ME	Maintenance Entity
MEG	ME Group
MEP	MEG End Point
MIP	MEG Intermediate Point
MPLS	Multiprotocol Label Switching
MPLS-TP	MPLS Transport Profile
NE	Network Element
NEF	Network Element Function
OAM	Operations, Administration and Maintenance
OSS	Operations Support System
PM	Performance Monitoring
PST	Path Segment Tunnel
PW	Pseudowire
S-PE	Switching Provider Edge
SCC	Signaling Communication Channel
SCN	Signaling Communication Network
SPME	Sub-Path Maintenance Element
T-PE	Terminating Provider Edge
TCM	Tandem Connection Monitoring

Bibliography

- [b-ITU-T G.8012] Recommendation ITU-T G.8012/Y.1308 (2004), *Ethernet UNI and Ethernet NNI*
- [b-ITU-T G.8110.1] Recommendation ITU-T G.8110.1/Y.1370.1 (2011), *Architecture of the Multi-Protocol Label Switching transport profile layer network.*
- [b-ITU-T G.8113.1] Recommendation ITU-T G.8113.1/Y.1372.1 (2016), *Operations, administration and maintenance mechanisms for MPLS-TP in packet transport networks.*
- [b-ITU-T G.8113.2] Recommendation ITU-T G.8113.2/Y.1372.2 (2015), *Operations, administration and maintenance mechanisms for MPLS-TP networks using the tools defined for MPLS.*
- [b-ITU-T G.8121] Recommendation ITU-T G.8121/Y.1381 (2016), *Characteristics of MPLS-TP equipment functional blocks.*
- [b-ITU-T G.8121.1] Recommendation ITU-T G.8121.1/Y.1381.1 (2016), *Characteristics of MPLS-TP equipment functional blocks supporting ITU-T G.8113.1/Y.1372.1 OAM mechanisms.*
- [b-ITU-T G.8121.2] Recommendation ITU-T G.8121.2/Y.1381.2 (2016), *Characteristics of MPLS-TP equipment functional blocks supporting ITU-T G.8113.2/Y.1372.2 OAM mechanisms.*
- [b-ITU-T G.8151] Recommendation ITU-T G.8151/Y.1374 (2015), *Management aspects of the MPLS-TP network element.*
- [b-ITU-T G.8152] Recommendation ITU-T G.8152/Y.1375 (2016), *Protocol-neutral management information model for the MPLS-TP network element.*
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