

International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

Series G
Supplement 53
(12/2014)

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

Guidance for Ethernet OAM performance monitoring

ITU-T G-series Recommendations – Supplement 53

ITU-T



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ITU-T G-SERIES RECOMMENDATIONS

Supplement 53 to ITU-T G-series Recommendations

Guidance for Ethernet OAM performance monitoring

Summary

Supplement 53 to ITU-T G-series Recommendations provides an overview of Ethernet operations, administration, maintenance (OAM) performance monitoring. It describes how Ethernet OAM performance measurements are processed, configured and managed as described in Recommendations ITU-T G.8013, ITU-T G.8021 and ITU-T G.8051. It also introduces the modelling for Ethernet OAM performance monitoring as described in Recommendation ITU-T G.8052.

This Supplement is of an informative nature and does not imply any specific requirements.

History

Edition	Recommendation	Approval	Study Group	Unique ID*
1.0	ITU-T G Suppl. 53	2014-12-05	15	11.1002/1000/12361

* To access the Recommendation, type the URL <http://handle.itu.int/> in the address field of your web browser, followed by the Recommendation's unique ID. For example, <http://handle.itu.int/11.1002/1000/11830-en>.

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Supplement 53 to ITU-T G-series Recommendations

Guidance for Ethernet OAM performance monitoring

1 Scope

This Supplement provides an overview of Ethernet operations, administration, maintenance (OAM) performance monitoring. It describes how Ethernet OAM performance measurements are processed, configured and managed as described in [ITU-T G.8013], [ITU-T G.8021] and [ITU-T G.8051]. It also introduces the modeling for Ethernet OAM performance monitoring as described in [ITU-T G.8052].

This Supplement is of an informative nature and does not imply any specific requirements.

2 References

- [ITU-T G.8001] Recommendation ITU-T G.8001/Y.1354 (2013), *Terms and definitions for Ethernet frames over transport*.
- [ITU-T G.8013] Recommendation ITU-T G.8013/Y.1731 (2013), *OAM functions and mechanisms for Ethernet based networks*.
- [ITU-T G.8021] Recommendation ITU-T G.8021/Y.1341 (2015), *Characteristics of Ethernet transport network equipment functional blocks*.
- [ITU-T G.8051] Recommendation ITU-T G.8051/Y.1345 (2013), *Management aspects of the Ethernet Transport (ET) capable network element*.
- [ITU-T G.8052] Recommendation ITU-T G.8052/Y.1346 (2013), *Protocol-neutral management information model for the Ethernet transport capable network element*.

3 Definitions

3.1 Terms defined elsewhere

This Supplement uses the following terms defined elsewhere:

- 3.1.1 **dual-ended** [ITU-T G.8001]
- 3.1.2 **far-end** [ITU-T G.8001]
- 3.1.3 **on-demand measurement** [ITU-T G.8001]
- 3.1.4 **one-way** [ITU-T G.8001]
- 3.1.5 **proactive measurement** [ITU-T G.8001]
- 3.1.6 **single-ended** [ITU-T G.8001]
- 3.1.7 **two-way** [ITU-T G.8001]

3.2 Terms defined in this Supplement

None.

4 Abbreviations and acronyms

This Supplement uses the following abbreviations and acronyms:

1DM One-way Delay Measurement

1SL	One-way Synthetic Loss Measurement
CCM	Continuity Check Message
DA	Destination MAC Address
DMM	Delay Measurement Message
DMR	Delay Measurement Reply
ETH-DM	Ethernet Delay Measurement function
ETH-LM	Ethernet Loss Measurement function
ETH-SLM	Ethernet Synthetic Loss Measurement function
FD	Frame Delay
FDV	Frame Delay Variation
FLR	Frame Loss Ratio
LF	Lost Frame
LMM	Loss Measurement Message
LMR	Loss Measurement Reply
MEG	ME Group
MEP	MEG End Point
MI	Management Information
OAM	Operations, Administration, Maintenance
PCP	Priority Code Point
PDU	Protocol Data Unit
PM	Performance Management
SLM	Synthetic Loss Message
SLR	Synthetic Loss Reply
TF	Total Frame
TLV	Type, Length and Value

5 Conventions

None.

6 Single-ended Ethernet loss measurement function

The following clauses describe the protocol and the process used for the single-ended Ethernet loss measurement function (ETH-LM) and the corresponding management requirements and information models.

6.1 Protocol

Single-ended ETH-LM is performed using loss measurement message (LMM) and loss measurement reply (LMR) protocol data units (PDUs). The measurement information carried in the PDU of the LMM/LMR protocol for both on-demand and proactive single-ended loss measurement is described in clause 8.1.2 of [ITU-T G.8013].

The PDU format for LMM/LMR is described in clauses 9.12 and 9.13 of [ITU-T G.8013].