International Telecommunication Union

ITU-T G.8013/Y.1731

Amendment 1

TELECOMMUNICATION
STANDARDIZATION SECTOR
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(02/2015)

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

Packet over Transport aspects – Ethernet over Transport aspects

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

Internet protocol aspects – Operation, administration and

OAM functions and mechanisms for Ethernet based networks

Amendment 1

Recommendation ITU-T G.8013/Y.1731 (2013) – Amendment 1

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Recommendation ITU-T G.8013/Y.1731

OAM functions and mechanisms for Ethernet based networks

Amendment 1

Summary

Amendment 1 to Recommendation ITU-T G.8013/Y.1731 (2013) provides:

- addition of a new operation, administration and maintenance (OAM) protocol data unit (PDU) called generic notification message (GNM);
- addition of new OAM functions and mechanism for Ethernet bandwidth notification (ETH-BN) that notifies the change of bandwidth of link to management entity group end points (MEPs). Its PDU uses GNM with a SubOpCode for bandwidth notification;
- addition of new OAM functions and mechanism for Ethernet expected defect (ETH-ED) that enables transmission of continuity check message (CCM) frames expected to be interrupted without any interruption to data frames. Its PDU uses maintenance communications channel (MCC) with SubOpCode for expected defect;
- transmission of CCM frames expected to be interrupted without any interruption to data frames. Its PDU uses MCC with ITU-T OUI (00-19-A7) and SubOpCode for expected defect;
- corrections to several references in clause 2;
- additions of new abbreviations in clause 4.

History

Edition	Recommendation	Approval	Study Group	Unique ID*
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FOREWORD

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OAM functions and mechanisms for Ethernet based networks

Amendment 1

1) Scope

This amendment contains updates to references, additions to abbreviations and acronyms, text modifications and additions of OAM functions and mechanisms for Ethernet bandwidth notification (ETH-BN) and Ethernet expected defect (ETH-ED).

2) Modifications to ITU-T G.8013/Y.1731

2.1) Clause 2, References

In clause 2, modify the references as follows:

[ITU-T G.8021] Recommendation ITU-T G.8021/Y.1341 (2015~~2~~), *Characteristics of Ethernet transport network equipment functional blocks.*

[IEEE 802] IEEE 802-2001, *IEEE Standard for Local and Metropolitan Area Networks: Overview and Architecture*.
~~<http://standards.ieee.org/getieee802/download/802-2001.pdf>~~
<http://standards.ieee.org/findstds/standard/802-2001.html>

[IEEE 802.1D] IEEE 802.1D-2004, *IEEE Standard for Local and Metropolitan Area Networks: Media Access Control (MAC) Bridges*.
~~<http://standards.ieee.org/getieee802/download/802.1D-2004.pdf>~~
<http://standards.ieee.org/findstds/standard/802.1D-2004.html>

[IEEE 802.1Q] IEEE 802.1Q-2011, *IEEE Standard for Local and metropolitan area networks – Media Access Control (MAC) Bridges and Virtual Bridged Local Area Networks*.
~~<http://standards.ieee.org/getieee802/download/802.1Q-2011.pdf>~~
<http://standards.ieee.org/findstds/standard/802.1Q-2011.html>

[IEEE 802.3] IEEE 802.3-2012, *IEEE Standard for Ethernet*.
~~<http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=4726157>~~
<http://standards.ieee.org/findstds/standard/802.3-2012.html>

[IEEE 1588] IEEE 1588-2002, *IEEE Standard for a Precision Clock Synchronization Protocol for Networked Measurement and Control Systems*.
~~<http://standards.ieee.org/findstds/standard/1588-2008.html>~~
<http://standards.ieee.org/findstds/standard/1588-2002.html>

[ISO 3166-1] ISO 3166-1 (~~2013~~2006), *Codes for the representation of names of countries and their subdivisions – Part 1: Country codes*.

[MEF 10.2] MEF 10.2 (2009), *Ethernet Services Attributes: Phase 2*.
~~<http://standards.ieee.org/getieee802/download/802.3-2012.html>~~
<http://www.metroethernetforum.org/Assets/Technical_Specifications/PDF/MEF10.2.pdf>

2.2) Clause 4, Abbreviations and acronyms

In clause 4, add the following abbreviations in alphabetical order:

BNM Bandwidth Notification Message

EDM Expected Defect Message

EMF Element Management Function

ETH-BN Ethernet Bandwidth Notification function

ETH-ED Ethernet Expected Defect function

GNM Generic Notification Message

Port ID Port Identification

2.3) Clause 7.9, Ethernet maintenance communication channel (ETH-MCC)

Modify clause 7.9 as follows:

7.9 Ethernet maintenance communication channel (ETH-MCC)

The Ethernet maintenance communication channel function (ETH-MCC) provides a maintenance communication channel between a pair of MEPs. ETH-MCC can be used to perform remote management. The specific use of ETH-MCC with an OUI other than the ITU-T OUI (00-19-A7) is outside the scope of this Recommendation. ~~The specific use of ETH-MCC is outside the scope of this Recommendation.~~

2.4) Clause 7.13, Ethernet bandwidth notification (ETH-BN)

Add new clause 7.13 as follows:

7.13 Ethernet bandwidth notification (ETH-BN)

The Ethernet bandwidth notification (ETH-BN) function is used by a server MEP to signal the server layer link bandwidth in the transmit direction to a MEP at the client layer, for example when the server layer runs over a microwave link which has the capability to adapt its bandwidth according to the prevailing atmospheric conditions. Frames with ETH-BN information carry the current and nominal bandwidth of the server layer link. On receiving frames with ETH-BN information, the client layer MEP can use bandwidth information to adjust service policies, e.g., to reduce the rate of traffic being directed towards the degraded link.

Transmission of frames with ETH-BN information can be enabled or disabled on a server MEP. Only a server MEP can transmit frames with ETH-BN information.

When enabled, frames with ETH-BN information are transmitted at the client MEG level by a server MEP, upon detecting bandwidth degradation conditions. A server MEP continues to transmit periodic frames with ETH-BN information until the full bandwidth is restored. In addition, periodic frames with ETH-BN information may optionally be sent when there is no degradation or when the bandwidth degrades to 0.

In a multipoint client MEG, frames with ETH-BN information may need to include a port identification (Port ID) to identify which port is associated with the ETH-BN information. This is required if server MEPs for different links transmit frames using the same source MAC address.

Upon receiving a frame with ETH-BN information, a MEP passes the received information to the management system. The management system may take further action to reduce the rate of traffic being directed towards the degraded link or otherwise adjust the service policy for the link.

NOTE – Use of ETH-BN for protection switching is for further study.

The specific configuration information required by a server MEP to support ETH-BN transmission is the following:

- Client MEG level – MEG level at which the most immediate client layer MIPs and MEPs exist.

- ETH-BN transmission period – Determines transmission periodicity of frames with ETH-BN information.
- Hold time – Determines the time between detecting degradation, and transmission of the first frame with bandwidth notification message (BNM) information that indicates degradation (up to 10 s).
- Priority – Identifies the priority of frames with ETH-BN information.
- Drop eligibility – Frames with ETH-BN information are always marked as drop ineligible. This information is not necessarily configured.
- Port ID – A 32-bit unique identifier for the port; this is needed in multipoint MEGs if frames with ETH-BN information about different ports would otherwise be identical. It is optional otherwise. The value must be unique over all server links within the client MEG.

Specific configuration information required by a MEP to support ETH-BN reception is the following:

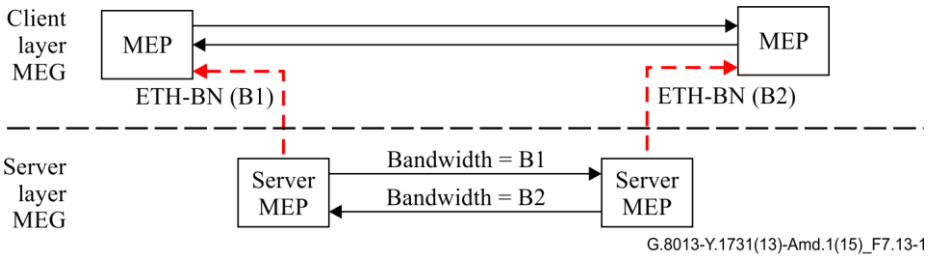
- Local MEG level – MEG level at which the MEP operates.

A MIP is transparent to frames with ETH-BN information and therefore does not require any information to support ETH-BN functionality.

The PDU used for ETH-BN information is BNM, as described in clause 9.25. Frames carrying the BNM PDU are called BNM frames.

7.13.1 BNM transmission

A server MEP, upon detecting a transmission bandwidth degrade condition, can transmit periodic BNM frames in a direction opposite to its peer server MEP, indicating that the current bandwidth isless than the nominal bandwidth. Transmission of BNM frames is shown in Figure 7.13-1.



NOTE – B1 and B2 can be the same or different values

Figure 7.13-1 – Example of ETH-BN transmission

A server MEP may also transmit periodic BNM frames when there is no degradation, indicating that the current and nominal bandwidth are the same, or when the port detects failure, to indicate that the current bandwidth is 0.

NOTE 1 – When the port detects failure, AIS frames are also transmitted by the peer server MEP.

Upon detecting a change in the transmission bandwidth, the first BNM frame that indicates the new transmission bandwidth must be transmitted after the hold time (up to 10 s) after detection of the transmission bandwidth change provided the condition has persisted for that time. If the change lasts for less than the hold time, no BNM frame indicating the change of transmission bandwidth is transmitted.

NOTE 2 – BNM notifications are expected to be used where the server layer is a microwave link that uses adaptive bandwidth modulation. A hold time is used to prevent notifications if the degradation is very short, such as might be cause by an object passing through the line of sight of the microwave. The applicability of BNM notifications to other technologies is for further study.

The first BNM frames are transmitted in quick succession so that reliable and fast actions at the receiver MEP are possible even if some BNM frames are lost or corrupted. The interval and the number of the first BNM frames are implementation specific.

The periodicity of BNM frame transmission is based on the configured value, and this is also communicated via the Period field in all the BNM frames. When detecting the full bandwidth recovery or a link failure, after the transmission of first BNM frames, the server MEP may cease transmission of periodic BNM frames.

The periodic BNM frames may be transmitted by configuration even when there is no degradation or full bandwidth recovery. The periodicity is based on the same configured value for periods of degradation.

7.13.2 BNM reception

Upon receiving a BNM frame, an MEP examines it to ensure that its MEG level corresponds to its own MEG level. The Period field indicates the period at which the BNM frames can be expected. The source MAC, Port ID and bandwidth information are extracted and passed to the management system. Subsequently, if no BNM frames are received within an interval of 3.5 times the BNM transmission period indicated in the last BNM frame received, the MEP signals to the management system that it no longer has any bandwidth information (e.g., because the full bandwidth has been restored).

As described in clause 7.13.1, the first BNM frames are transmitted in quick succession upon detecting a change in the transmission bandwidth. In this case, BNM frames are also received in quick succession to detect the change of bandwidth.

2.5) Clause 7.14, Ethernet expected defect (ETH-ED)

Add new clause 7.14 as follows:

7.14 Ethernet expected defect (ETH-ED)

The Ethernet expected defect (ETH-ED) function is used by a MEP to signal to its peer MEPs that transmission of CCM frames is expected to be interrupted without any interruption to data frames, and that the consequent loss of continuity defects at the peer MEPs should therefore be suppressed. Frames with ETH-ED information carry the MEP ID of the MEP and the expected duration of the interruption.

Frames with ETH-ED information are transmitted by a MEP shortly in advance of an expected interruption of CCM frame transmission, if no interruption is expected in the forwarding of data frames. Examples of this are when an in-service software or firmware upgrade is performed, or when a new MEP is added to an existing MEG.

Upon receiving a frame with ETH-ED information, a MEP passes the received information to the element management function (EMF). If enabled by the management system, the EMF can take action to disable the reception of CCMs, and hence avoid any loss of continuity defects that would otherwise be triggered.

NOTE – Further details on how expected defect notifications can be used, and considerations on handling received notifications in the EMF at the peer MEP can be found in Appendix IX of [ITU-T G.8021].

The specific configuration information required by a MEP to support ETH-ED transmission is the following:

- MEG level – MEG level at which the MEP exists.
- MEP ID – The MEP's identity within the MEG.
- Expected defect duration – Duration for which the peer MEPs are requested to suppress loss of continuity alarms.
- ETH-ED transmission period – Determines transmission periodicity of frames with ETH-ED information.

- Priority – Identifies the priority of frames with ETH-ED information.
- Drop eligibility – Frames with ETH-ED information are always marked as drop ineligible. This information is not necessarily configured.

Specific configuration information required by a MEP to support ETH-ED reception is the following:

- Local MEG level – MEG level at which the MEP operates.

A MIP is transparent to frames with ETH-ED information and therefore does not require any information to support ETH-ED functionality.

The PDU used for ETH-ED information is expected defect message (EDM), as described in clause 9.26. Frames carrying the EDM PDU are called EDM frames.

7.14.1 EDM transmission

A MEP can transmit one or more periodic EDM frames shortly in advance of an expected interruption of CCM frame transmission, or when CCM frame transmission has not yet commenced. Transmission of EDM frames ceases once the interruption occurs or when normal CCM transmission is (re)started.

7.14.2 EDM reception

Upon receiving an EDM frame, a MEP examines it to ensure that its MEG level corresponds to its own MEG level. The source MEP ID and the expected duration are extracted and passed to the management system.

2.6) Clause 9.1, Common OAM information elements

Modify Table 9-1 as follows:

Table 9-1 – OpCode values

OpCode value	OAM PDU type	OpCode relevance for MEPs/MIPs
OpCodes common with IEEE 802.1		
1	CCM	MEPs
3	LBM	MEPs and MIPs (connectivity verification)
2	LBR	MEPs and MIPs (connectivity verification)
5	LTM	MEPs and MIPs
4	LTR	MEPs and MIPs
0, 6-31, 64-255	Reserved (Note 1)	
OpCodes specific to this Recommendation		
32	GNM (Note 4)	MEPs
33	AIS	MEPs
35	LCK	MEPs
37	TST	MEPs
39	Linear APS	Refer to [ITU-T G.8031]
40	Ring APS	Refer to [ITU-T G.8032]
41	MCC	MEPs
43	LMM	MEPs
42	LMR	MEPs
45	1DM	MEPs
47	DMM	MEPs

Table 9-1 – OpCode values

OpCode value	OAM PDU type	OpCode relevance for MEPs/MIPs
46	DMR	MEPs
49	EXM	Outside the scope of this Recommendation
48	EXR	Outside the scope of this Recommendation
51	VSM	Outside the scope of this Recommendation
50	VSR	Outside the scope of this Recommendation
52	CSF	MEPs
53	1SL	MEPs
55	SLM	MEPs
54	SLR	MEPs
~~32,~~ 34, 36, 38, 44, 60-63	Reserved (Note 2)	
56-59	Reserved (Note 3)	
NOTE 1 – Reserved for definition by IEEE 802.1. NOTE 2 – Reserved for future standardization by ITU-T. NOTE 3 – Reserved for definition by MEF. NOTE 4 – The generic notification message (GNM) PDU type is used to carry other OAM PDUs using the Sub-Opcodes in Table 9-1a.		

2.7) Clause 9.1.1, Common OAM PDU format

Modify clause 9.1.1 as follows:

9.1.1 Common OAM PDU format

The common format used in all OAM PDUs is shown in Figure 9.1-1.

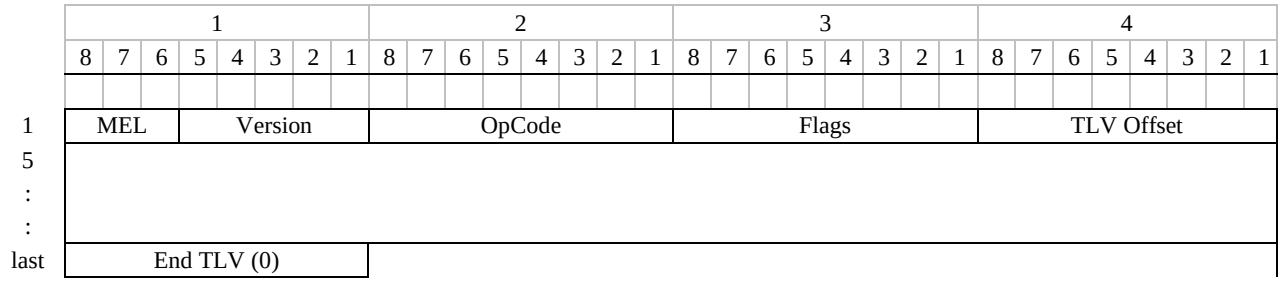


Figure 9.1-1 – Common OAM PDU format

When OpCode 32 (GNM) is used, there is an additional 1-octet Sub-OpCode field following the TLV Offset field. Sub-OpCode values are shown in Table 9-1a.

Table 9-1a – Sub-OpCode values

Sub-OpCode value	OAM PDU type
1	BNM
0, 2-255	Reserved (Note)
NOTE – Reserved for future standardization by ITU-T.	

The general format of TLVs is shown in Figure 9.1-2. Type values are specified in Table 9-2.

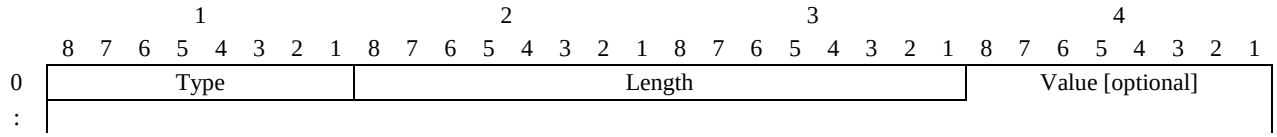


Figure 9.1-2 – Generic TLV format

NOTE – In an End TLV, Type = 0, and both Length and Value fields are not used.

Table 9-2 – Type values

Type value	TLV name
Types common with IEEE 802.1	
0	End TLV
3	Data TLV
5	Reply ingress TLV
6	Reply egress TLV
7	LTM egress identifier TLV
8	LTR egress identifier TLV
2, 4, 9-31, 64-255	Reserved (Note 1)
Types specific to this Recommendation	
32	Test TLV
33-35	Reserved (Note 2)
36	Test ID TLV
37, 38	Reserved (Note 3)
~~39~~	~~Link ID TLV~~
3940-63	Reserved (Note 4)
NOTE 1 – Reserved for definition by IEEE 802.1. NOTE 2 – Reserved for definition by [ITU-T G.8113.1]. NOTE 3 – Reserved for definition by MEF. NOTE 4 – Reserved for future standardization by ITU-T.	

2.8) Clause 9.11.2, MCC PDU format

Modify clause 9.11.2 as follows:

9.11.2 MCC PDU format

The MCC PDU format used by a MEP to transmit MCC information is shown in Figure 9.11-1.

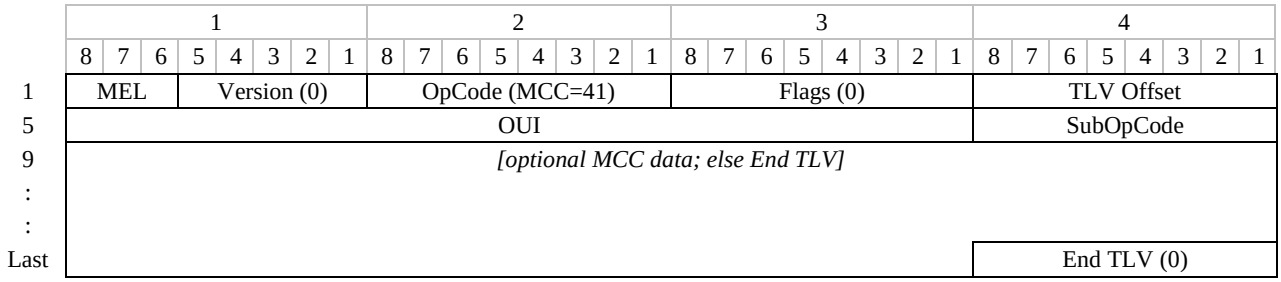


Figure 9.11-1 – MCC PDU format

The fields of the MCC PDU format are as follows:

- MEG Level: Refer to clause 9.1.
- Version: Refer to clause 9.1, value is 0 in the current version of this Recommendation.
- OpCode: Value for this PDU type is MCC (41).
- Flags: Set to all-ZEROes.

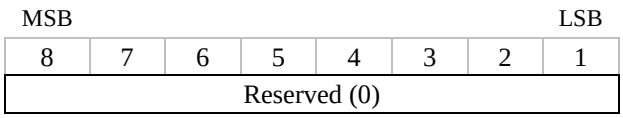


Figure 9.11-2 – Flags format in MCC PDU

- TLV Offset: 1-byte field. ETH-ED uses this field as described in clause 9.26. Other uses of this field are ~~Its specific value for MCC is~~ outside the scope of this Recommendation, TLV Offset for ETH-ED is defined in clause 9.26.
- OUI: 3-octet field that contains the organizationally unique identifier of the organization defining the format of MCC Data and values SubOpCode~~the values of which are outside the scope of this Recommendation.~~.
- SubOpCode: 1-octet field ~~the values~~. When the OUI field contains the ITU-T OUI (00-19-A7), ETH-ED uses SubOpCode (1) as described in clause 9.26 and other values are reserved. When a different OUI is used, the values of the SubOpCode are outside the scope of this Recommendation~~ETH-ED uses Subopcode (1) as described in clause 9.26. The other values are outside the scope of this Recommendation~~.
- MCC Data: ETH-ED uses this field as described in clause 9.26. Other uses of ~~Format and length of~~ this field are outside the scope of this Recommendation.
- End TLV: All-ZEROes octet value.

2.9) Clause 9.25, BNM PDU

Add new clause 9.25 as follows:

9.25 BNM PDU

The BNM PDU is used to support the ETH-BNM function, as described in clause 7.13.

9.25.1 BNM information elements

The information element carried in BNM includes:

- Period: Period is a 3-bit information element carried in the three least significant bits of the Flags field. Period contains the value of BNM transmission periodicity. BNM period values are specified in Table 9-7.
- Nominal Bandwidth: Nominal full bandwidth of the link, expressed in integer Mb/s.

- Current Bandwidth: Current bandwidth of the link, expressed in integer Mb/s.
- Port ID: Either non-zero unique identifier for the port or zero if this identifier is not used.

The nominal full bandwidth and the current bandwidth values represent the available bandwidth of the server layer.

9.25.2 BNM PDU format

The BNM PDU format used by a server MEP to transmit BNM information is shown in Figure 9.25-1.

	1								2								3								4							
	8	7	6	5	4	3	2	1	8	7	6	5	4	3	2	1	8	7	6	5	4	3	2	1	8	7	6	5	4	3	2	1
1	MEL			Version (0)					OpCode (GNM=32)								Flags								TLV Offset (13)							
5	Sub-OpCode (BNM=1)								Nominal Bandwidth																							
9	Nominal Bandwidth (cont)								Current Bandwidth																							
13	Current Bandwidth (cont)								Port ID																							
17	Port ID (cont)								End TLV (0)																							

Figure 9.25-1 – BNM PDU format

The fields of the BNM PDU format are as follows:

- MEG Level: A 3-bit field that is used to carry the MEG Level of the client MEG.
- Version: Refer to clause 9.1; value is 0 in the current version of this Recommendation.
- OpCode: Value for this PDU type is GNM (32).
- Flags: One information element in the Flags field for the BNM PDU, Period, as follows:

MSB							LSB
8	7	6	5	4	3	2	1
Reserved (0)					Period		

Figure 9.25-2 – Flags format in BNM PDU

  – Period: Bits 3 to 1 indicate transmission period with the encoding in Table 9-7.

Table 9-7 – BNM period values

Flags[3:1]	Period value	Comments
000	Invalid value	Invalid value for BNM PDUs
001	For further study	For further study
010	For further study	For further study
011	For further study	For further study
100	1 s	1 frame per second
101	10 s	1 frame per 10 seconds
110	1 min	1 frame per minute
111	Invalid value	Invalid value for BNM PDUs

- TLV Offset: Set to 13.
- Sub-OpCode: Value for this PDU type is BNM (1).
- Nominal bandwidth: The nominal full bandwidth of the link, expressed as integer Mb/s.
- Current bandwidth: The current bandwidth of the link, expressed as integer Mb/s.

- Port ID: An optionally used non-zero 32-bit identifier for the port to which the bandwidth information pertains. The value must be unique over all server links within the client MEG. If this identifier is not used, the value should be zero.
- End TLV: All-ZEROes octet value.

2.10) Clause 9.26, EDM PDU

Add new clause 9.26 as follows:

9.26 EDM PDU

The EDM PDU is used to support the ETH-ED function, as described in clause 7.14.

9.26.1 EDM information elements

The information element carried in EDM includes:

- MEP ID: MEP ID is a 2-octet field where the 13 least significant bits are used to identify the MEP transmitting the EDM frame. MEP ID is unique within the MEG.
- Expected duration: Expected duration for which the peer MEP is requested to suppress loss of continuity defects.

9.26.2 EDM PDU format

The EDM PDU format used by a MEP to transmit EDM information is shown in Figure 9.26-1.

	1								2								3								4							
	8	7	6	5	4	3	2	1	8	7	6	5	4	3	2	1	8	7	6	5	4	3	2	1	8	7	6	5	4	3	2	1
1	MEL			Version (0)					OpCode (MCC=41)								Flags (0)								TLV Offset (10)							
5	OUI																								SubOpCode(EDM=1)							
9	MEP ID																Expected Duration															
13	Expected Duration (cont)																End TLV (0)															

Figure 9.26-1 – EDM PDU format

The fields of the EDM PDU format are as follows:

- MEG Level: A 3-bit field that is used to carry the MEG Level of the client MEG.
- Version: Refer to clause 9.1; value is 0 in the current version of this Recommendation.
- OpCode: Value for this PDU type is MCC (41).
- Flags: Set to all ZEROes.
- TLV Offset: Set to 10.
- OUI: Set to the ITU-T OUI (00-19-A7).
- Sub-OpCode: Value for this PDU type is EDM (1).
- MEP ID: A 13-bit integer value identifying the transmitting MEP within the MEG. The three MSBs of the first octet are not used and set to ZERO.
- Expected duration: The duration, in seconds, for which the loss of continuity is expected to last (starting from when the first EDM is transmitted).
- End TLV: All-ZEROes octet value.

2.11) Clause 10, OAM frame addresses

Add new clauses 10.25 and 10.26 as follows:

10.25 BNM

BNM frames are generated with multicast class 1 DA in a multipoint MEG, and are typically generated with a multicast class 1 DA in a point-to-point MEG except as described below.

In provisioned environments for point-to-point connections where the data frames in different services instances are distinguished using unicast DAs, BNM frames are generated with the unicast DA of the downstream MEP.

10.26 EDM

EDM frames are generated with multicast class 1 DA in a multipoint MEG, and are typically generated with a multicast class 1 DA in a point-to-point MEG except as described below.

In provisioned environments for point-to-point connections where the data frames in different services instances are distinguished using unicast DAs, EDM frames are generated with the unicast DA of the downstream MEP.

2.12) Clause 10.24, 1SL

Modify Table 10-1 of clause 10.24 as follows:

Table 10-1 – OAM frame DA

OAM type	DAs for frames with OAM PDU
CCM	Multicast Class 1 DA or unicast DA
LBM	Unicast DA or multicast Class 1 DA
LBR	Unicast DA
LTM	Multicast Class 2 DA
LTR	Unicast DA
AIS	Multicast Class 1 DA or unicast DA
LCK	Multicast Class 1 DA or unicast DA
TST	Unicast DA or multicast Class 1 DA
Linear APS	Refer to [ITU-T G.8031]
Ring APS	Refer to [ITU-T G.8032]
MCC	Unicast DA or multicast Class 1 DA
LMM	Unicast DA or multicast Class 1 DA
LMR	Unicast DA
1DM	Unicast DA or multicast Class 1 DA
DMM	Unicast DA or multicast Class 1 DA
DMR	Unicast DA
EXM, EXR, VSM, VSR	Outside the scope of this Recommendation
CSF	Multicast Class 1 DA or unicast DA
SLM	Unicast DA or multicast Class 1 DA
SLR	Unicast DA

Table 10-1 – OAM frame DA

OAM type	DAs for frames with OAM PDU
1SL	Unicast DA or Multicast class 1 DA
BNM	Multicast Class 1 DA or unicast DA
EDM	Multicast Class 1 DA or unicast DA

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