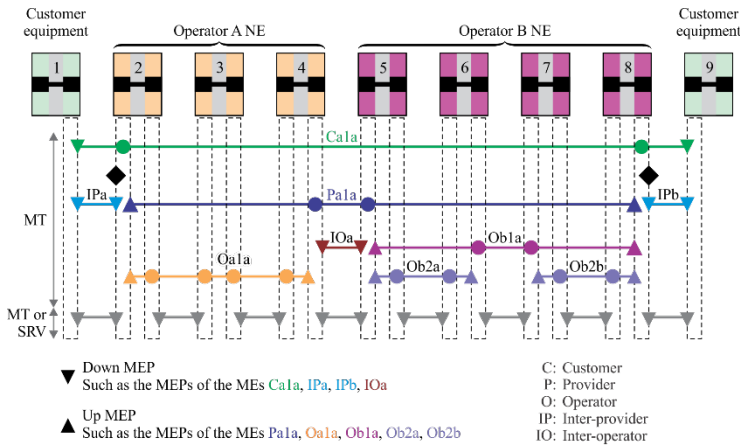


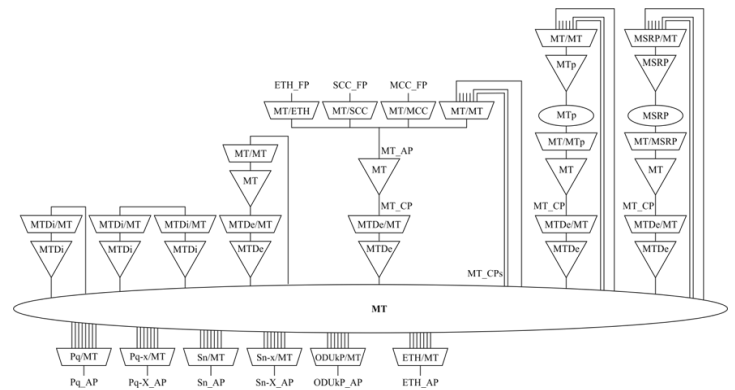
G.8113.1, G.8113.2, G.8121, G.8121.1, G.8121.2

MPLS-TP OAM and equipment specifications

- ITU-T G.8113 series Recommendations specify fault management and performance monitoring mechanisms to meet the MPLS-TP OAM requirements in IETF RFC 5860. ITU-T G.8113.1 focuses on user-plane OAM while ITU-T G.8113.2 is based on the tools defined for MPLS in IETF RFCs for data plane OAM.
- ITU-T G.8121 series Recommendations describe the corresponding functional components and the methodology that should be used to describe MPLS-TP layer network functionality of network elements.



Example of maintenance entities under OAM per ITU-T G.8113.1 and G.8113.2



MPLS-TP atomic functions per ITU-T G.8121

The five following Recommendations provide a representation of the multi-protocol label switching transport profile (MPLS-TP) technology using the methodologies that have been used for other transport technologies [e.g., optical transport network (OTN) and Ethernet].

1. ITU-T G.8113 series Recommendations

The two Recommendations in the ITU-T G.8113 series specify mechanisms to meet the MPLS-TP operations, administration and maintenance (OAM) requirements defined in Internet Engineering Task Force (IETF) request for comments (RFC) 5860.

They also specify the MPLS-TP OAM packet formats, syntax and semantics of MPLS-TP OAM packet fields.

The OAM mechanisms defined in these Recommendations assume common forwarding of the MPLS-TP user packets and MPLS-TP OAM packets.

These Recommendations are intended to be aligned with the IETF RFCs applicable to MPLS normatively referenced by these Recommendations.

1.1 ITU-T G.8113.1 – Operations, administration and maintenance mechanisms for MPLS-TP in packet transport networks

Recommendation ITU-T G.8113.1 specifies mechanisms for user-plane OAM in MPLS-TP networks.

In transport networks, the OAM return path

is always in band. The MPLS-TP OAM mechanisms described in this Recommendation apply to co-routed bidirectional point-to-point MPLS-TP connections.

This Recommendation is compliant with the transport profile of MPLS as specified by IETF RFC 5654. In the event of a misalignment in MPLS-TP-related architecture, framework and protocols between this ITU-T Recommendation and the normatively referenced IETF RFCs, the RFCs will take precedence.

1.2. ITU-T G.8113.2 – Operations, administration and maintenance mechanisms for MPLS-TP networks using the tools defined for MPLS

Recommendation ITU-T G.8113.2 specifies OAM mechanisms based on the tools defined for MPLS in IETF RFCs for data plane OAM in MPLS-TP networks.

In transport networks using co-routed bidirectional point to-point connections, the OAM return path is always in-band.

2 ITU-T G.8121 series Recommendations

The three Recommendations in the ITU-T G.8121 series describe both the functional components and the methodology that should be used to describe MPLS-TP layer network functionality of network elements. They do not describe individual MPLS-TP network equipment as such.

2.1 ITU-T G.8121 – Characteristics of MPLS-TP equipment functional blocks

Recommendation ITU-T G.8121 defines protocol neutral constructs. This Recommendation is intended to be aligned with the IETF RFCs applicable to MPLS normatively referenced by this Recommendation.

2.2 ITU-T G.8121.1 – Characteristics of MPLS-TP equipment functional blocks supporting ITU-T G.8113.1/Y.1372.1 OAM mechanisms

Recommendation ITU-T G.8121.1's descriptions are based on the protocol neutral constructs defined in Recommendation ITU-T G.8121 and on the tools defined in Recommendation ITU T G.8113.1/Y.1372.1.

2.3 ITU-T G.8121.2 – Characteristics of MPLS-TP equipment functional blocks supporting ITU-T G.8113.2/Y.1372.2 OAM mechanisms

Recommendation ITU-T G.8121.2's descriptions are based on the protocol neutral constructs defined in Recommendation ITU T G.8121/Y.1381 and on the tools defined in Recommendation ITU T G.8113.2/Y.1372.2.

This Recommendation is intended to be aligned with the IETF RFCs applicable to MPLS normatively referenced by this Recommendation.

