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Draft Amendment 1 to Recommendation ITU-T G.8113.2/Y.1372.2 (2012)

Operations, administration and maintenance mechanisms for MPLS-TP networks using the tools defined for MPLS: Amendment 1

Summary

Amendment 1 to Recommendation ITU-T G.8113.2/Y.1372.2 (11/2012) contains new material related to security considerations for MPLS-TP and updates references to RFCs and Recommendations that have been approved since initial approval of the Recommendation.

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Draft Amendment 1 to Recommendation ITU-T G.8113.2/Y.1372.2 (2012)

Operations, administration and maintenance mechanisms for MPLS-TP networks using the tools defined for MPLS: Amendment 1

1 Scope

This amendment contains modified text to be added Recommendation ITU-T G.8113.2 related to security considerations for MPLS-TP, as well as updates to references to and Recommendations RFCs that have been approved since the approval of the G.8113.2.

2 References

None.

3 Text modification for ITU-T G.8113.2

3.1 Modifications to clause 2

Add new references as shown:

[ITU-T G.8121.2] Recommendation ITU-T G.8121.2/Y.1381.2 (2013), *Characteristics of MPLS-TP equipment functional blocks supporting G.8113.2/Y.1372.2.*

3.2 Correction to clause 6.2 title

Replace the clause title with

6.2 Maintenance Entity Group (MEG)

3.3 Update various clauses referring to G.8121.2

Update clause 7.2 as shown

7.2 OAM functions specification

Table 7-1 provides a summary of MPLS-TP OAM functions, protocols used, and the corresponding IETF RFCs. All control messages are carried using G-ACh. Functional processing of these messages is described in [~~b-~~ITU-T Recommendation G.8121.2].

Update clause 9.3 as shown

9.3 Alarm Indication Signal (AIS) and Link Down Indication (LDI) procedures

…

When a MEP receives an AIS message, it detects the dAIS defect as described in clause 6.1 of [~~b-~~ITU-T G.8121.2].

3.4 Add new clause 10

10 Security

According to clause 6.3 of this Recommendation packets originating outside the MEG are encapsulated by the MEP at the ingress and transported transparently through the MEG. This encapsulation significantly reduces the risk of an attack from outside the MEG. The MEP at the egress also prevents OAM packets from leaving a MEG.

The use of the CV tool improves network integrity by ensuring traffic is not misconnected or mismerged between LSPs. The expected MEP-ID is provisioned at the sink MEP, this allows the received MEP-ID to be verified with a high degree of certainty, which significantly reduces the possibility of an attack.

The use of globally unique identifiers for MEPs by combination of a globally unique MEG_ID with a MEP ID provides an absolute authoritative detection of persistent misconnection between LSPs. A globally unique MEG_ID should be used when an LSP between the networks of different national operators crosses national boundaries since non-uniqueness can result in undetected misconnection in a scenario where two LSPs use a common MEG-ID.

For the use of any other OAM tools it is assumed that MEPs and MIPs that start using the tools verify the integrity of the path and the identity of the source MEP. If a misconnection is detected the tool in use shall be disabled immediately.

3.3 Modifications to bibliography

Update the bibliography as shown:

~~[b-ITU-T G.8121.2]~~ ~~Recommendation ITU-T G.8121.2/Y.1381.2 (2011), *Characteristics of MPLS-TP equipment functional blocks supporting G.8113.2/Y.1372.2*.~~

[b-IANA PW Reg] Pseudowire Associated Channel Types, http://www.iana.org/assignments/pwe3-parameters/pwe3-parameters.xml#pwe3-parameters-10

~~[b-IETF RFC itu-t-identifiers]~~ ~~IETF Internet Draft draft-ietf-mpls-tp-itu-t-identifiers-06, *MPLS-TP Identifiers Following ITU-T Conventions.*~~

[b-IETF RFC 6941] IETF RFC 6941 (2013), *MPLS-TP Security Framework.*

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