

When providing a class III protected S-tagged interface, multiple CNPs, each on a different BEB, are used to create a single S-tagged interface. Each LAN of the S-tagged interface executes PHY management, or CFM, or both at the port level to detect failures over the interface LANs. Information from PHY management and/or CFM is used by the customer to determine which LANs of the S-tagged interface are operating and which are inactive. No BPDUs from the customer network or from the Provider network are delivered over the interface LANs which form the protected S-tagged interface. The L2GP (13.37) protocol is run on the customer network which determines which S-VLANs are active on which LANs of the class III interface. Upon an active link failure between customer node and its corresponding BEB or upon the customer node failure, the customer network switches to one (or more) of the backup links and informs the PBBN which S-VLANs are active on which links using MVRP (11.2) on the access LANs. The BEB(s) upon receiving the MVRP message(s) from the customer network generate the corresponding MRP-based message(s) for the effected I-SIDs and send these messages over the associated B-VLANs. The far-end BEBs, upon receiving these messages, will flush their C-MAC entries in their filtering database corresponding to the effected I-SIDs.

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When providing a class III protected I-tagged interface, multiple Customer Backbone Ports, each on a different B-BEB, are used to create the single I-tagged interface. In this scenario, each B-BEB is connected via a single link to the customer I-BEB where the link can be class II protected. The customer I-BEB is in turn connected via multiple CNPs to the customer network. The L2GP (13.37) protocol is run on the customer network (excluding I-BEBs) which determines which S-VLANs are active on which LANs connected to CNPs of I-BEBs. In the case of an I-tagged interface, no BPDUs from the customer network or from the Provider network are delivered over the interface LANs which form the I-tagged interface. Furthermore, no customer BPDUs are exchanged over the S-tagged interface connecting the customer I-BEBs with the customer network. Each LAN of S-tagged interface executes PHY management or CFM at the port level to detect failures over the interface LANs between the customer I-BEBs and the customer network. When a failure is detected, the customer network informs the customer I-BEBs which S-VLANs are active on which links using MVRP (11.2). The customer I-BEBs in turn notify the provider B-BEBs using MRP-based messages corresponding to the effected I-SIDs. The provider B-BEBs relay this message to the other BEBs in the PBBN over the associated B-VLANs. The far-end BEBs, upon receiving these messages, will flush their C-MAC entries in their filtering database corresponding to the effected I-SIDs. Each LAN of the I-tagged interface also executes PHY management or CFM at the port level to detect failures over the I-tagged interface. In case of a complete I-tagged interface failure between the customer I-BEB and the provider B-BEB, the I-BEB uses this info to de-activate all its CNP ports toward the customer network.

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