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Improving Layer 2 Converged Networks

G.8032 Protection and Y.1731 Internal Monitoring

Converged Layer 0 and Layer 2 Network

The FLASHWAVE® 9500 platform provides an elegant, cost-effective converged Layer 0 and Layer 2 network that has been widely adopted and deployed. This solution offers a rich set of Layer 2 features built to deliver E-Line and E-LAN services.

Now, in the first quarter of 2015, the FLASHWAVE 9500 ROADM adds popular G.8032 protection and Y.1731 internal monitoring of per-service SLAs.

In the network modeled in Figure 1, the core switching devices are connected with a 10 GbE ring.

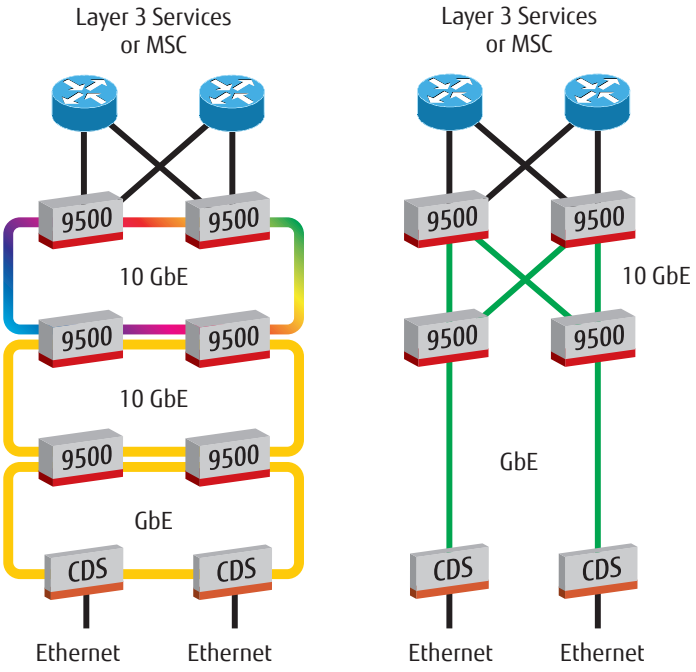

Figure 1: FLASHWAVE 9500 converged Layer 0 and Layer 2 network

Two aspects of the Layer 2 portion of this solution have been enhanced:

- Protection
- Service Level Assurance (SLA)

Protection

The FLASHWAVE 9500 platform supports ITU-T G.8031 Layer 2 Ethernet Linear Protection Switching (Figure 2). G.8031 provides sub-50 millisecond protection on individual services or on Ethernet Service VLAN (S-VLAN) trunks.

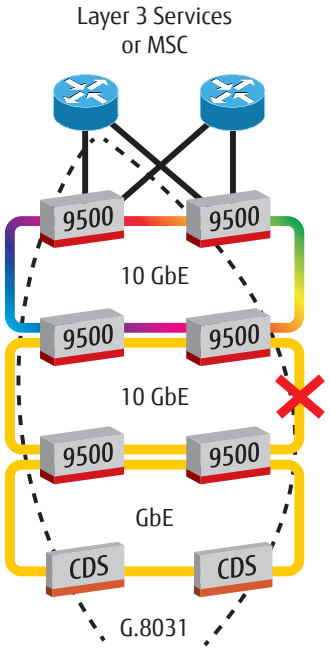

Figure 2: G.8031 provides sub-50 millisecond protection on individual services or on Ethernet S-VLAN trunks.

Improving Layer 2 Converged Network Solutions

Many deployments are ring-oriented. Figure 3 depicts ITU-T G.8032 Ethernet Ring Protection Switching, a sub-50 millisecond protection mechanism for ringed and E-LAN–capable environments.

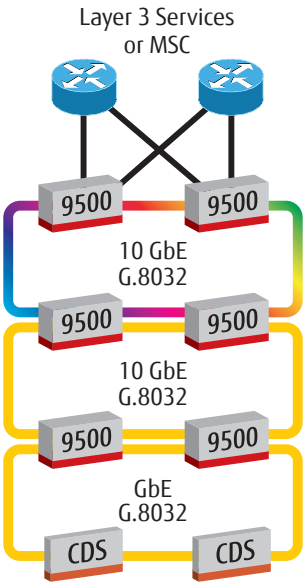

Figure 3: G.8032 provides sub-50 millisecond protection mechanism for ringed and E-LAN–capable environments.

G.8032 has two key benefits:

- Support of multiple failures
- Simpler operations

Unlike G.8031, which protects one failure, G.8032 supports multiple failures (Figure 4). Additionally, G.8031 is set up per-service or per-trunk, whereas G.8032 is set up for a ring, and services are added to the protected ring as they are provisioned. As a result, many consider G.8032 simpler from an operational point of view.

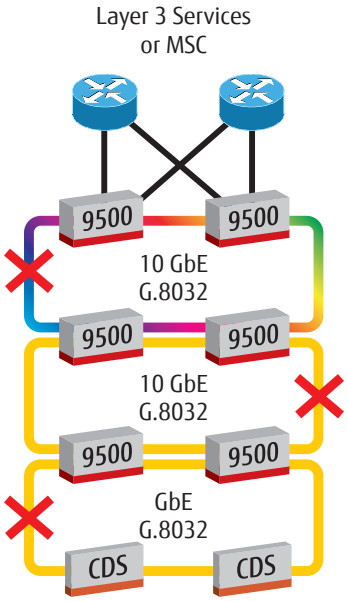

Figure 4: G.8032 supports multiple failures.

Service Level Assurance

The FLASHWAVE 9500 platform has offered per-service SLAs via external monitoring. Now, with support for ITU-T Y.1731 Performance Monitoring, the measurement of packet loss, packet delay and packet delay variation per service is performed within the FLASHWAVE 9500 system.

Summary

A new software release enhances the FLASHWAVE 9500 Layer 2 solution. The option of G.8032 protection has been added to the already extensive suite of protection mechanisms. Inclusion of Y.1731 allows per-service performance monitoring. As the FLASHWAVE 9500 platform evolves, it will continue to provide a comprehensive Ethernet solution.

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