Study Highlights Operational Cost Benefits of COE over MPLS-TE

Sam Lisle, Market Development Director, Fujitsu Network Communications

A recent study by Network Strategy Partners clearly identifies the high operational costs of IP/MPLS in comparison to a simple Connection-Oriented Ethernet (COE) approach for metro Ethernet aggregation and transport. The study points to the relatively high cost of service contracts, training, testing and certification, and "network care" for MPLS-TE, resulting in a 50% OPEX advantage for COE.

This is completely consistent with what Fujitsu is hearing from network operators. It's becoming a trend in design and deployment of next-generation transport architectures.

The ability to aggregate IP and Ethernet services traffic on a broad scale in the metro network has been a critical missing piece of the next-generation packet networking puzzle. COE provides traffic engineering capabilities for Ethernet, and uniquely combines the determinism, security, and reliability of SONET/SDH with the flexibility and bandwidth efficiency of Ethernet. Therefore, it delivers the deterministic broad-scale aggregation that service providers are looking for.

There is widespread consensus on the value of COE for metro aggregation, but there have also been questions about the best way to implement it. A variety of technology options are available. These include IP/MPLS with traffic engineering that introduces a full IP control plane, as well as PW and MPLS data plane layers. There are also Ethernet-only, management-plane-centric approaches, such as Ethernet Tag Switching or PBB-TE.

Initially, the idea of "running MPLS down to the customer edge" seemed obvious—at least to router vendors—but prevailing thought now emphasizes the simplicity of using network management systems to create static Ethernet circuits using native Ethernet technology.

In fact, the recent IETF effort to standardize MPLS-TP is, essentially, a public confession by the connectionless router community that the dynamic control plane of IP/MPLS is just plain overkill for a highly distributed metro network whose job it is to bring traffic efficiently to that routed core. Many service providers have implemented 100-node MPLS networks. This may sound large until one considers that each major metro network contains 10,000 to 20,000 connection-oriented, management-plane operated aggregation elements (read "SONET/SDH").

As the NSP study indicates—when it comes to building out the metro infrastructure—the cost advantage is on the side of simplicity.

FUJITSU NETWORK COMMUNICATIONS INC.
2801 Telecom Parkway, Richardson, Texas 75082-3515
Telephone: (972) 690-6000
(800) 777-FAST (U.S.)
us.fujitsu.com/telecom