

Intelligent Demarcation

Carrier Ethernet Demarcation

Enterprise customers have been interested in the use of Ethernet services in the wide area network (WAN) for years, looking to realize the benefits of having the local area network (LAN) and WAN share the same protocol. In addition, service providers are also looking for ways to offer new and differentiated Ethernet services to increase revenues and remain competitive while meeting the demands of enterprise customers.

So what was the delay in deploying Carrier Grade Ethernet services? One of the reasons was the fact that Ethernet was designed for LAN environments and it did not offer a definite boundary or edge for the service provider. Without this boundary, it was difficult for a service provider to tell where their network ended and the customer's network began. Hence the customer had to receive "best effort" Ethernet services which many enterprises found to be unacceptable. The problem is that an enterprise customer requires more than "best effort" service. Enterprise customers expect the same guarantees and reliability that they have become accustomed to with traditional TDM (Time-Division Multiplexing) services.

A key way to provide the demarcation point that service providers require while also ensuring the reliability and guarantees that enterprise customers require, is through the use of Network Interface Devices (NIDs). NIDs are also an effective way of providing capital (CapEx) and operational (OpEx) savings to service providers while enabling the service provider to offer tiered services.

How It Works

NIDs are installed at the customer premise and provide a demarcation point between the service provider and customer's network. While some may think of a NID as being strictly for demarcation between the service provider and customer network, it is much more than that.

Product Features

- MEF 9 and 14 certified
- 802.1q VLAN, including Q-in-Q
- Management VLAN
- Bandwidth allocation
- RMON counters
- 802.1x
- 802.1p QoS
- Lifetime warranty

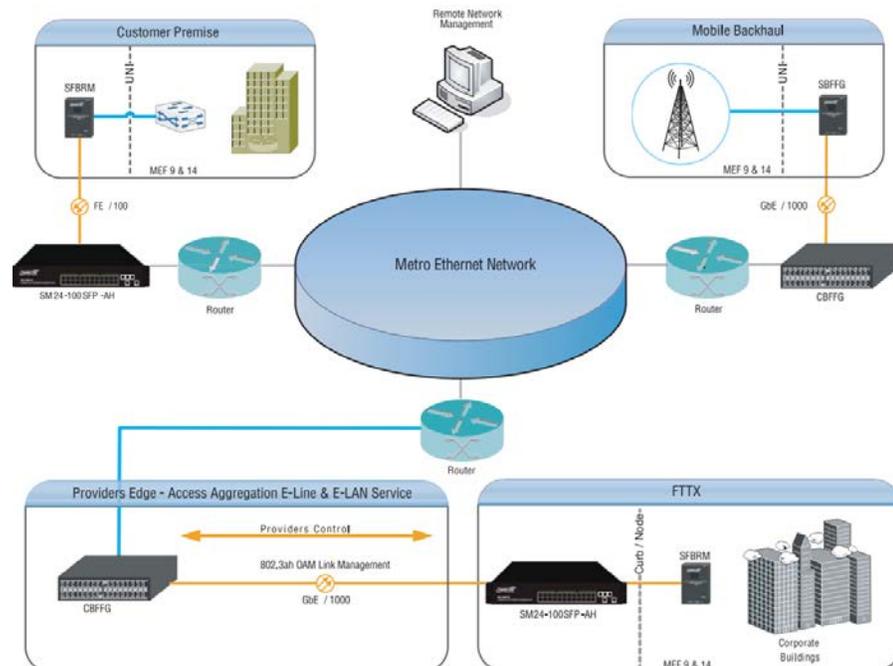
Product Benefits

Transition Networks' NIDs are intelligent devices that allow service providers to take advantage of many remote management capabilities. NIDs allow for end-to-end Operations, Administration and Maintenance (OAM) functionality for the service provider. With basic functions, such as loopback testing and remote fault isolation, the NID provides a number of benefits. Some of these benefits include: reduced truck rolls, fewer test sets in the field, and increased reliability. The result for the service provider is a reduction in OpEx and CapEx while providing a faster return on investment (ROI).

While the operational savings of NIDs can be shown with their features and capabilities for remote troubleshooting, easy installation, and Service Level Agreement (SLA) monitoring to reduce SLA penalties, it is important for service providers to be aware of the additional revenue streams and services that can be achieved when using NIDs at the demarcation point. NIDs have advanced features such as bandwidth allocation, Quality of Service (QoS), Virtual Local Area Network (VLAN), and other features that allow the service provider the capability to provide tiered service offerings to customers. Based on the SLA and bandwidth the customer requires, the service provider can charge more for these premium services. When the customer does need to upgrade the service at a later date, the remote management capabilities of the NID allow for changes in the service without dispatching a technician or replacing the equipment so the operational savings are again recognized.

As shown in Figure 1, the NID clearly shows where the user network interface (UNI) is. An OAM fiber aggregation switch such as the Transition Networks SM24-100SFP-AH can be used at the edge or if you already have a copper-based aggregation switch, you can deploy a chassis-based system to interconnect to the fiber in the first mile. With the remote management capabilities offered in the NID, you can have visibility within the network out to the customer premise.

Figure 1



Summary

Network Interface Devices from Transition Networks offer many benefits to service providers that are looking to offer Carrier Ethernet services. Providing tools for remote troubleshooting and SLA monitoring, the NID can reduce OpEx and recognize CapEx savings by enabling the ability to offer a tiered service on the same equipment. It is clear that NIDs not only provide the functional demarcation point between the customer and service provider, but that they enable service providers to take advantage of additional revenue streams that customers are requesting today.

Transition Networks NIDs can be managed in a variety of methods, which include: OAM, CLI, telnet, SNMP, and web-based or with our free SNMP GUI – Focal Point. Allow mission-critical Carrier Ethernet applications to be seamlessly delivered with our MEF 9 and MEF 14 compliant products.