

Cass Cable TV, Inc., Deploys the MSP-10GE for Data and Video Transport

Cass Cable TV, Inc.

Cass Cable TV, Inc., is a cable operator in Virginia, Illinois, offering digital cable, pay-per-view, internet and voice services to its ~20,000 subscribers.

The Objective

In 2006 Cass Cable TV, Inc., needed to extend its service offering of Internet access and Digital Video to its subscriber base. The options were to expand the existing SONET infrastructure or transition to a next generation packet-centric transport platform with bandwidth efficient support for all the services. Maintaining network reliability and bandwidth scalability for future upgrades were prime objectives in the network deployment strategy.

Network Solution

Cass Cable TV, Inc., chose to move forward with a native 10GE Ethernet transport solution from IPITEK. The MSP-10GE product platform was a perfect fit because of the pay-as-you-grow bandwidth scalability enabled by a 1RU footprint and 10GE hot-pluggable optics.

Figure 1 shows the part of the Cass Cable TV, Inc., network where the MSP-10GE is deployed. The top part shows the master head-end and the hub sites, while the bottom part shows the actual deployment of the MSP-10GE. Only 10GE transport connections are shown, while 1GE service connections are omitted for clarity. Deployment and service turn-up was accomplished within a few days rather than weeks due to an easy-to-use provisioning and management system. Due to a power budget limitation, one MSP-10GE was configured as a 10GE repeater and placed at a site between the Virginia head-end and Williamsville hub. All other distribution sites could be reached directly from the head-end.

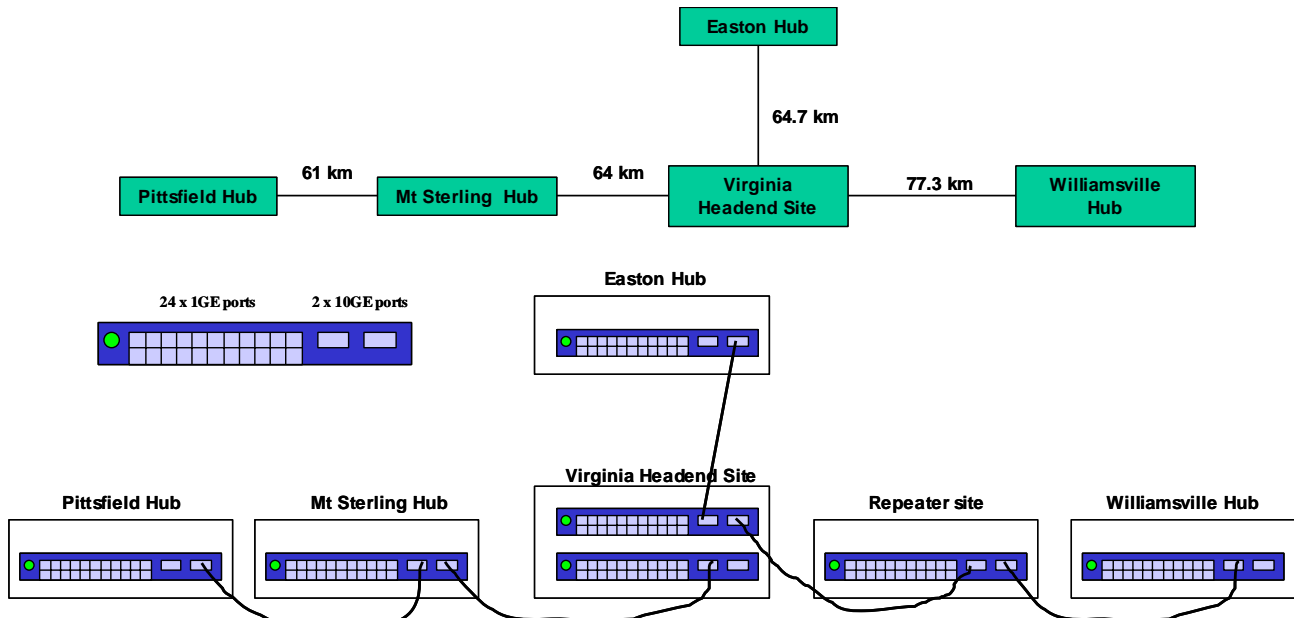


Figure 1: top) Cass Cable TV, Inc., network topology and bottom) network solution using the MSP-10GE

The MSP-10GE platform offers several important features and benefits relevant to the deployed network solution:

- Bandwidth scalability up to 400Gbit/s with 10GE per lambda and support for 40 wavelengths.
- Support of any logical topology; point-to-point, hub and spoke, ring, multipoint-to-multipoint.
- “Drop and continue” allows a single stream to be sent to any number of outputs in the network saving bandwidth resources as compared with other solutions that require multiple circuits to accomplish the same.
- Monitoring of optical power levels and Ethernet statistics offers an accurate view of network conditions.
- QoS on a per port basis together with strict scheduling for high-priority traffic makes it possible to overbook the switch with low priority data for more revenue.
- Rate control on each port ensures that business customers only get what is paid for, while 1GE physical pipes allow bandwidth scalability and makes it easy for service providers to sell add-on services.
- VLAN stacking is used to forward and separate traffic. This means that the MSP-10GE is transparent to customers IP and VLAN addressing schemes, greatly improving the network scalability, while at the same time reducing planning and operational requirements for the service provider.

Key to the solution is that converged network architecture is possible due to data transparency and compared to a routed solution, the switched architecture of the MSP-10GE also significantly reduces CAPEX and OPEX requirements.

Next Steps

The deployment of a 10GE backbone enables Cass Cable TV, Inc., to sell new revenue generating services such as value-added services to its residential subscribers and high-bandwidth connections to business customers requiring higher data rates than cable modems are able to offer.

Product Summary

MSP-10GE Optical Model



MSP-10GE Copper Model



Models

- MSP-10GE-OP-DC
- MSP-10GE-CO-DC
- MSP-10GE-CO-AC

Key Features

- **Scalable protected capacity**
2x10GE trunk ports (XENPAK) & 24x1GE client ports (SFP or RJ-45)
- **IEEE-based Ethernet transport**
Open standard based transport ensures interoperability with 3rd-party Ethernet equipment. Protects your capital expenditure.
- **Integrates switching, aggregation and DWDM transport**
A networking solution in 1RU that traditionally is performed in multiple platforms with other vendor solutions.
- **VLAN-based forwarding**
Support of MEF-defined E-Line and L-LAN services for any topology
- **Extensive management**
CLI, WEB & SNMP-v2c support with in-band and out-of-band mgmt ensures easy provisioning and seamless integration with an NMS system
- **Extensive monitoring**
Optical layer measurements, detailed Ethernet statistics and ability to set threshold alert levels on each port
- **Hot-pluggable optics**
Enables true “pay-as-you-grow” as well as on-site upgrades.
- **Compact platform with low power consumption**
1RU with 80W power consumption ensures low operating costs at the CO and carrier hotel. 20Gbit/s capacity in 1RU!