



Point-to-point Ethernet Service in MEF Third Network

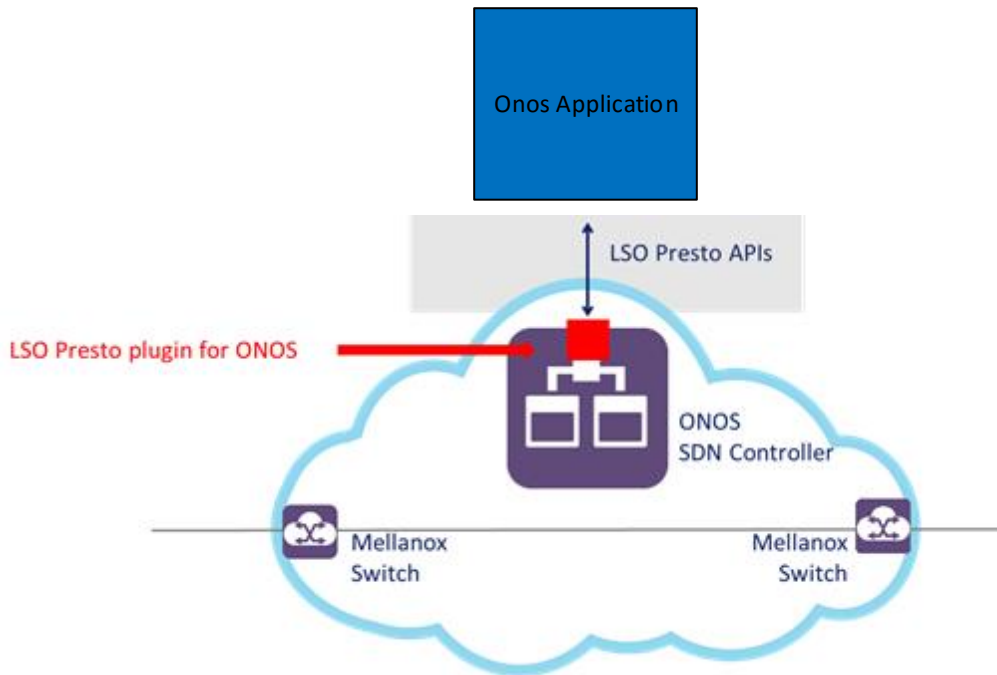
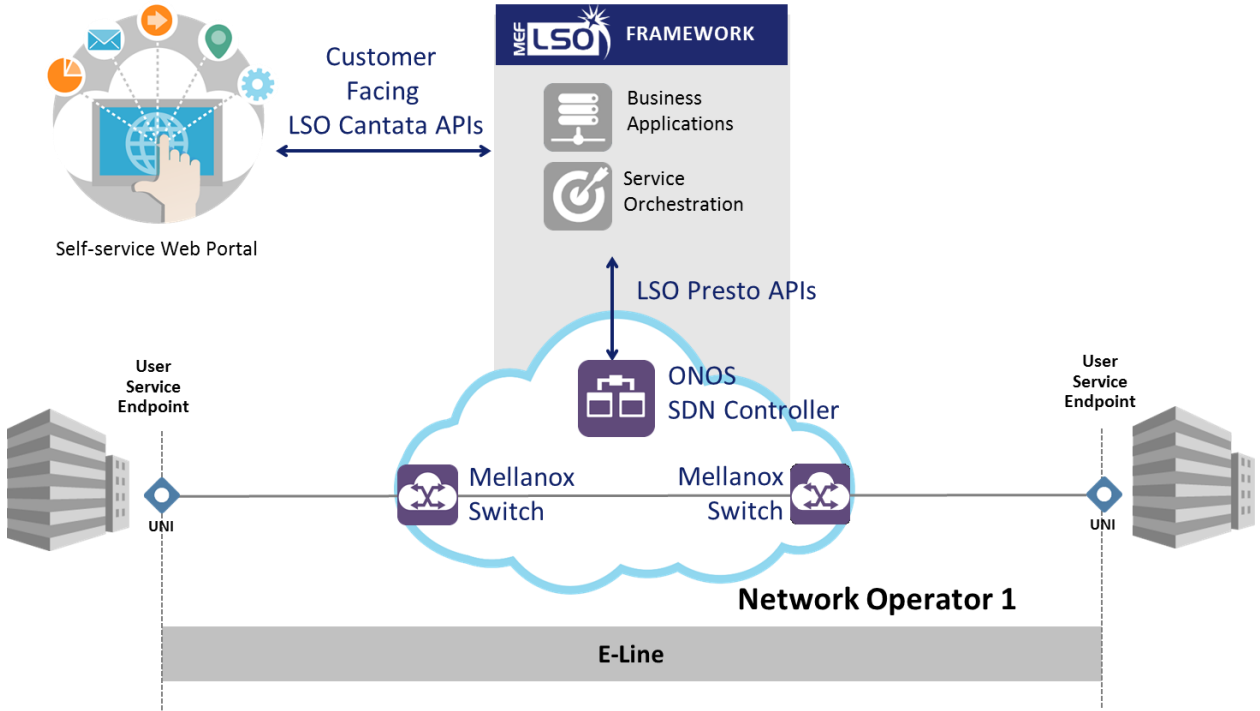
Abstract:

The MEF is a collaborative code and specs development organization that starting in 2001 defined Carrier Ethernet and helped build the global Carrier Ethernet market now valued at \$80Bn. MEF has 210 member companies, of which 130+ are the world's leading service providers, including AT&T, Verizon, Deutsche Telekom, BT, China Telecom, Cisco, Huawei, Ciena and many Israeli companies such as ECI, RAD, Telco Systems and Amdocs. Carrier Ethernet services defined by the MEF and widely adopted by the telecoms industry include E-Line, E-LAN, E-Tree, E-Access and E-Transit.

The MEF's membership is now developing code and specs for **Third Networks** using NaaS (Network as a Service) principles in order to combine the agility and ubiquity of the Internet with the security and performance of Carrier Ethernet. Third Networks use a combination of LSO (Lifecycle Service Orchestration), SDN (Software Defined Networking) and NFV (Network Function Virtualization) to scale telecoms services to support the future tens of billions of IoT (Internet of Things) devices, billions of 5G users, and hundreds of millions of enterprises for whom cloud services and applications are essential.

An important building block for Third Network services are orchestrated point to point connections spanning multiple networks and service providers between physical and/or virtual endpoints, and which can be created, modified and terminated in minutes in much the same way that compute and storage services can be managed in data centers today.

An emerging and important approach to implementing these orchestrated point to point connections is by using a combination of MEF-defined LSO, SDN controllers (e.g. ONOS) and the new generation of SDN-controlled switches.





Goals:

- Create a point to point Carrier Ethernet connection using two Mellanox switches that are controlled by the Open Source ONOS SDN controller.
- Refer to:
<https://wiki.onosproject.org/display/ONOS/Creating+and+deploying+an+ONOS+application>
- Implement an ONOS application that will use existing LSO Presto Plugin in the ONOS controller to do the following:
 - Get domain topology
 - Display Filtered topology (w/o internal connections – just the cloud with external ports)
 - Get ONOS notifications on topology changes
 - Create an E-Line service
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Requirements:

Java, Internet Networking Course

Guided by:

MEF

Important!

The results of the project will be contributed to the ONOS Open Source community for the benefit of the whole industry and will immediately impact and benefit the ongoing work of the 210 MEF member companies in making Third Network service reference implementations available to the telecoms industry.

Students participating in the project will work in conjunction with subject matter experts from the industry's leading technology and service providers including Huawei, Cisco, ECI, CenturyLink and PCCW Global.