Title	Liaison from MEF on Layer 1 Connectivity Services
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We would like to inform you that during our 4Q2016 meeting MEF approved a new project on Layer 1 Connectivity Services. We have set out some background and further details below.

MEF is well known for the definition of Carrier Ethernet (CE) subscriber services (in MEF 6.2) and operator services (in MEF 51) based on service attributes (defined in MEF 10.3 and MEF 26.2). In MEF terms, a "service" refers to the set of attributes and their values that are agreed between the provider of a service and the customer of that service. MEF defines both end-to-end services agreed between a subscriber and a service provider, where the end points are User-Network Interfaces (UNIs), and inter-provider services supplied by one service provider or operator to another, where the end points may be UNIs or External Network-Network Interfaces (ENNIs).

Layer 1 Connectivity Services have the following basic characteristics:

- Topology - they are only point-to-point
- Rate - they are only full port rate (wire speed), for example from 155Mb/s OC-3 up to 100Gb/s Ethernet (broad range and with a high end)
- Characteristic information - A block of consecutive bits which can be monitored by an error detection code, for example a 10-bit block of an 8B/10B encoded client protocol
- Client protocols - Ethernet, Fibre Channel, SONET/SDH will be specified (video, InfiniBand, CPRI are for further study)
- Performance metrics - One-way Delay, One-way Errored Second, One-way Severely Errored Second, One-way Unavailable Second, One-way Availability

Subscribers will benefit from standardized Layer 1 service attributes when comparing service offerings. Similarly, standardized Layer 1 service definitions at an ENNI will accelerate the establishment of interconnections between operators/service providers.

There is a desire among service providers to improve service delivery times by automating the service ordering and configuration process. This is a key aspect of MEF Lifecycle Services Orchestration (LSO). The aim of MEF LSO is to deliver the MEF Third Network vision, to provide Assured, Agile and Orchestrated services. MEF LSO enables automation and orchestration of service ordering and management between service providers ("East/West interfaces") through the creation of standard data models and APIs. However, a pre-requisite for defining those is to have a standard definition of the service that is to be managed.

This new project is intended to address these issues by providing a standard definition of Layer 1 Connectivity Services, including both end-to-end services and inter-provider services, through the definition of a standard set of service attributes that can be used in each case. It is intended that this project is the first step in enabling multi-operator service orchestration of Layer 1 Connectivity Services using MEF LSO, and that later projects will use the service attributes to create standard data models and APIs.

The scope of the Layer 1 Connectivity Services project includes definition of the:

- UNI-to-UNI Layer 1 subscriber service types
- Service attributes and values for each Layer 1 subscriber service
- UNI-to-ENNI (access) and ENNI-to-ENNI (transit) Layer 1 operator service types
- Service attributes and values for each Layer 1 operator service

It is important to note that the intent is to assemble the services and attributes based on established standards. We look forward to working together to ensure this work is aligned.

Note: Further information about the MEF LSO Reference Architecture and Framework can be found in MEF 55 available at: https://www.mef.net/carrier-ethernet/technical-specifications

Please note that the next MEF meetings are:

- April 24-27, 2017 – Frankfurt, Germany
- July 24-27, 2017 – Toronto, Canada