

# External Network to Network Interface (ENNI)

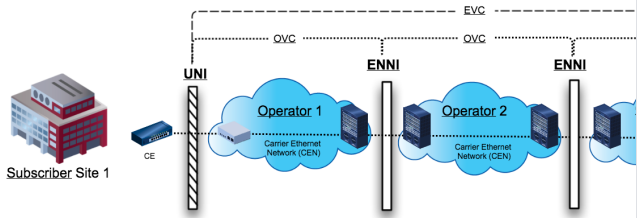
The **External Network-to-Network Interface (ENNI)** is a reference point representing the boundary between two Operator CENs that are operated as separate administrative domains. ENNI is defined in [MEF 26.2](#).

ENNIs are important in the situation that a Subscriber for Ethernet Services has locations that are not all served by a single CEN Operator. In order for the Subscriber to contract for an end-to-end service in this case, multiple CEN Operators are needed to support all of the Subscriber's [User Network Interfaces \(UNIs\)](#).

The Metro Ethernet Network Architecture Framework specifies a reference point that is the interface between two Metro Ethernet Networks (MENs), where each Operator MEN is under the control of a distinct administrative authority. This reference point is termed the External Network Network Interface or ENNI. The ENNI is intended to support the extension of Ethernet services across multiple Operator MENs. This Technical Specification (MEF 26.2) specifies:

- The requirements at the ENNI reference point as well as the interface functionality in sufficient detail to ensure interoperability between two Operator MENs including Link OAM.
- The connectivity attributes UNI to UNI, UNI to ENNI, and ENNI to ENNI such that multiple Operator MENs can be interconnected and the Ethernet services and attributes in [MEF 6.2](#) and [MEF 10.3](#) can be realized.

The following diagram shows a Subscriber with two UNIs that are connected together across three network operators.



From the diagram it can be seen that there are two types of operator interconnections in a service that crosses a multi-CEN network. One type of operator can contain a UNI and an ENNI. The other type of operator has two ENNIs—this is a transit operator. (Note that each operator could have more than one UNI and/or more than one ENNI supporting a multipoint service).

Each side of the ENNI has a reference point called the ENNI-N. (Unlike the UNI which is asymmetric with a UNI-C on one side and UNI-N on the other, the ENNI is symmetric with an ENNI-N on both sides).

The ENNI-N has the following functionality:

- Managing and maintaining the ENNI link (resiliency, fault management)
- Formatting of frames transmitted to and received from the ENNI
- Contains several OVC end points
- Participates in Service OAM functionalities (MIPs, MEPs)
- Optionally performs hairpin switching
- Enforces bandwidth profiles at the ENNI including color marking

[MEF 26.2](#) defines an **ENNI Frame** as any Ethernet frame exchanged between two CEN Operators across an ENNI interface.

## Status

DRAFT

## Source(s) and Reference(s)

[MEF 26.x Service Model](#) | [MEF 26.2 - ENNI and Operator Service Attributes](#) |

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## Example(s)

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