

E-Line Service Attributes for Circuit Emulation

This page describes the UNI, EVC per UNI, and EVC attributes for E-Line Services that support Circuit Emulation as described in MEF 8.

UNI Attributes

A UNI that is an end-point to a CESoETH service is a regular UNI with no specific additional requirements imposed on the UNI. Either UNI type (1, 2.1, 2.2) can be used. Some specific UNI attributes should be set specifically in order to facilitate the CESoETH service.

Attribute	Recommended Setting
UNI Identifier	No additional requirement
Physical Medium	No additional requirement
Speed	No additional requirement
Mode	No additional requirement (full duplex)
MAC Layer	802.3-2005
UNI MTU Size	No additional requirement
Service Multiplexing	Yes for EVPL, No for EPL
Bundling	No
All to One Bundling	No for EVPL, Yes for EPL
CE-VLAN ID for untagged and priority tagged frames	No additional requirement
Maximum number of EVCs	No additional requirement
Ingress BWP per UNI	No. BWP should be specified on EVC per UNI
Egress BWP per UNI	No
L2CP Processing	Pass to EVC all L2CPs (except PAUSE)

Status

DRAFT

Source(s)

[MEF 8 - Emulation of PDH Circuits](#)

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EVC per UNI Attributes

The major issue to consider when setting the EVC per UNI attributes for CESoETH is the ingress bandwidth profile (BWP). The service must guarantee CIR at a rate that matches the TDM traffic CBR. Because the packetization process adds additional overhead and because the BWP counts also the ETH headers in some cases, the CIR could be set a little higher compared to the TDM nominal bitrate.

For example, for an EVC carrying E1, the CIR could be set to say 2.2 Mbps, allowing 10% margin. If the service was originally an E3 of 34.368 Mbps, then the CIR could be set to say 38 Mbps.

CBS can be set relatively to a relatively small level since the TDM traffic is very constant with minimal bursts. Since it is important not to drop any 'TDM service' packets, a CBS of 3 times the MTU could be set.

EIR and EBS are set to 0 since ALL traffic must be counted against the SLS. CF and CM are not relevant in such a case.

Attribute	Recommended Setting
UNI EVC ID	No additional requirement
CE-VLAN ID / EVC Map	No additional requirement
Ingress BWP per EVC	<CIR=TDM rate + 10%>, <CBS=4-8Kbytes>, EIR=EBS=CM=CF=0
Ingress BWP per CoS ID	Must not specify
Egress BWP per EVC	Must not specify
Egress BWP per CoS ID	Must not specify

EVC Attributes

The EVC that carries CESoETH can be an EPL or an EVPL. It carries non-VLAN traffic and therefore VLAN and CoS preservation are irrelevant. Since CESoETH uses no L2CP it implies that all L2CP can be discarded by the EVC.

The major issue to consider is the service performance attributes for this single CoS ID service. The Delay and Delay Variation are to be set according to the specific requirements of the customers, but must be kept to a minimum.

Attribute	Recommended Setting
EVC Type	Point to Point
UNI List	No additional requirement
EVC MTU Size	No additional requirement
CE-VLAN ID Preservation	No additional requirement
CE-VLAN CoS Preservation	No additional requirement
Unicast Service Frame Delivery	Deliver unconditionally
Multicast Service Frame Delivery	Deliver unconditionally
Broadcast Service Frame Delivery	Deliver unconditionally
L2CP Processing	Discard all L2CPs
EVC Performance	Frame loss ratio = 0.01% 1-way frame delay = 10ms for 99th percentile 1-way frame delay variation = 1ms for 99th percentile Availability = 99.95%

Note that the exact values for service performance may be dictated by the appropriate TDM standard or the service requirement that the Subscriber has.

Example(s)

Related and Further Reading

[Packet-Based Clock Synchronization](#)

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