SD-WAN UNI L2 Interface Service Attribute

The SD-WAN UNI L2 Interface Service Attribute describes the underlying network layer that carries IP Packets across the UNI. The fundamental role of the UNI is to be able to convey IP Packets (layer 3) between the Subscriber and the SP.

The SD-WAN UNI layer 2 is an Ethernet MAC. The value of this Service Attribute describes the set of Ethernet MAC frames that are mapped to the UNI at layer 2 and subsequently mapped to SWVC End Point associated with the UNI. The possible values are *UT/PT*, and *CVLAN x*.

[R59] The format for an L2 frame that crosses the UNI **MUST** be that of the Ethernet MAC Frame that is specified in Clause 3 of IEEE Std 802.3-2018 [4] except for section 3.2.7 of that document.

Note that [R59] means that Ethernet MAC frames will be discarded by the SD-WAN Edge if they are not properly constructed. For example, a Service Frame with an incorrect Frame Check Sequence will be dis-carded. Section 3.2.7 describes the maximum length of the client data field and limits it to 1982 bytes (2000-byte frame), however this specification does not impose this limit. The Subscriber and the Service Provider can agree to any value subject to the constraints described in the SD-WAN UNI Maximum L2 Frame Size Service Attribute (section 10.3).

The following Ethernet MAC Frame formats are defined:

- When the field following the Source Address field is a TPID (Tag Protocol ID defined in IEEE Std 802.1Q-2018 [3]) with the value 0x8100 and the corresponding VLAN ID is not 0x0000, the Ethernet MAC Frame is said to be a C-Tagged frame.
- When the field following the Source Address field is a TPID with the value 0x8100 and the corresponding VLAN ID is 0x0000, the Ethernet MAC Frame is said to be a *Priority Tagged* frame.
- When the field following the Source Address field is a TPID with the value 0x88a8, the Ethernet MAC Frame is said to be an *S*-*Tagged frame*.
- When the two bytes following the Source Address do not contain the values 0x8100 or 0x88a8, the Ethernet MAC Frame is said to be an Untagged frame.

C-Tagged, Priority-Tagged, and Untagged frames are eligible to be mapped to the UNI, subject to the con-straints imposed by the value of this Service Attribute. Handling of S-tagged frames is beyond the scope of this document.

If the value of the SD-WAN UNI L2 Interface Service Attribute is *UT/PT*, then only Untagged and Priority-tagged frames that are received over the underlying physical or virtual layer 1 Ethernet link are mapped to the UNI.

If the value of the SD-WAN UNI L2 Interface Service Attribute is *CVLAN x*, then only C-Tagged frames that contain a C-VLAN Tag with a VLAN ID of x that are received over the underlying physical or virtual layer 1 Ethernet link are are mapped to the UNI.

The Ethernet MAC frames are delivered over a layer 1 interface that supports an Ethernet MAC. This can be a physical interface such as any of the supported copper, optical, or wireless PHYs. It can also be a virtual interface such as a vNIC in a server. The details and parameters of the layer 1 interface must be agreed between the Subscriber and the Service Provider but are beyond the scope of this specification.

The implication of supporting a single VLAN at a UNI (i.e., CVLAN x) is that the layer 1 channel that is conveying the Ethernet MAC frames can potentially access multiple UNIs. Each C-VLAN value can be mapped to a different UNI for the same SD-WAN Service, or a different SD-WAN Service, or, in theory, a different type of service. Details of this capability are out of scope for this document but may be included in a future version.

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Study Requirement

MEF-SDCP Exam Study Reference

Source(s) and Reference(s)

MEF 70 - SD-WAN Service Attributes and Services Definition

Related and Further Reading

- SWVC End Point Policy Map
- SD-WAN Virtual Connection (SWVC) Service Attributes
- SD-WAN UNI L2 Interface Service Attribute
- SD-WAN Virtual Connection (SWVC) Identifier Service Attribute
- SD-WAN Virtual Connection (SWVC) End Point List Service Attribute
- SD-WAN Virtual Connection (SWVC) Reserved Prefixes Service Attribute
- SD-WAN Virtual Connection (SWVC) Service Uptime Objective Service Attribute
- SD-WAN Virtual Connection (SWVC) List of Policies Service Attribute
- SD-WAN Virtual Connection (SWVC) List of Application Flows Service Attribute
- SD-WAN Virtual Connection (SWVC) End Point Service Attributes
- Defined: SD-WAN Service Attributes
- SD-WAN PUBLIC-PRIVATE Policy Criterion
- SD-WAN Service AttributesSD-WAN Virtual
- Connection (SWVC) Service Attributes
- SD-WAN Policy Criteria
 specification and interaction
- SD-WAN BILLING-METHOD Policy Criterion
- SD-WAN INTERNET-BREAKOUT Policy Criterion
- SD-WAN BACKUP Policy Criterion
- SWVC End Point Identifier Service Attribute
- Defined: SD-WAN UNI

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