

SD-WAN Tunnel Virtual Connection (TVC)

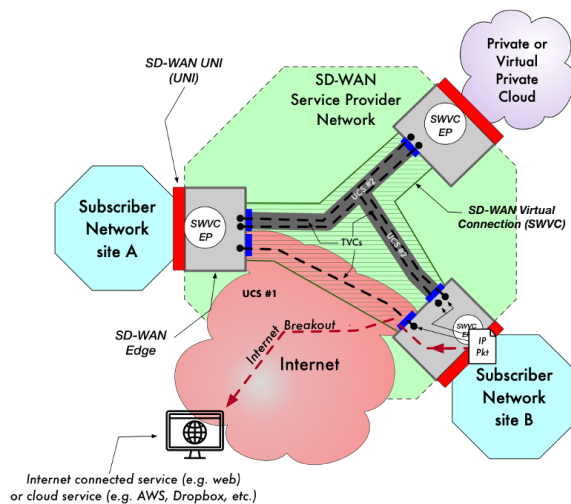
An SD-WAN Service Provider typically builds point-to-point paths called **Tunnel Virtual Connections (TVCs)** across the various [Underlay Connectivity Services](#) that compose an SD-WAN Service. Each TVC is built over a single Underlay Connectivity Service and has a well-defined set of characteristics, many of which are inherited from the Underlay Connectivity Service. One of the important functions of the [SD-WAN Edge](#) is to select a TVC over which to forward each ingress IP Packet.

TVCs are internal to the Service implementation and therefore do not have Service Attributes. However, TVCs play an important part of the packet forwarding function in the SD-WAN Edge, so a brief discussion is warranted.

Characteristics of a TVC include:

- A TVC is *Public* or *Private* based on the Underlay Connectivity Service that it is built on.
- A TVC has a charge model of *fixed-rate* or *usage-based* that reflects the Underlay Connectivity Service that it is built on.
- A TVC can be *encrypted* or *unencrypted*.
- A TVC has performance and bandwidth constraints and behaviors that derive from the Underlay Connectivity Service that it is built on.

Also, by building point-to-point TVCs, a Service Provider creates a virtual topology that can be different from the physical topology of the Underlay Connectivity Service. For example, if one of the Underlay Connectivity Services is an EP-LAN service connecting all of the SD-WAN Edges, but the Service Provider only builds TVCs from the Headquarters site to each remote site (and not between the remote sites) then the SD-WAN Service is, effectively, a hub and spoke even though the Underlay Connectivity Service provides a full mesh.



Status

PUBLISHED

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

- SD-WAN Edge
- SD-WAN Controller
- Defined: SD-WAN Service Components
- SD-WAN Tunnel Virtual Connection (TVC)
- SD-WAN Service Components
- SD-WAN Service Components
- SD-WAN Controller
- SD-WAN Edge
- SD-WAN Tunnel Virtual Connection (TVC)
- Defined: SD-WAN Service Components
- SD-WAN UNI
- Underlay Connectivity Service (UCS)
- SD-WAN UNI
- Underlay Connectivity Service (UCS)
- SD-WAN Service Orchestrator
- SD-WAN Service Orchestrator

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