

VDP Extensions

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Motivations

- ▶ VDP is a candidate control plane protocol to be used for signaling between the hypervisor and external NVE (Network Virtualization Edge) in overlay network
- ▶ [draft-ietf-nvo3-hpvr2nve-cp-req-01](#) lists the requirements of the protocols.
- ▶ [draft-pt-nvo3-vdp-vm2nve-gap-analysis-00](#) describes the gap between current VDP and the earlier version of requirements.
- ▶ VDP extensions are required to fulfill the requirements.
- ▶ Either IETF or IEEE could do the extensions. IEEE 802.1 may be a good place to steer the work as VDP was defined here?

Requirements – 1

#	req	extension?
1	support a bridged network connecting End Devices to External NVE.	Needs clarification. Dest MAC can be a unicast MAC besides Nearest Customer Bridge group MAC
2	support multiple End Devices sharing the same External NVE via the same physical port across a bridged network.	
3	MAY support an End Device using multiple external NVEs simultaneously, but only one external NVE for each VN	Multiple uplinks(Link aggregation/active-active/active-standby). 1. Should NVE ports be notified to distinguish 3 & 4? 2. Ensure (pre-)associate status syned on all NVE ports?
4	MAY support an End Device using multiple external NVEs simultaneously for the same VN	
5	allow the End Device initiating a request to its associated External NVE to be connected/disconnected to a given VN.	OK. GroupID =VN
6	allow an External NVE initiating a request to its connected End Devices to be disconnected to a given VN	OK. Bridge sends De-Associate

Requirements – 2

#	req	
7	When a TS attaches to a VN, the protocol MUST allow for an End Device and its external NVE to negotiate a locally-significant tag for carrying traffic associated with a specific VN (e.g., 802.1Q tags).	OK. VLAN=0 in request, bridge replies the assigned VID
8	allow an End Device initiating a request to associate/disassociate and/or activate/deactive address(es) of a TSI instance to a VN on an NVE port.	Allow associate -> pre-associate?
9	allow the External NVE initiating a request to disassociate and/or deactivate address(es) of a TSI instance to a VN on an NVE port.	OK
10	allow an End Device initiating a request to add, remove or update address(es) associated with a TSI instance on the external NVE. Addresses can be expressed in different formats, for example, MAC, IP or pair of IP and MAC.	Require the extensions for IPv4/IPv6

Requirements – 3

#	req	
11	MUST allow the External NVE to authenticate the End Device connected.	Requires extension
12	be able to run over L2 links between the End Device and its External NVE.	OK
13	SHOULD support the End Device indicating if an associate or activate request from it results from a VM hot migration event.	Requires the enhancement from current M bit

Summary

- ▶ Extensions include:
 - Specific destination MAC
 - Multiple uplinks considerations
 - Authentication
 - IP address binding
 - Clearer migration indicator
 - Other minor changes