NVO3 VDP Gap Analysis

VM to NVE Specific Control Plane Requirements

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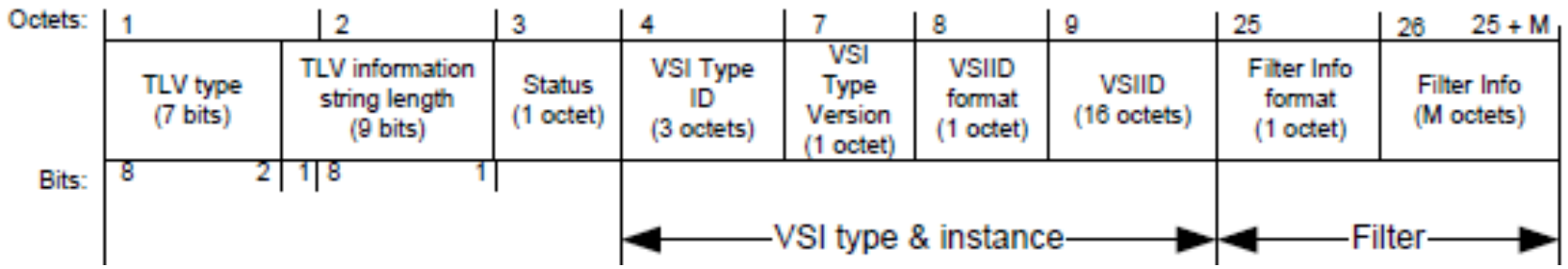
Background

- I-D.kreeger-nvo3-hypervisor-nve-cp-01 discusses the need for a Hypervisor to NVE Protocol
- VDP (VSI Discovery Protocol) developed by the IEEE performs essentially the same function for other IEEE protocols and is widely deployed
- VDP contains simple extensibility features.
- VDP appears to be a good candidate for the Hypervisor to NVE Protocol in NVO3

VDP Operation

- Simple advertise / response protocol
- Hypervisor advertises existence of VMs along with various identifiers and parameters
  - E.g. MAC address, VLAN, group identifier
- NVE responds with various parameters
  - E.g. VID to use, and identifier for a profile that contains an arbitrary set of parameters for the VM and attached network infrastructure
- Also supports VM migration operations
  - Associate, de-associate, etc.

VDP Association TLV



- Filter Info carries fields to identify packets in the association
- 4 filter info formats for layer 2 are defined
- Additional filter info formats could be added including layer 3 fields
  - 252 reserved filter info format values available.

VDP Extensibility

- VDP operates using TLV (type, length, value) triples
- Existing TLV could be extended, e.g. by defining additional filter info format.
  - By IEEE 802.1 assigning values to IETF or by adding the formats to IEEE 802.1Q
- A mechanism is provided for user-defined TLVs identified by an OUI
  - Could be used by IETF
- Alternatively, several of the developers of VDP in IEEE are eager to expand VDP in IEEE to support NVO3 needs

Next Steps

- Request feedback regarding inclusion in draft-ietf-nvo3-gap-analysis-xx