NVO3 OAM Requirements

draft-ashwood-nvo3-oam-requirements-01

P. Ashwood-Smith, L. Xia, R. Iyengar, T. Tsou, A. Sajassi, M. Boucadair, C. Jacquenet, M. Daikoku, A. Ghanwani, R. Krishnan

July 2014   Toronto

Overview

- Goal:

    Specify framework and requirements for NVO3 OAM.

- Principle:

    Gather requirements from existing IETF OAM drafts and RFCs. Study, discuss and narrow down to NVO3 OAM requirements

Reference

- [RFC6136]: provide a template and some of the high level requirements and introductory wording

- [IEEE802.1Q-2011]: provide a subset of the requirements for NVO3 both at the Tenant level and also within the L3 Overlay network

- [Y.1731]: provide a subset of the requirements for NVO3 at the Tenant level

- Section 3.3.2.1 of [NVO3-DP-Reqs] lists several requirements specifically concerning ECMP/LAG.

NVO3 OAM Framework

- OAM layering
  - L3 IP overlay network layer: IP(VPN) and/or Ethernet OAM mechanisms, underlay link/node;
  - NV Edge layer: NVO3 OAM messages, NVO3 tunnel and NVE;
  - Tenant layer: IP and/or Ethernet OAM mechanisms, E2E tenant connections

- OAM domain: multiply domains support, inter-domain coordination, domain gateway process

NVO3 OAM Requirements

- Discovery
- Connectivity Fault Management: detection, verification, localization, notification and alarm suppression
- Performance Management: Frame Loss, Frame Delay, Frame Delay Variation, Frame Throughput, Frame Discard
- Data Path Forwarding
- Scalability
- Extensibility
- Security
- Transport/Application Independence
- Prioritization
- Logging and Traceability Requirements

Items for Further Discussion

- VNID renumbering support
- VNI migration and management operations
- Support of planned maintenance operations on the NVO3 infrastructure
- Support for communication among virtual networks
- Activation of new network-related services to the NVO3
- Inter-operator NVO3 considerations
- Automatic coordination requirements for the multi-layer or cross-domain OAM

Next Step

- WG draft?

- Comments ☺

Thanks!

Liang Xia