

NVO3 OAM Requirements

(draft-ashwood-nvo3-oam-requirements-03)

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Agenda

- General description
- Revision from '01' to '02'
- Revision from '02' to '03'

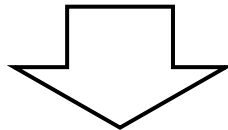
General Description

- This document focuses on
 - Fault Management
 - Performance Management
 - Configuration Management (to a limited extent)

Changes from ‘-01’ to ‘-02’

- **Merge** original Section 5.3 — 5.7 into a single section named “Connectivity Performance Management”

- 5.3. Frame Loss
- 5.4. Frame Delay
- 5.5. Frame Delay Variation
- 5.6. Frame Throughput
- 5.7. Frame Discard



- 5.3. Connectivity Performance Management
 - 5.3.1. Frame Loss
 - 5.3.2. Frame Delay
 - 5.3.3. Frame Delay Variation
 - 5.3.4. Frame Throughput
 - 5.3.5. Frame Discard

Changes from '-01' to '-02' (2)

- **Add two new sections**

5.4. Continuity Check

NVO3 OAM **MUST** provide functions that allow any arbitrary NV edge device to perform a Continuity Check to any other NV edge device.

NVO3 OAM **MUST** provide functions that allow any arbitrary NV edge device to perform a Continuity Check to any other NV edge device using a path associated with a specified flow.

NVO3 OAM **SHOULD** provide functions that allow any arbitrary NV edge device to perform a Continuity Check to any other NV edge device over any section of any selectable least-cost path.

NVO3 OAM **SHOULD** provide the ability to perform a Continuity Check on sections of any selectable path within the network.

5.14. Live Traffic Monitoring

NVO3 OAM implementations **MAY** provide methods to utilize live traffic for troubleshooting and performance monitoring.

Changes from '-01' to '-02' (3)

- **Add** new content to original Section “5.9 Data Path Forwarding”

5.9. Data Path Forwarding

Original

R13) NVO3 OAM frames MUST be forwarded along the same path (i.e., links (including LAG members) and nodes) as the NVO3 data frames.

R14) NVO3 OAM frames MUST provide a mechanism to exercise/trace all data paths that result due to ECMP/LAG hops in the underlay network.

Additions

NVO3 OAM frame MUST be possible arranged to follow the path taken by a specific flow.

NVE MUST have the ability to identify frames that require OAM processing.

Changes from '-01' to '-02' (4)

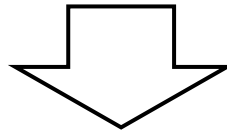
- Rewrite Section 5.14 to make it more clear

5.14. Application Independence

R22) NVO3 OAM MUST [*** discuss -- is this too strong? ***] be independent of the application technologies and specific application OAM capabilities.

'-01'

[Comment -- ECM: Noticed Nicira implementation has a dedicated NVP manager node to play the role of FCAPS here. It is both application layer and OAM layer. May not meet this requirement. In reality, due to the nature of overlay network, very often, vendors are going to make everything all together to a dedicated manager node.]



5.11. Application Independence

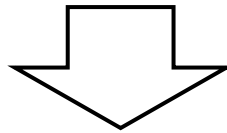
'-02'

R22) NVO3 OAM MAY be independent of the application technologies and specific application OAM capabilities.

Revisions from '-02' to '-03'

- Presented on NVO3 virtual Interim (May 22)
 - The revision to reflect Erik Nordmark's comments

Section 5.4 on the number of available paths - that states "NVO3 OAM frames **Must** provide a mechanism to exercise/trace all data paths that result due to the ECMP/LAG hops in the underlay."



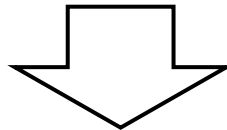
NVO3 OAM frames **May** provide a mechanism to exercise/trace all data paths that result due to the ECMP/LAG hops in the underlay."

Revisions from '-02' to '-03' (2)

- Revise the Abstract, make it more clear

Abstract

This document provides framework and requirements for Network Virtualization Overlay (NVO3) Operations, Administration, and Maintenance (OAM). This document for the most part gathers requirements from existing IETF drafts and RFCs which have already extensively studied this subject for different data planes and layering. As a result this draft is high level and broad. We begin to ask which are truly required for NVO3 and expect the list to be narrowed by the working group as subsequent versions of this draft are created.



Abstract

This document provides framework and requirements for Network Virtualization Overlay (NVO3) Operations, Administration, and Maintenance (OAM) .

Revisions from '-02' to '-03' (3)

- Add content to “security considerations”

8. Security Considerations

Security requirements are specified in Section 5.9. For general NVO3 security considerations, please refer to [NVO3-Security].

Discussion

- Would like to request WG adoption
- Comments?