

OAM for NRP in MPLS Network

draft-gong-mpls-nrp-oam-mpls-02

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Overview

- This document describes the implementation of the Operations, Administration, and Maintenance (OAM) mechanism for NRPs in MPLS networks by extending existing OAM mechanisms such as ping, traceroute.
- This document was presented on the last IETF meeting.
- The key improvements in version -02 compared to version -00
 - ✓ Refined Error Codes: Two Return Codes proposed for more precise fault diagnosis.
 - ✓ Clarified Processing Behavior: Explicitly follows RFC8029 for the transit node.
 - ✓ Updated Security/IANA Consideration.
 - ✓ Corrected several editorial errors.

Update (1/2)

Refined Error Codes: Two Return Codes proposed for more precise fault diagnosis.

Problem in -01:

- Error codes were not clearly described
- No distinction between "NRP unknown" and "resource unavailable"

Update in -02:

Two Return Codes proposed for IANA registration:

- "NRP unknown/not supported": This code indicates that the node does not recognize the NRP-ID or the NRP is not provisioned on that node.
- "NRP resource unavailable": This code indicates that the NRP is recognized but the required resources (e.g., bandwidth, queue) are not currently available.

Update (2/2)

Clarified Processing Behavior: Explicitly follows RFC8029 for the transit node.

Problem:

- How should transit nodes identify and process OAM packets carrying NRP-ID?
- Is forwarding behavior modification required?

Solution:

- Explicitly follow [RFC8029] mechanism:
 - ✓ MPLS Echo Request is sent to control plane via Router Alert/TTL expiration
 - ✓ Transit node checks NRP resource availability in control plane
- No change to MPLS data plane forwarding logic
- Ensures compatibility and implementation consistency

Next Steps

- Welcome your comments and suggestions
- Ready to request WG Adoption call

Thanks