

Incremental Label Announcement LDP GR Extensions @ IETF 81

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Motivation

- LDP GR speaker re-advertise all its local bindings to all its peer upon GR restart.
- By preserving all the label bindings and versioning the label binding, LDP-GR speaker should always advertise the “incremental” changes in label binding only.
- By eliminating all the unnecessary retransmission of label bindings, this should reduce CPU spike and accelerate convergence.

ILA Capability TLV

LDP Initialization Message Exchanged between LDP GR Peers. ILA Extension defines a new Capability TLV which specifies the list of FEC Type supporting ILA.

LDP Initialization Message contains:

FT Session TLV = (0x0503)

ILA Capability TLV



LDP GR Peer
ILA Capable



LDP GR Peer
ILA Capable

New ILA FEC TLV

- Used for both advertisement and withdraw label bindings
- Describe the FEC Type
- Two Modes:
 - Request Mode: initiate by LMR after restart
 - Assign Mode: send by LMS in response to ILA Request Message
- Version ID is 64 bits

Preserve Label Bindings



LDP LB2 + ILA assign Msg ver2

Local Label Binding

| | |
|-----|-----------|
| LB1 | Version 1 |
| LB2 | Version 2 |

Remote Label Bindings

| | |
|-----|-----------|
| LB1 | Version 1 |
| LB2 | Version 2 |

LMS preserves its local bindings

LMR preserves the remote bindings

After GR restart



ILA request Message version 2

LMR



Local Label Binding

| | |
|-----|-----------|
| LB1 | Version 1 |
| LB2 | Version 2 |
| LB3 | Version 3 |
| LB4 | Version 4 |

Remote Label Bindings

| | |
|-----|-----------|
| LB1 | Version 1 |
| LB2 | Version 2 |

ILA assign Message version 2