

# Restart Signalling for IS-IS

draft-ietf-lsr-isis-rfc5306bis-00

Les Ginsberg, Cisco Systems

Paul Wells, Cisco Systems

# Draft History

## March 2018

draft-ginsberg-isis-rfc5306bis-00

Presented at IETF 101 (London)

## June 2018

draft-ginsberg-isis-rfc5306bis-01

Added summary of changes from RFC 5306 as Appendix)

Presented at IETF 102 (Montreal)

## October 2018

WG Adoption

draft-ietf-lsr-isis-rfc5306bis-00

No text changes

# Next Step

WG Last Call

# Existing Functionality

Allows a restarting router which maintains forwarding plane across a restart to hitlessly reacquire the LSPDB

```
 0  1  2  3  4  5  6  7
+--+--+--+--+--+--+--+--+
|   Reserved   |SA|RA|RR|
+--+--+--+--+--+--+--+--+
```

**RR - Restart Request**

**RA - Restart Acknowledgement**

**SA - Suppress adjacency advertisement**

**Remaining holding time (in seconds)**

**Restarting Neighbor System ID (for sending RA on LANs)**

Sent in Hellos

Neighbor initiates LSPDB sync when receiving RR

# What is Lacking...

Current support works well when the control plane restart takes a very short amount of time (less than adjacency holdtime)

Useful for process restarts, redundant control planes lacking local checkpoint capability

Does not support non-redundant control planes which take a significant amount of time to reload (minutes)

Simply extending the holdtime prior to reload leaves neighbor unaware of the impending restart

# New Functionality

```
 0  1  2  3  4  5  6  7
+--+--+--+--+--+--+--+
|Reserved|PA|PR|SA|RA|RR|
+--+--+--+--+--+--+--+
```

RR - Restart Request

RA - Restart Acknowledgement

SA - Suppress adjacency advertisement

PR - Restart is planned

PA - Planned restart acknowledgement

Remaining holding time (in seconds)

Restarting Neighbor System ID (for LANs)

Allows neighbor to be aware that a restart is imminent (PR) and to acknowledge (PA).

# Neighbor Behavior on Receipt of PR

- Adjacency remains UP – marked in Planned Restart State
- Holdtime is updated (once only)
- PA is sent

## Clearing Planned Restart State

- Receipt of RR IIH
- Receipt of IIH w/o Restart TLV or w/o RR or PR
- Holdtime expires

# Neighbor Behavior In Planned Restart State

- If topology changes occur, neighbor MAY bring down adjacency (stale forwarding plane)
- If restarting system is DIS, adjacency SHOULD be brought down if topology changes occur
- On P2P circuits flooding of LSPs, xSNPs MAY be suppressed
- If BFD session fails and Control Plane Independent bit is NOT set, BFD failure can be ignored