



Best Practices for Increased Scaling of IS-IS Neighbors

This chapter describes how to increase scaling of neighbors in a hub and spoke deployment using the following configuration options:

- Reducing flooding over parallel peer-to-peer links
- Staggered synchronization of adjacencies after router reload
- Configuring and monitoring IS-IS queue
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Before You Begin

- It is assumed that you already have IS-IS running on your network.
- Before performing the tasks in this module, you should be familiar with the concepts described in the "Overview of IS-IS Fast Convergence" module.

Information About Increased Scaling of IS-IS Neighbors

Controlling Flooding Over Parallel Peer-to-Peer Links

In the presence of parallel links to the same neighbor, redundant flooding of link state packet (LSP) updates occur on each link, by default. This when combined with large number of neighbors, exponentially increases the CPU processing time required to synchronize the LSP database. The suppression of flooding over parallel links improves performance at scale with no loss of reliability.

Staggered Synchronization of Adjacencies After Router Reload

The simultaneous boot up of a large number of adjacencies after a reboot or IS-IS process restart can result in overflow of input queues due to receipt of redundant link state information from multiple neighbors. To avoid such situations, it is important to stagger synchronization of adjacencies and also limit the maximum number of adjacencies that are in syncing state. This mechanism also helps in situations where network issues may affect synchronization of adjacency information on some interfaces.



Note Staggered synchronization of adjacencies is only supported on point-to-point interfaces

Setting Up and Monitoring IS-IS Queues

For large scale deployments, when the queue reaches a high watermark, it can lead to dropping of packets. In such a situation, it is important to adjust the IS-IS queue size to handle high loads. Additionally, you can monitor the IOS queue to check:

- Current state of the IS-IS input queue
- Queue size maximum limit
- Highest water mark (maximum size queue reached since last set of counters were cleared)
- Number of drops

How to Configure Increased Scaling of IS-IS Neighbors

Configuring Flooding Reduction For Parallel Links

```
enable
configure terminal
router isis [area-tag]
flood parallel suppression
```

By default, flood suppression functionality is enabled.

Configuring IS-IS Input Queue Size

```
enable
clns queue-depth <size>
```

Configuring Staggered Synchronization of Adjacencies

```
enable
configure terminal
router isis [area-tag]
adjacency stagger <initial> <max>
```

This feature is disabled by default. If staggering of adjacencies is enabled, you can use the `show isis protocol` command to see the active values as well as the *syncing* and *full* count of point-to-point adjacencies.

Monitoring ISIS Queues

You can use the `show cls traffic` command to check:

- Actual queue size
- Queue size maximum limit
- Highest water mark (maximum size queue reached since last set of counters were cleared)
- Number of drops

