# BGP NSR Auto Sense

The BGP NSR Auto Sense feature is the default behavior implemented to reduce unnecessary churn in the event of a Route Processor (RP) failover. Prior to this feature, when an Active RP went down, the new Active RP that was taking over to provide Border Gateway Protocol (BGP) nonstop routing (NSR) would send a route-refresh request to all peers configured with NSR. However, the new Active RP had already received all the incoming updates while acting as the Standby RP. Sending route-refresh requests caused unnecessary BGP churn during switchover; this feature prevents such route-refresh requests by default. This feature also provides NSR support to peers that lack route-refresh capability. If you want to revert to the old behavior of sending route-refresh requests, a new command is available to make that happen.


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# Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see Bug Search Tool and the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the feature information table at the end of this module.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

# Information About BGP NSR Auto Sense

## Benefits of BGP NSR Auto Sense

The BGP NSR Auto Sense feature has the following benefits:

- This feature is a default behavior that reduces unnecessary churn in the event of a Route Processor (RP) failover. Prior to this feature, when an Active RP went down, the new Active RP that was taking over to provide BGP nonstop routing (NSR) would send a route-refresh request to all peers configured with

NSR. However, the Active RP had already received all the incoming updates while acting as the Standby RP. Sending route-refresh requests caused unnecessary BGP churn during switchover; this feature prevents such route-refresh requests by default.

- This feature also provides NSR support to peers that lack route-refresh capability. Prior to this feature, NSR was not supported for peers that lack route-refresh capability.
- There is no need to configure this feature; it is the default behavior in releases where this feature is implemented.
- If you want to revert to the former behavior of a new Active RP sending route-refresh requests when an RP goes down, you can use the **bgp sso route-refresh-enable** command.

## Consequence of Reverting to NSR Without Auto Sense

You might have a reason not to want the default behavior of the BGP NSR Auto Sense feature. If you want to revert to the former behavior of a new Active RP sending route-refresh requests when an RP goes down, you can use the **bgp sso route-refresh-enable** command. This action causes peers that did not exchange route-refresh capability in the received OPEN message to have NSR support disabled.

# How to Disable the BGP NSR Auto Sense Feature

## Disabling the BGP NSR Auto Sense Feature

The BGP NSR Auto Sense feature is enabled by default. Perform this task only if you want to disable the feature, for example, if routes that were being advertised at the point of switchover did not get processed by the Standby RP (new Active RP) for some reason. In that case, sending a route-refresh to request all the routes that the peer had ever advertised would be helpful. After performing this task, in the event of a failover, a new Active RP will send route-refresh requests to peers configured with NSR.

### SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **router bgp** *as-number*
4. **bgp sso route-refresh-enable**
5. **end**
6. **show ip bgp vpnv4 all neighbor** [*ip-address*]
7. **show ip bgp vpnv4 all sso summary**

### DETAILED STEPS

| | Command or Action | Purpose |
|---|---|---|
| **Step 1** | **enable**<br>**Example:**<br>`Router> enable` | Enables privileged EXEC mode.<br>• Enter your password if prompted. |

| | Command or Action | Purpose |
|---|---|---|
| **Step 2** | **configure terminal**<br>**Example:**<br>`Router# configure terminal` | Enters global configuration mode. |
| **Step 3** | **router bgp** *as-number*<br>**Example:**<br>`Router(config)# router bgp 6500` | Configures a BGP routing process and enters router configuration mode.<br>• The *as-number* argument indicates the number of an autonomous system that identifies the router to other BGP routers and tags the routing information passed along. Valid numbers are from 0 to 65535. Private autonomous system numbers that can be used in internal networks range from 64512 to 65535.<br>• Regarding the 4-byte AS configuration, please see the **bgp asnotation dot** command in the *IP Routing: BGP Command Reference*. |
| **Step 4** | **bgp sso route-refresh-enable**<br>**Example:**<br>`Router(config-router)# bgp sso route-refresh-enable` | Disables the BGP NSR Auto Sense feature. |
| **Step 5** | **end**<br>**Example:**<br>`Router(config-router)# end` | Exits to privileged EXEC mode. |
| **Step 6** | **show ip bgp vpnv4 all neighbor** [*ip-address*]<br>**Example:**<br>`Router# show ip bgp vpnv4 all neighbor 10.0.0.2` | (Optional) Displays information about BGP peers. |
| **Step 7** | **show ip bgp vpnv4 all sso summary**<br>**Example:**<br>`Router# show ip bgp vpnv4 all sso summary` | (Optional) Displays the number of BGP peers that support BGP nonstop routing (NSR) with stateful switchover (SSO). |

# Configuration Example for BGP NSR Auto Sense

## Example: Disabling the BGP NSR Auto Sense Feature

```
router bgp 65600
```

```
bgp sso route-refresh-enable
```

# Additional References

### Related Documents

| Related Topic | Document Title |
|---|---|
| Cisco IOS commands | Cisco IOS Master Command List, All Releases |
| BGP commands | Cisco IOS IP Routing: BGP Command Reference |

### Technical Assistance

| Description | Link |
|---|---|
| The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password. | http://www.cisco.com/cisco/web/support/index.html |

# Feature Information for BGP NSR Auto Sense

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

*Table 1: Feature Information for BGP NSR Auto Sense*

| Feature Name | Releases | Feature Information |
|---|---|---|
| BGP NSR Auto Sense | 15.2(2)S<br>Cisco IOS XE Release 3.6S | The BGP NSR Auto Sense feature is implemented by default to reduce unnecessary churn in the event of an RP failover. This feature also provides NSR support to peers that lack route-refresh support.<br>The following command was introduced: **bgp sso route-refresh-enable**. |