



L Commands

This chapter describes the Cisco NX-OS unicast routing commands that begin with the letter L.

load-balancing

To specify the load-balancing method used by the active virtual gateway (AVG) of the Gateway Load Balancing Protocol (GLBP), use the **load-balancing** command. To disable load balancing, use the **no** form of this command.

load-balancing [**host-dependent** | **round-robin** | **weighted**]

no load-balancing

Syntax Description		
	host-dependent	(Optional) Specifies a load-balancing method based on the MAC address of a host where the same forwarder is always used for a particular host while the number of GLBP group members remains unchanged.
	round-robin	(Optional) Specifies a load-balancing method where each virtual forwarder is included in Address Resolution Protocol (ARP) replies for the virtual IP address. This method is the default.
	weighted	(Optional) Specifies a load-balancing method that is dependent on the weighting value advertised by the gateway.

Defaults The round-robin method is the default.

Command Modes GLBP configuration

SupportedUserRoles Network Administrator
VDC Administrator

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Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

Use the host-dependent method of GLBP load balancing when you need each host to always use the same router. Use the weighted method of GLBP load balancing when you need unequal load balancing because gateways in the GLBP group have different forwarding capacities.

This command does not require a license.

Examples

The following example show how to configure the host-dependent load-balancing method for the AVG of the GLBP group 10:

```
switch(config)# interface ethernet 1/1
switch(config-if)# glbp 10
switch(config-glbp)# load-balancing host-dependent
```

Related Commands

Command	Description
glbp	Enters GLBP configuration mode and creates a GLBP group.
show glbp	Displays GLBP information.
weighting	Configures the weighting value and thresholds for the weighted load-balancing method.
weighting track	Configures object tracking for the weighted load-balancing method.

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local-as

To configure the Border Gateway Protocol (BGP) local AS number, use the **local-as** command.

local-as *as-number*

Syntax	Description
<i>as-number</i>	(Optional) The autonomous system number. The AS number can be a 16-bit integer or a 32-bit integer in the form of <higher 16-bit decimal number>.<lower 16-bit decimal number>.

Defaults	None
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Command Modes	Router VRF mode
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Supported User Roles	network-admin vdc-admin
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Release	Modification
4.0(3)	This command was introduced.

Usage Guidelines	This command requires the Enterprise Services license.
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Examples	This example shows how to configure the local AS number for BGP:
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```
switch# config t
switch(config)# router bgp 33.33
switch(config-router)# vrf red
switch(config-router-vrf)# local-as 33
```

Related Commands	Command	Description
	show bgp	Displays information about BGP.

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log-adjacency-changes (IS-IS)

To enable the router to send a syslog message when an Intermediate System-to-Intermediate System Intradomain Routing Protocol (IS-IS) neighbor goes up or down, use the **log-adjacency-changes** configuration mode command. To disable this function, use the **no** form of this command.

log-adjacency-changes

no log-adjacency-changes

Syntax Description This command has no arguments or keywords.

Command Default This command is enabled by default.

Command Modes Router configuration
VRF configuration

SupportedUserRoles network-admin
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

Usage Guidelines The **log-adjacency-changes** command is on by default but only up/down (full/down) events are reported.

Examples The following example configures the router to send a syslog message when an IS-IS neighbor state changes:

```
switch(config)# router isis
switch(config-router)# log-adjacency-changes
```

Related Commands	Command	Description
	feature isis	Enables IS-IS on the router.
	router isis	Enables IS-IS.

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log-adjacency-changes (EIGRP)

To enable the logging of changes in Enhanced Interior Gateway Routing Protocol (EIGRP) adjacency state, use the **log-adjacency-changes** command. To disable the logging of changes in EIGRP adjacency state, use the **no** form of this command.

log-adjacency-changes

no log-adjacency-changes

Syntax Description

This command has no arguments or keywords.

Defaults

Adjacency changes are not logged.

Command Modes

Address-family configuration
Router configuration
Router VRF configuration

Supported User Roles

network-admin
vdc-admin

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

The following example shows how to enable logging of adjacency state changes for EIGRP 1:

```
switch(config)# router eigrp 1
switch(config-router)# address-family ipv6
switch(config-router-af)# log-adjacency-changes
```

Related Commands

Command	Description
ip eigrp log-neighbor-changes	Logs changes to neighbors for an interface.
ip eigrp log-neighbor-warnings	Logs neighbor warnings for an interface.

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log-adjacency-changes (OSPF)

To configure the router to send a syslog message when the state of an Open Shortest Path First (OSPF) neighbor changes, use the **log-adjacency-changes** command. To turn off this function, use the **no** form of this command.

log adjacency changes [detail]

Syntax Description	detail
	Provides all (DOWN, INIT, 2WAY, EXSTART, EXCHANGE, LOADING, FULL) adjacency state changes.

Defaults	The router sends a system message when the state of an OSPF neighbor changes.
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Command Modes	Router configuration Router VRF configuration
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SupportedUserRoles	network-admin vdc-admin
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Command History	Release	Modification
	4.0(1)	This command was introduced.

Usage Guidelines	Use the log-adjacency-changes command to display high-level changes to the state of the OSPF neighbor relationship. This command is on by default but only reports the up/down (full/down) events if you do not use the detail keyword.
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This command requires the Enterprise Services license.

Examples	The following example shows how to configure the router to send a system message when an OSPF neighbor state changes:
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```
switch(config)# router ospf 209
switch(config-router)# log-adjacency-changes detail
```

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log-adjacency-changes (OSPFv3)

To configure the router to send a system message when the state of an Open Shortest Path First version 3 (OSPFv3) neighbor changes, use the **log-adjacency-changes** command. To turn off this function, use the **no** form of this command.

log adjacency changes [detail]

Syntax Description	detail	Provides all (DOWN, INIT, 2WAY, EXSTART, EXCHANGE, LOADING, FULL) adjacency state changes.
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Defaults The router sends a system message when the state of an OSPFv3 neighbor changes.

Command Modes Router configuration
Router VRF configuration

SupportedUserRoles network-admin
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

Usage Guidelines Use the **log-adjacency-changes** command to display high-level changes to the state of the OSPFv3 neighbor relationship. This command is on by default but only reports the up/down (full/down) events if you do not use the **detail** keyword.

This command requires the Enterprise Services license.

Examples This example shows how to configure the router to send a system message when an OSPFv3 neighbor state changes:

```
switch(config)# router ospfv3 209
switch(config-router)# log-adjacency-changes detail
```

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lsp-gen-interval

To customize the IS-IS throttling of the LSP generation, use the **lsp-gen-interval** configuration mode command. To restore default values, use the **no** form of this command.

lsp-gen-interval {**level-1** | **level-2**} *lsp-max-wait* [*lsp-initial-wait* *lsp-second-wait*]

no lsp-gen-interval

Syntax Description

level-1	Applies intervals to level-1 areas only.
level-2	Applies intervals to level-2 areas only.
<i>lsp-max-wait</i>	Maximum interval (in seconds) between two consecutive occurrences of an LSP being generated. Range: 500 to 65535. Default: 5.
<i>lsp-initial-wait</i>	(Optional) Initial LSP generation delay (in milliseconds). Range: 50 to 65535. Default: 50.
<i>lsp-second-wait</i>	Hold time between the first and second LSP generation (in milliseconds). Range: 50 to 65535. Default: 50.

Command Default

The defaults are as follows:

- *lsp-max-wait*: 500
- *lsp-initial-wait*: 50
- *lsp-second-wait*: 50

Command Modes

Router configuration
VRF configuration

Supported User Roles

network-admin
vdc-admin

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

When you change the default values of this command, use the following guidelines:

- The *lsp-initial-wait* argument indicates the initial wait time (in milliseconds) before generating the first LSP.
- The *lsp-second-wait* argument indicates the amount of time to wait (in milliseconds) between the first and second LSP generation.

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- Each subsequent wait interval is twice as long as the previous one until the wait interval reaches the **lsp-max-wait** interval specified, so this value causes the throttling or slowing down of the LSP generation after the initial and second intervals. Once this interval is reached, the wait interval continues at this interval until the network calms down.
- After the network calms down and there are no triggers for 2 times the **lsp-max-wait** interval, fast behavior is restored (the initial wait time).

The **lsp-mtu** command sets the delay (in milliseconds) between successive LSPs being transmitted (including LSPs generated by another system and forwarded by the local system).

You can enter these commands in combination to control the rate of LSP packets being generated, transmitted, and retransmitted.

Examples

The following example configures the interval for LSP generation:

```
switch(config)# router isis  
switch(config-router)# lsp-gen-interval 2 50 100
```

Related Commands

Command	Description
exit	Exits the current configuration mode.
feature isis	Enables IS-IS on the router.
no	Negates a command or sets its defaults.
router isis	Enables IS-IS.

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log-neighbor-warnings

To enable the logging of Enhanced Interior Gateway Routing Protocol (EIGRP) neighbor warning messages, use the **log-neighbor-warnings** command. To disable the logging of EIGRP neighbor warning messages, use the **no** form of this command.

log-neighbor-warnings [*seconds*]

no log-neighbor-warnings

Syntax Description	<i>seconds</i>	(Optional) Time interval (in seconds) between repeated neighbor warning messages. The range of seconds is from 1 to 65535.
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Command Default	Neighbor warning messages are logged.
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Command Modes	Address-family configuration Router configuration Router VRF configuration
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SupportedUserRoles	network-admin vdc-admin
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Command History	Release	Modification
	4.0(3)	This command was introduced.

Usage Guidelines	Use the log-neighbor-warnings command to enable neighbor warning messages and to configure the interval between repeated neighbor warning messages. This command requires the Enterprise Services license.
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Examples	The following example shows how to log neighbor warning messages for EIGRP process 209 and to repeat the warning messages in 5-minute (300 seconds) intervals:
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```
switch(config)# router eigrp 209
switch(config-router)# log-neighbor-warnings 30
```

Related Commands	Command	Description
	log-adjacency-changes	Enables logging of EIGRP adjacency state changes.

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lsp-mtu

To set the maximum size of a link-state packet (LSP) generated by Cisco NX-OS software, use the **lsp-mtu** configuration mode command. To restore the default Maximum Transmission Unit (MTU) size, use the **no** form of this command.

lsp-mtu *bytes*

no lsp-mtu

Syntax Description

<i>bytes</i>	Maximum LSP size in bytes. Range: 128 to 4352. Default: 1492.
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Command Default

The default MTU size is 1492 bytes.

Command Modes

Router configuration
VRF configuration

Supported User Roles

network-admin
vdc-admin

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

You can increase the LSP MTU if there is a very large amount of information generated by a single router, because each device is limited to approximately 250 LSPs. In practice, this should never be necessary.

The LSP MTU must never be larger than the smallest MTU of any link in the area. This is because LSPs are flooded throughout the area.

The **lsp-mtu** command limits the size of LSPs generated by this router only.

Examples

The following example sets the maximum LSP size to 1500 bytes:

```
switch(config)# router isis
switch(config-router)# lsp-mtu 1500
```

Related Commands

Command	Description
feature isis	Enables IS-IS on the router.
router isis	Enables IS-IS.

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