Logical Router Commands on Cisco IOS XR Software

Logical routers (LRs) provide a means of partitioning a router into multiple, independent routers. LRs perform routing functions in the same manner as a physical router, but share resources with the rest of the system. For example, the applications, configurations, protocols, and routing tables assigned to an LR belong to that LR only, but other functions such as chassis control, Stage 2 (S2) switch fabric, and partitioning are shared with the rest of the system.

For detailed information about logical router concepts, configuration tasks, and examples, refer to the *Configuring Logical Routers on Cisco IOS XR Software* module.

location

To assign a node to a logical router (LR), use the **location** command in LR configuration mode. To remove a node from an LR and return the node to the owner LR, use the **no** form of this command.

location *node-id*

no location *node-id*

Syntax Description

node-id	Specifies the node to be assigned to the specified logical router. The *node-id* argument is entered in the *rack/slot/module* notation.

Defaults

All nodes are assigned to the owner LR.

Command Modes

LR configuration

Command History

Release	Modification
Release 3.2	This command was introduced on the Cisco XR 12000 Series Router.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, refer to the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Use the **location** command to assign a node to an LR. When a node is reassigned from the owner LR to another LR, that node no longer is used as a resource by the owner LR.

Use the **no** form of the **location** command to remove a node from an LR. Removing a node from an LR implicitly returns it to the owner LR. When a node has been removed from an LR, it can be reassigned to another LR.

Note Removing all nodes from an LR deletes the logical router from the configuration.

Examples

The following example shows how to enter admin configuration mode, create an LR named lr1, and assign node 0/3/* and node 0/4/* to the LR:

```
RP/0/0/CPU0:router# admin configure

RP/0/0/CPU0:router(admin-config)# logical-router lr1

RP/0/0/CPU0:router(admin-config-lr:lr1)# location 0/3/*

RP/0/0/CPU0:router(admin-config-lr:lr1)# location 0/4/*
```

Related Commands

Command	Description
logical-router	Creates an LR or modifies an existing LR.

logical-router

To specify a logical router (LR) to be provisioned and enter LR configuration mode, use the **logical-router** command in admin configuration mode. To remove a logical router from the configuration, use the **no** form of this command.

logical-router *lr-name*

no logical-router *lr-name*

Syntax Description

lr-name	Name of the logical router to be provisioned.

Defaults

The system comes configured as a single logical router known as the *owner LR*.

Command Modes

Admin configuration

Command History

Release	Modification
Release 3.2	This command was introduced on the Cisco XR 12000 Series Router.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, refer to the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Use the **logical-router** command to create an LR or modify an existing LR.

Note The *lr-name* argument creates an LR, if the LR specified for the *lr-name* argument does not exist.

By default, a router running Cisco IOS XR software contains one LR, the owner LR. You cannot create the owner LR, because it always exists—nor can you completely remove it, because it is necessary for managing the router.

After the **logical-router** command is issued, the router enters LR configuration mode. From LR configuration mode, you can add nodes to the LR or remove nodes from the LR using the **location** command.

By default, every node in the router belongs to the owner LR. When a node is reassigned from the owner LR to another LR, that node is no longer used as a resource by the owner LR.

Use the **no** form of the command to remove a logical router configuration. When a logical router is removed from the configuration, all nodes that composed the logical router are returned to the owner LR.

Examples

The following example shows how to enter LR configuration mode to configure an LR:

```
RP/0/0/CPU0:router(admin-config)# logical-router lr1

RP/0/0/CPU0:router(admin-config-lr:lr1)#
```

Related Commands

Command	Description
location	Adds or removes a node from an LR.