Cisco IOS IP Routing: ODR Command Reference

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On-Demand Routing Commands

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router odr

To configure an On-Demand Routing (ODR) process on a Cisco router, use the **routerodr** command in global configuration mode. To disable the ODR process, use the **no** form of this command.

router odr commandrouter odr

no router odr

Syntax Description

This command has no arguments or keywords

Command Default

No default behavior or values

Command Modes

Global configuration

Command History

Release	Modification
11.2	This command was introduced.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.

Usage Guidelines

The router odr command is used to configure a router as an ODR hub router to dynamically accept routes from stub peers. ODR provides IP routing with minimal configuration requirements. The overhead of dynamic routing protocol is avoided without incurring the configuration and management overhead of static routing.

The ODR process maintains a routing table, which is populated with information learned from ODR stub peers. Cisco Discovery Protocol (CDP) must be enabled on the hub router and stub peers. ODR timing values should be tuned based the number of peers and the speed of the links in your network. Route filtering should be applied consistently.

Examples

In the following example, an ODR process is enabled, a distribution list is configured to filter routes learned from ODR stub peers, and redistribution statement is configured under the Open Shortest Path First (OSPF) routing process:

```
Router(config)# access-list 101 permit ip host 10.0.0.1 192.168.1.0 0.0.0.255
Router(config)# access-list 101 permit ip 10.0.10.2 255.0.0.0 192.168.2.0 0.0.0.255
```

```
Router(config)# router odr
Router(config-router)# distribute-list 101 in
Router(config-router)# exit
Router(config-router)# router ospf 1
Router(config-router)# redistribute odr subnets
```

Related Commands

Command	Description
cdp timer	Specifies how often the Cisco IOS software sends CDP updates,
distance (IP)	Defines an administrative distance.
distribute-list in (IP)	Filters networks received in updates.
distribute-list out (IP)	Suppresses networks from being advertised in updates.
maximum-paths	Controls the maximum number of parallel routes an IP routing protocol can support.
timers basic (ODR)	Adjusts ODR network timers.

timers basic (ODR)

To adjust On-Demand Routing (ODR) network timer values, use the **timers basic** command in router configuration mode. To restore default ODR network timer values, use the **no** form of this command.

timers basic *update invalid holddown flush* [*sleep-time*]

no timers basic

Syntax Description

update	Rate (in seconds) at which updates are sent. The range is from 0 to 2147483.
invalid	Period of time (in seconds) after which a route is declared invalid. The range is from 0 to 2147483. The value of the *invalid* argument should be at least three times the value of the *update* argument.
holddown	Period of time (in seconds) during which routing information about better paths is suppressed. The range is from 0 to 2147483. The value of the *holddown* argument should be at least three times the value of the *update* argument.
flush	Period of time (in seconds) before the route is removed from the routing table. The range is from 0 to 2147483. The specified period of time must be at least the sum of the *invalid* and *holddown* arguments. If the specified period of time is less than this sum, the holddown interval will not elapse, which will result in a new route being accepted before the holddown interval expires.
sleep-time	(Optional) Period of time (in milliseconds) for postponing routing updates in the event of a flash update. The range is from 0 to 2147483647. The value of the *sleep-time* argument should be less than the value of the *update* argument. If the value of the *sleep-time* argument is higher than the value of the *update* argument, routing tables will become unsynchronized.

Command Default

ODR uses the following default values if this command is not configured or if the **no** form of this command is entered: *update*: 90 seconds; *invalid*: 270 seconds; *holddown*: 280 seconds; *flush*: 630 seconds; and *sleep-time*: 0 milliseconds.

Command Modes

Router configuration (config-router)

Command History

Release	Modification
10.0	This command was introduced.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.

Usage Guidelines

The basic timing parameters for ODR are adjustable. Because ODR executes a distributed, asynchronous routing algorithm, these timers must be the same for all routers and access servers in the network.

Note The current and default timer values are displayed in the output of the **show ip protocols** command. The relationships among the various timers should be preserved as described in the syntax description table.

Examples

In the following example, updates are configured to be broadcast every 5 seconds. If a reply is not received from a peer within 15 seconds, the route is declared invalid. Information about better paths is suppressed for an additional 15 seconds. At the end of the suppression period, the route is flushed from the routing table.

```
Device(config)# router odr
Device(config-router)# timers basic 5  15  15  30
Device(config-router)# end
```

Note When you configure a short update period, you run the risk of congesting slow-speed serial lines, which is less of a concern on high-speed links, such as Fast Ethernet, Gigabit Ethernet, and T1-rate serial links.

Related Commands

Command	Description
cdp timer	Specifies how often the Cisco IOS software sends Cisco Discovery Protocol updates.
show ip protocols	Displays parameters and the current state of the active routing protocol process.