

Chapter 22

Summary of RIPng Configuration Statements

The following sections explain each of the individual Routing Information Protocol next generation (RIPng) statements in the [edit protocols ripng] hierarchy. The statements are organized alphabetically.

export

Syntax	export [<i>policy-names</i>];
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols ripng group <i>group-name</i>], [edit protocols ripng group <i>group-name</i>]
Description	Apply a policy or list of policies to routes being exported to the neighbors.
Options	<i>policy-names</i> —Name of one or more policies.
Usage Guidelines	See “Applying Export Policy” on page 399.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	import on page 405

graceful-restart

Syntax	graceful-restart { disable; restart-time <i>seconds</i> ; }
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols ripng], [edit protocols ripng]
Description	Configure graceful restart for RIPng.
Options	<p>disable—Disables graceful restart for RIPng.</p> <p><i>seconds</i>—Estimated time period for the restart to finish, in seconds. Range: 1 through 600 seconds Default: 60 seconds</p>
Usage Guidelines	See “Configuring Graceful Restart” on page 96 and “Configuring Graceful Restart” on page 400.
Required Privilege Level	<p>routing—To view this statement in the configuration.</p> <p>routing-control—To add this statement to the configuration.</p>

group

Syntax	group <i>group-name</i> { export [<i>policy-names</i>]; metric-out <i>metric</i> ; preference <i>number</i> ; neighbor <i>neighbor-name</i> { import <i>policy-name</i> ; metric-in <i>metric</i> ; receive <none>; send <none>; } }
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols ripng], [edit protocols ripng]
Description	Configure a set of RIPng neighbors that share an export policy and metric. The export policy and metric govern what routes to advertise to neighbors in a given group.
Options	<p><i>group-name</i>—Name of a group, up to 16 characters long.</p> <p>The remaining statements are explained separately.</p>
Usage Guidelines	See “Configuring Group-Specific Properties” on page 399.
Required Privilege Level	<p>routing—To view this statement in the configuration.</p> <p>routing-control—To add this statement to the configuration.</p>

holddown

Syntax	holddown seconds;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols ripng], [edit logical-routers <i>logical-router-name</i> routing-instances <i>routing-instance-name</i> protocols ripng], [edit protocols ripng], [edit routing-instances <i>routing-instance-name</i> protocols ripng]
Description	Configure the hold-down timer for RIPng.
Options	<i>seconds</i> —Estimated time to wait before making updates to the routing table, in seconds. Default: 180 seconds Range: 10 through 180 seconds
Usage Guidelines	See “Configuring the Hold-Down Timer” on page 398.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

import

Syntax	import [<i>policy-names</i>];
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols ripng], [edit logical-routers <i>logical-router-name</i> protocols ripng group <i>group-name</i> neighbor <i>neighbor-name</i>], [edit protocols ripng], [edit protocols ripng group <i>group-name</i> neighbor <i>neighbor-name</i>]
Description	Apply one or more policies to routes being imported into the local router from the neighbors.
Options	<i>policy-names</i> —Name of one or more policies.
Usage Guidelines	See “Applying Import Policy” on page 398.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	export on page 403

metric-in

Syntax	<code>metric-in metric;</code>
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols ripng], [edit logical-routers <i>logical-router-name</i> protocols ripng group <i>group-name</i> neighbor <i>neighbor-name</i>], [edit protocols ripng], [edit protocols ripng group <i>group-name</i> neighbor <i>neighbor-name</i>]
Description	Metric to add to incoming routes when advertising into RIPng routes that were learned from other protocols. Use this statement to configure the router to prefer RIPng routes learned through a specific neighbor.
Options	<i>metric</i> —Metric value. Range: 1 through 16 Default: 1
Usage Guidelines	See “Modifying the Incoming Metric” on page 397.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

metric-out

Syntax	<code>metric-out metric;</code>
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols ripng group <i>group-name</i> neighbor <i>neighbor-name</i>], [edit protocols ripng group <i>group-name</i> neighbor <i>neighbor-name</i>]
Description	Metric value to add to routes transmitted to the neighbor. Use this statement to control how other routers prefer RIPng routes sent from this neighbor.
Options	<i>metric</i> —Metric value. Range: 1 through 16 Default: 1
Usage Guidelines	See “Modifying the Outgoing Metric” on page 400.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

neighbor

Syntax	<pre>neighbor <i>neighbor-name</i> { import [<i>policy-names</i>]; metric-in <i>metric</i>; receive <none>; send <none>; }</pre>
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols ripng group <i>group-name</i>], [edit protocols ripng group <i>group-name</i>]
Description	Configure neighbor-specific RIPng parameters, thereby overriding the defaults set for the router.
Options	<i>neighbor-name</i> —Name of an interface over which a router communicates to its neighbors. The remaining statements are explained separately.
Usage Guidelines	See “Defining RIPng Neighbor Properties” on page 397.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

preference

Syntax	<pre>preference <i>preference</i>;</pre>
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols ripng group <i>group-name</i>], [edit protocols ripng group <i>group-name</i>]
Description	Preference of external routes learned by RIPng as compared to those learned from other routing protocols.
Options	<i>preference</i> —Preference value. A lower value indicates a more preferred route. Range: 0 through 4,294,967,295 ($2^{32} - 1$) Default: 100
Usage Guidelines	See “Controlling Route Preference” on page 400.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

receive

Syntax	receive <none>;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols ripng], [edit logical-routers <i>logical-router-name</i> protocols ripng group <i>group-name</i> neighbor <i>neighbor-name</i>], [edit protocols ripng], [edit protocols ripng group <i>group-name</i> neighbor <i>neighbor-name</i>]
Description	Enable or disable receiving of update messages.
Options	<none>—(Optional) Disables receiving update messages. Default: Enabled by default.
Usage Guidelines	See “Configuring Update Messages” on page 398.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	send on page 409

ripng

Syntax	ripng {...}
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols], [edit protocols]
Description	Enable RIPng routing on the router.
Default	RIPng is disabled on the router.
Usage Guidelines	See “Minimum RIPng Configuration” on page 396.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

send

Syntax	send <none>;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols ripng], [edit logical-routers <i>logical-router-name</i> protocols ripng group <i>group-name</i> neighbor <i>neighbor-name</i>], [edit protocols ripng], [edit protocols ripng group <i>group-name</i> neighbor <i>neighbor-name</i>]
Description	Enable or disable sending of update messages.
Options	<none>—(Optional) Disables sending of update messages. Default: Enabled by default.
Usage Guidelines	See “Configuring Update Messages” on page 398.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	receive on page 408

traceoptions

Syntax traceoptions {
 file *name* <replace> <size *size*> <files *number*> <no-stamp>
 <(world-readable | no-world-readable)>;
 flag *flag* <*flag-modifier*> <disable>;
 }

Hierarchy Level [edit logical-routers *logical-router-name* protocols ripng],
 [edit protocols ripng]

Description Set RIPng protocol-level tracing options.

Default The default RIPng protocol-level trace options are inherited from the global traceoptions statement.

Options disable—(Optional) Disable the tracing operation. One use of this option is to disable a single operation when you have defined a broad group of tracing operations, such as all.

file *name*—Name of the file to receive the output of the tracing operation. Enclose the name in quotation marks. We recommend that you place RIPng tracing output in the file `/var/log/ripng-log`.

files *number*—(Optional) Maximum number of trace files. When a trace file named *trace-file* reaches its maximum size, it is renamed *trace-file.0*, then *trace-file.1*, and so on, until the maximum number of trace files is reached. Then, the oldest trace file is overwritten.

If you specify a maximum number of files, you must also specify a maximum file size with the size option.

Range: 2 through 1000 files

Default: 1 trace file only

flag *flag*—Tracing operation to perform. To specify more than one tracing operation, include multiple flag statements. The following are the RIPng-specific tracing options:

error—RIPng errors

expiration—RIPng route expiration processing

holddown—RIPng hold-down processing

packets—All RIPng packets

request—RIPng information packets such as request, poll, and poll entry packets

trigger—RIPng triggered updates

update—RIPng update packets

The following are the global tracing options:

all—All tracing operations

general—A combination of the normal and route trace operations

normal—All normal operations

Default: If you do not specify this option, only unusual or abnormal operations are traced.

policy—Policy operations and actions

route—Routing table changes

state—State transitions

task—Interface transactions and processing

timer—Timer usage

flag-modifier—(Optional) Modifier for the tracing flag. You can specify one or more of these modifiers:

detail—Provide detailed trace information

receive—Packets being received

receive-detail—Provide detailed trace information for packets being received

send—Packets being transmitted

send-detail—Provide detailed trace information for packets being transmitted

no-stamp—(Optional) Do not place timestamp information at the beginning of each line in the trace file.

Default: If you omit this option, timestamp information is placed at the beginning of each line of the tracing output.

no-world-readable—(Optional) Disallow any user to read the log file.

replace—(Optional) Replace an existing trace file if there is one.

Default: If you do not include this option, tracing output is appended to an existing trace file.

size *size*—(Optional) Maximum size of each trace file, in kilobytes (KB) or megabytes (MB). When a trace file named *trace-file* reaches this size, it is renamed *trace-file.0*. When the *trace-file* again reaches its maximum size, *trace-file.0* is renamed *trace-file.1* and *trace-file* is renamed *trace-file.0*. This renaming scheme continues until the maximum number of trace files is reached. Then, the oldest trace file is overwritten.

If you specify a maximum file size, you must also specify a maximum number of trace files with the files option.

Syntax: *xk* to specify KB, *xm* to specify MB, or *xg* to specify GB

Range: 10 KB through the maximum file size supported on your system

Default: 1 MB

world-readable—(Optional) Allow any user to read the log file.

Usage Guidelines See “Tracing RIPng Protocol Traffic” on page 401.

Required Privilege Level routing—To view this statement in the configuration.
routing-control—To add this statement to the configuration.