

Chapter 10

Summary of MLD Configuration Statements

The following sections explain each of the Multicast Listener Discovery (MLD) configuration statements. The statements are organized alphabetically.

disable

Syntax	disable;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols mld interface <i>interface-name</i>], [edit protocols mld interface <i>interface-name</i>]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Disable MLD on the system.
Usage Guidelines	See “Disabling MLD” on page 81.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

group

Syntax `group group {
 source source;
}`

Hierarchy Level [edit logical-routers *logical-router-name* protocols mld interface *interface-name* static],
[edit protocols mld interface *interface-name* static]

Release Information Statement introduced before JUNOS Release 7.4.

Description MLD multicast group address that receives data on an interface.

Options *group*—Address of group.



NOTE: You must specify a unique address for each group.

The remaining statement is explained separately.

Usage Guidelines See “Enabling MLD Static Group Membership” on page 79.

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

interface

Syntax `interface interface-name {
 disable;
 static {
 group group {
 source source;
 }
 }
 version version;
}`

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

Release Information Statement introduced before JUNOS Release 7.4.

Description Enable MLD on an interface and configure interface-specific properties.

Options *interface-name*—Name of the interface. Specify the full interface name, including the physical and logical address components. To configure all interfaces, you can specify **all**. For details about specifying interfaces, see the *JUNOS Network Interfaces Configuration Guide*.

The remaining statements are explained separately.

Usage Guidelines See “Enabling MLD” on page 76.

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

mld

Syntax mld {
 interface *interface-name* {
 disable;
 static {
 group *group* {
 source *source*;
 }
 }
 version *version*;
 }
 query-interval *seconds*;
 query-last-member-interval *seconds*;
 query-response-interval *seconds*;
 robust-count *number*;
 }
 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],
 [edit protocols]

Release Information Statement introduced before JUNOS Release 7.4.

Description Enable MLD on the router. MLD must be enabled for the router to receive multicast packets.

Default MLD is disabled on the router. MLD is automatically enabled on all broadcast interfaces when you configure Protocol Independent Multicast (PIM) or Distance Vector Multicast Routing Protocol (DVMRP).

Options The statements are explained separately.

Usage Guidelines See “Enabling MLD” on page 76.

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

query-interval

Syntax	query-interval <i>seconds</i> ;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols mld], [edit protocols mld]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	How often the querier router sends general host-query messages.
Options	<i>seconds</i> —Time interval, in seconds. Range: 1 through 1024 Default: 125 seconds
Usage Guidelines	See “Modifying the MLD Host-Query Message Interval” on page 77.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	query-last-member-interval on page 86, query-response-interval on page 87

query-last-member-interval

Syntax	query-last-member-interval <i>seconds</i> ;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols mld], [edit protocols mld]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	How often the querier router sends group-specific query messages.
Options	<i>seconds</i> —Time interval, in fractions of a second or seconds. Range: 0.1 through 0.9, then in 1-second intervals from 1 through 1024 Default: 1 second
Usage Guidelines	See “Modifying the Last-Member Query Interval” on page 78.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	query-interval on page 86, query-response-interval on page 87

query-response-interval

Syntax	query-response-interval <i>seconds</i> ;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols mld], [edit protocols mld]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	How long the querier router waits to receive a response to a host-query message from a host.
Options	<i>seconds</i> —Time interval, in seconds. This interval must be less than the interval between general host-query messages. Range: 1 through 1024 Default: 10 seconds
Usage Guidelines	See “Modifying the MLD Query Response Interval” on page 78.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	query-interval on page 86, query-last-member-interval on page 86

robust-count

Syntax	robust-count <i>number</i> ;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols mld], [edit protocols mld]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Tune for the expected packet loss on a subnet.
Options	<i>number</i> —Time interval, in seconds. This interval must be less than the interval between general host-query messages. Range: 2 through 10 Default: 2 seconds
Usage Guidelines	See “Modifying the Robustness Variable” on page 79.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

source

Syntax	<code>source source;</code>
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols mld interface <i>interface-name</i> static group <i>group</i>], [edit protocols mld interface <i>interface-name</i> static group <i>group</i>]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	IP version 6 (IPv6) unicast address that sends data on an interface.
Options	<i>source</i> —One or more IPv6 unicast addresses.
Usage Guidelines	See “Enabling MLD Static Group Membership” on page 79.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

ssm-map

Syntax	<code>ssm-map ssm-map-name;</code>
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols mld interface <i>interface-name</i>], [edit protocols mld interface <i>interface-name</i>]
Release Information	Statement introduced in JUNOS Release 7.4.
Description	Apply an SSM map to an MLD interface.
Options	<i>ssm-map-name</i> —Name of SSM map.
Usage Guidelines	See “Example: Configuring SSM Mapping” on page 148.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

static

Syntax	<pre>static { group group { source source; } }</pre>
Hierarchy	[edit logical-routers <i>logical-router-name</i> protocols mld interface <i>interface-name</i>], [edit protocols mld interface <i>interface-name</i>]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Test multicast forwarding on an interface.
Options	The remaining statements are explained separately.

Usage Guidelines See “Enabling MLD Static Group Membership” on page 79.

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

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 mld],
[edit protocols mld]

Release Information Statement introduced before JUNOS Release 7.4.

Description Configure MLD tracing options.

To specify more than one tracing operation, include multiple **flag** statements.

To trace the paths of multicast packets, use the **mtrace** command, as described in the *JUNOS System Basics and Services Command Reference*.

Default The default MLD trace options are those inherited from the **traceoptions** statement included at the [edit routing-options] hierarchy level.

Options **disable**—(Optional) Disable the tracing operation. You can use this option 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 within quotation marks. All files are placed in the directory **/var/log**. We recommend that you place tracing output in the file **mld-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 also must specify a maximum file size with the **size** option.

Range: 2 through 1000 files

Default: 2 files

flag—Tracing operation to perform. To specify more than one tracing operation, include multiple *flag* statements.

MLD Tracing Flags

- *leave*—Leave group messages.
- *mtrace*—Mtrace packets. Use the *mtrace* command to troubleshoot the software.
- *packets*—All MLD packets.
- *query*—MLD membership query messages, including general and group-specific queries.
- *report*—Membership report messages.

Global Tracing Flags

- *all*—All tracing operations
- *general*—A combination of the *normal* and *route* trace operations
- *normal*—Traces errors and significant events during normal packet processing
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*—Detailed trace information
- *receive*—Packets being received
- *send*—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), megabytes (MB), or gigabytes (GB). When a trace file named *trace-file* reaches this size, it is renamed *trace-file.0*. When *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 MLD Protocol Traffic” on page 80.

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

version

Syntax `version version;`

Hierarchy [edit logical-routers *logical-router-name* protocols mld interface *interface-name*],
[edit protocols mld interface *interface-name*]

Release Information Statement introduced before JUNOS Release 7.4.

Description Configure the MLD version explicitly. MLD version 2 (MLDv2) is used only to support source-specific multicast (SSM).

Options *version*—MLD version to run on the interface.

Range: 1 or 2

Default: 1 (MLDv1)

Usage Guidelines See “Modifying the MLD Version” on page 77.

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

