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

Description Disable MLD on the system.

Usage Guidelines See “Disabling MLD” on page 77.

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]

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 75.

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]

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 Netw ork Interfaces and Class of Service Configur ation Guide*.

The remaining statements are explained separately.

Usage Guidelines See “Enabling MLD” on page 72.

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]

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 72.

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 *seconds*;

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

Description How often the querier router sends general host-query messages.

Options *seconds*—Time interval, in seconds.
Range: 1 through 1024
Default: 125 seconds

Usage Guidelines See “Modifying the MLD Host-Query Message Interval” on page 73.

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 82, query-response-interval on page 83

query-last-member-interval

Syntax query-last-member-interval *seconds*;

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

Description How often the querier router sends group-specific query messages.

Options *seconds*—Time interval, in fractions of a second or seconds.
Range: 0.1 through 0.9, then in 1-second intervals 1 through 1024
Default: 1 second

Usage Guidelines See “Modifying the Last-Member Query Interval” on page 74.

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 82, query-response-interval on page 83

query-response-interval

Syntax query-response-interval *seconds*;

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

Description How long the querier router waits to receive a response to a host-query message from a host.

Options *seconds*—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 74.

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 82, query-last-member-interval on page 82

robust-count

Syntax robust-count *number*;

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

Description Tune for the expected packet loss on a subnet.

Options *number*—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 75.

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

source

Syntax source *source*;

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

Description IP version 6 (IPv6) unicast address that sends data on an interface.

Options *source*—One or more IPv6 unicast addresses.

Usage Guidelines See “Enabling MLD Static Group Membership” on page 75.

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

static

Syntax
```
static {
    group group {
        source source;
    }
}
```

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

Description Test multicast forwarding on an interface.

Options The remaining statements are explained separately.

Usage Guidelines See “Enabling MLD Static Group Membership” on page 75.

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]

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 Protocols, Class of Service , and System Basics Management 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: *x*k to specify KB, *x*m to specify MB, or *x*g 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 76.

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*]

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 73.

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.