

## Chapter 26

# Summary of MSDP Configuration Statements

The following sections explain each of the Multicast Source Discovery Protocol (MSDP) configuration statements. The statements are organized alphabetically.

### active-source-limit

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<b>Syntax</b>	<pre>active-source-limit {     maximum <i>number</i>;     threshold <i>number</i>; }</pre>
<b>Hierarchy Level</b>	<pre>[edit logical-routers <i>logical-router-name</i> protocols msdp], [edit logical-routers <i>logical-router-name</i> protocols msdp group <i>group-name</i> peer <i>address</i>], [edit logical-routers <i>logical-router-name</i> protocols msdp peer <i>address</i>], [edit logical-routers <i>logical-router-name</i> protocols msdp source <i>prefix/mask</i>], [edit protocols msdp], [edit protocols msdp group <i>group-name</i> peer <i>address</i>], [edit protocols msdp peer <i>address</i>], [edit protocols msdp source <i>prefix/mask</i>], [edit routing-instances <i>instance-name</i> logical-routers <i>logical-router-name</i> protocols msdp], [edit routing-instances <i>instance-name</i> logical-routers <i>logical-router-name</i> protocols msdp group <i>group-name</i> peer <i>address</i>], [edit routing-instances <i>instance-name</i> logical-routers <i>logical-router-name</i> protocols msdp peer <i>address</i>], [edit routing-instances <i>instance-name</i> logical-routers <i>logical-router-name</i> protocols msdp source <i>prefix/mask</i>], [edit routing-instances <i>instance-name</i> protocols msdp], [edit routing-instances <i>instance-name</i> protocols msdp group <i>group-name</i> peer <i>address</i>], [edit routing-instances <i>instance-name</i> protocols msdp peer <i>address</i>], [edit routing-instances <i>instance-name</i> protocols msdp source <i>prefix/mask</i>]</pre>
<b>Release Information</b>	Statement introduced before JUNOS Release 7.4.
<b>Description</b>	Limit the number of active source messages the router accepts.
<b>Default</b>	If you do not include this statement, the router accepts any number of MSDP active source messages.
<b>Options</b>	The options are explained separately.

**Usage Guidelines** See “Configuring the MSDP Active Source Limit” on page 281.

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

## authentication-key

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**Syntax** authentication-key *peer-key*;

**Hierarchy Level** [edit logical-routers *logical-router-name* protocols msdp group *group-name* peer *address*],  
[edit logical-routers *logical-router-name* protocols msdp peer *address*],  
[edit protocols msdp group *group-name* peer *address*],  
[edit protocols msdp peer *address*],  
[edit routing-instances *instance-name* logical-routers *logical-router-name* protocols msdp group *group-name* peer *address*],  
[edit routing-instances *instance-name* logical-routers *logical-router-name* protocols msdp peer *address*],  
[edit routing-instances *instance-name* protocols msdp group *group-name* peer *address*],  
[edit routing-instances *instance-name* protocols msdp peer *address*]

**Release Information** Statement introduced before JUNOS Release 7.4.

**Description** Associate a Message Digest 5 (MD5) signature option authentication key with an MSDP peering session.

**Default** If you do not include this statement, the router accepts any valid MSDP messages from the peer address.

**Options** *peer-key*—MD5 authentication key. The peer key can be a text string up to 16 letters and digits long. Strings can include any ASCII characters with the exception of (, ), &, and [. If you include spaces in an MSDP authentication key, enclose all characters in quotation marks (" ").

**Usage Guidelines** See “Configuring the MSDP Authentication Key” on page 276.

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

## data-encapsulation

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**Syntax** data-encapsulation (disable | enable);

**Hierarchy Level** [edit logical-routers *logical-router-name* protocols msdp],  
[edit protocols msdp],  
[edit routing-instances *instance-name* logical-routers *logical-router-name* protocols msdp],  
[edit routing-instances *instance-name* protocols msdp]

**Release Information** Statement introduced before JUNOS Release 7.4.

**Description** Configure a rendezvous point (RP) using MSDP to encapsulate multicast data received in MSDP register messages inside forwarded MSDP source-active messages.

**Default** If you do not include this statement, the RP encapsulates multicast data.

**Options** `disable`—(Optional) Do not use MSDP data encapsulation.

`enable`—Use MSDP data encapsulation.

**Default:** `enable`

**Usage Guidelines** See “Configuring MSDP Data Encapsulation” on page 280.

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

## default-peer

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**Syntax** `default-peer;`

**Hierarchy Level** [edit logical-routers *logical-router-name* protocols msdp],  
 [edit logical-routers *logical-router-name* protocols msdp group *group-name*],  
 [edit logical-routers *logical-router-name* protocols msdp group *group-name*  
 peer *address*],  
 [edit logical-routers *logical-router-name* protocols msdp peer *address*],  
 [edit protocols msdp],  
 [edit protocols msdp group *group-name*],  
 [edit protocols msdp group *group-name* peer *address*],  
 [edit protocols msdp peer *address*],  
 [edit routing-instances *instance-name* logical-routers *logical-router-name* protocols  
 msdp],  
 [edit routing-instances *instance-name* logical-routers *logical-router-name* protocols  
 msdp group *group-name*],  
 [edit routing-instances *instance-name* logical-routers *logical-router-name* protocols  
 msdp group *group-name* peer *address*],  
 [edit routing-instances *instance-name* logical-routers *logical-router-name* protocols  
 msdp peer *address*],  
 [edit routing-instances *instance-name* protocols msdp],  
 [edit routing-instances *instance-name* protocols msdp group *group-name*],  
 [edit routing-instances *instance-name* protocols msdp group *group-name* peer *address*],  
 [edit routing-instances *instance-name* protocols msdp peer *address*]

**Release Information** Statement introduced before JUNOS Release 7.4.

**Description** Establishes this peer as the default MSDP peer and accepts source-active messages from the peer without the usual peer-reverse-path-forwarding (peer-RPF) check.

**Usage Guidelines** See “Configuring a Default MSDP Peer” on page 283.

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

## disable

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<b>Syntax</b>	disable;
<b>Hierarchy Level</b>	[edit logical-routers <i>logical-router-name</i> protocols msdp], [edit logical-routers <i>logical-router-name</i> protocols msdp group <i>group-name</i> ], [edit logical-routers <i>logical-router-name</i> protocols msdp group <i>group-name</i> peer <i>address</i> ], [edit logical-routers <i>logical-router-name</i> protocols msdp peer <i>address</i> ], [edit protocols msdp], [edit protocols msdp group <i>group-name</i> ], [edit protocols msdp group <i>group-name</i> peer <i>address</i> ], [edit protocols msdp peer <i>address</i> ], [edit routing-instances <i>instance-name</i> logical-routers <i>logical-router-name</i> protocols msdp], [edit routing-instances <i>instance-name</i> logical-routers <i>logical-router-name</i> protocols msdp group <i>group-name</i> ], [edit routing-instances <i>instance-name</i> logical-routers <i>logical-router-name</i> protocols msdp group <i>group-name</i> peer <i>address</i> ], [edit routing-instances <i>instance-name</i> logical-routers <i>logical-router-name</i> protocols msdp peer <i>address</i> ], [edit routing-instances <i>instance-name</i> protocols msdp], [edit routing-instances <i>instance-name</i> protocols msdp group <i>group-name</i> ], [edit routing-instances <i>instance-name</i> protocols msdp group <i>group-name</i> peer <i>address</i> ], [edit routing-instances <i>instance-name</i> protocols msdp peer <i>address</i> ]
<b>Release Information</b>	Statement introduced before JUNOS Release 7.4.
<b>Description</b>	Explicitly disable MSDP.
<b>Usage Guidelines</b>	See “Disabling MSDP” on page 284.
<b>Required Privilege Level</b>	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

## export

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<b>Syntax</b>	export [ <i>policy-names</i> ];
<b>Hierarchy Level</b>	[edit logical-routers <i>logical-router-name</i> protocols msdp], [edit logical-routers <i>logical-router-name</i> protocols msdp group <i>group-name</i> ], [edit logical-routers <i>logical-router-name</i> protocols msdp group <i>group-name</i> peer <i>address</i> ], [edit logical-routers <i>logical-router-name</i> protocols msdp peer <i>address</i> ], [edit protocols msdp], [edit protocols msdp group <i>group-name</i> ], [edit protocols msdp group <i>group-name</i> peer <i>address</i> ], [edit protocols msdp peer <i>address</i> ], [edit routing-instances <i>instance-name</i> logical-routers <i>logical-router-name</i> protocols msdp], [edit routing-instances <i>instance-name</i> logical-routers <i>logical-router-name</i> protocols msdp group <i>group-name</i> ], [edit routing-instances <i>instance-name</i> logical-routers <i>logical-router-name</i> protocols msdp group <i>group-name</i> peer <i>address</i> ], [edit routing-instances <i>instance-name</i> logical-routers <i>logical-router-name</i> protocols msdp peer <i>address</i> ]

```

msdp peer address],
[edit routing-instances instance-name protocols msdp],
[edit routing-instances instance-name protocols msdp group group-name],
[edit routing-instances instance-name protocols msdp group group-name peer address],
[edit routing-instances instance-name protocols msdp peer address]

```

- Release Information** Statement introduced before JUNOS Release 7.4.
- Description** Apply one or more policies to routes being exported from the routing table into MSDP.
- Options** *policy-names*—Name of one or more policies.
- Usage Guidelines** See “Configuring MSDP Routing Policy” on page 277.
- 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 294

## group

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**Syntax**

```

group group-name {
  disable;
  export [ policy-names ];
  import [ policy-names ];
  local-address address;
  mode (mesh-group|standard);
  traceoptions {
    file name <replace> <size size> <files number> <no-stamp>
      <(world-readable | no-world-readable)>;
    flag flag <flag-modifier> <disable>;
  }
  peer address; {
    active-source-limit {
      maximum number;
      threshold number;
    }
    authentication-key peer-key;
    default-peer;
    disable;
    export [ policy-names ];
    import [ policy-names ];
    local-address address;
    traceoptions {
      file name <replace> <size size> <files number> <no-stamp>
        <(world-readable | no-world-readable)>;
      flag flag <flag-modifier> <disable>;
    }
  }
}

```

- Hierarchy Level** [edit protocols msdp],  
[edit logical-routers logical-router-name protocols msdp],  
[edit routing-instances instance-name logical-routers logical-router-name protocols

```
msdp],
[edit routing-instances instance-name protocols msdp]
```

**Release Information** Statement introduced before JUNOS Release 7.4.

**Description** Define an MSDP peer group. MSDP peers within groups share common traceoptions, if present and not overridden for an individual peer with the `peer` statement. To configure multiple MSDP groups, include multiple `group` statements.

By default, the group’s options are identical to the global MSDP options. To override the global options, include group-specific options within the `group` statement.

The group must contain at least one peer.

**Options** *group-name*—Name of the MSDP group.

The remaining statements are explained separately.

**Usage Guidelines** See “Configuring MSDP Groups” on page 273.

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

## import

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**Syntax** `import [ policy-names ];`

**Hierarchy Level** [edit logical-routers *logical-router-name* protocols msdp],  
 [edit logical-routers *logical-router-name* protocols msdp group *group-name*],  
 [edit logical-routers *logical-router-name* protocols msdp group *group-name* peer *address*],  
 [edit logical-routers *logical-router-name* protocols msdp peer *address*],  
 [edit protocols msdp],  
 [edit protocols msdp group *group-name*],  
 [edit protocols msdp group *group-name* peer *address*],  
 [edit protocols msdp peer *address*],  
 [edit routing-instances *instance-name* logical-routers *logical-router-name* protocols msdp],  
 [edit routing-instances *instance-name* logical-routers *logical-router-name* protocols msdp group *group-name*],  
 [edit routing-instances *instance-name* logical-routers *logical-router-name* protocols msdp group *group-name* peer *address*],  
 [edit routing-instances *instance-name* logical-routers *logical-router-name* protocols msdp peer *address*],  
 [edit routing-instances *instance-name* protocols msdp],  
 [edit routing-instances *instance-name* protocols msdp group *group-name*],  
 [edit routing-instances *instance-name* protocols msdp group *group-name* peer *address*],  
 [edit routing-instances *instance-name* protocols msdp peer *address*]

**Release Information** Statement introduced before JUNOS Release 7.4.

**Description** Apply one or more policies to routes being imported into the routing table from MSDP.

**Options** *policy-names*—Name of one or more policies.

**Usage Guidelines** See “Configuring MSDP Routing Policy” on page 277.

**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 292

## local-address

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**Syntax** local-address *address*;

**Hierarchy Level** [edit logical-routers *logical-router-name* protocols msdp],  
[edit logical-routers *logical-router-name* protocols msdp group *group-name*],  
[edit logical-routers *logical-router-name* protocols msdp group *group-name*  
peer *address*],  
[edit logical-routers *logical-router-name* protocols msdp peer *address*],  
[edit protocols msdp],  
[edit protocols msdp group *group-name*],  
[edit protocols msdp group *group-name* peer *address*],  
[edit protocols msdp peer *address*],  
[edit routing-instances *instance-name* logical-routers *logical-router-name* protocols  
msdp],  
[edit routing-instances *instance-name* logical-routers *logical-router-name* protocols  
msdp group *group-name*],  
[edit routing-instances *instance-name* logical-routers *logical-router-name* protocols  
msdp group *group-name* peer *address*],  
[edit routing-instances *instance-name* logical-routers *logical-router-name* protocols  
msdp peer *address*],  
[edit routing-instances *instance-name* protocols msdp],  
[edit routing-instances *instance-name* protocols msdp group *group-name*],  
[edit routing-instances *instance-name* protocols msdp group *group-name* peer *address*],  
[edit routing-instances *instance-name* protocols msdp peer *address*]

**Release Information** Statement introduced before JUNOS Release 7.4.

**Description** Configure the local end of an MSDP session. You must configure at least one peer for MSDP to function. When configuring a peer, you must include this statement. This address is used to accept incoming connections to the peer and to establish connections to the remote peer.

**Options** *address*—IP address of the local end of the connection.

**Usage Guidelines** See “Minimum MSDP Configuration” on page 271.

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

## maximum

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<b>Syntax</b>	maximum <i>number</i> ;
<b>Hierarchy Level</b>	[edit logical-routers <i>logical-router-name</i> protocols msdp active-source-limit], [edit protocols msdp active-source-limit], [edit routing-instances <i>instance-name</i> logical-routers <i>logical-router-name</i> protocols msdp active-source-limit], [edit routing-instances <i>instance-name</i> protocols msdp active-source-limit]
<b>Release Information</b>	Statement introduced before JUNOS Release 7.4.
<b>Description</b>	Configure the maximum number of MSDP active source messages the router accepts.
<b>Options</b>	<i>number</i> —Maximum number of active source messages. <b>Range:</b> 1 through 1,000,000 <b>Default:</b> 25,000
<b>Usage Guidelines</b>	See “Configuring the MSDP Active Source Limit” on page 281.
<b>Required Privilege Level</b>	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
<b>See Also</b>	threshold on page 300

## mode

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<b>Syntax</b>	mode (mesh-group   standard);
<b>Hierarchy Level</b>	[edit logical-routers <i>logical-router-name</i> protocols msdp group <i>group-name</i> ], [edit protocols msdp group <i>group-name</i> ], [edit routing-instances <i>instance-name</i> logical-routers <i>logical-router-name</i> protocols msdp group <i>group-name</i> ], [edit routing-instances <i>instance-name</i> protocols msdp group <i>group-name</i> ]
<b>Release Information</b>	Statement introduced before JUNOS Release 7.4.
<b>Description</b>	Configure groups of peers in a full mesh topology to limit excessive flooding of source-active messages to neighboring peers. The default flooding mode is standard.
<b>Default</b>	If you do not include this statement, default flooding is applied.
<b>Options</b>	mesh-group—(Optional) Group of peers that are mesh group members.  standard—Use standard MSDP source-active flooding rules. <b>Default:</b> standard
<b>Usage Guidelines</b>	See “Configuring MSDP Mesh Groups” on page 274.
<b>Required Privilege Level</b>	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

**msdp**

```

Syntax      msdp {
                active-source-limit {
                    maximum number;
                    threshold number;
                }
                data-encapsulation (enable | disable);
                disable;
                rib-group group-name;
                export [ policy-names ];
                import [ policy-names ];
                local-address address;
                traceoptions {
                    file name <replace> <size size> <files number> <no-stamp>
                        <(world-readable | no-world-readable)>;
                    flag flag <flag-modifier> <disable>;
                }
                peer address {
                    active-source-limit {
                        maximum number;
                        threshold number;
                    }
                    authentication-key peer-key;
                    default-peer;
                    disable;
                    export [ policy-names ];
                    import [ policy-names ];
                    local-address address;
                    traceoptions {
                        file name <replace> <size size> <files number> <no-stamp>
                            <(world-readable | no-world-readable)>;
                        flag flag <flag-modifier> <disable>;
                    }
                }
                group group-name {
                    disable;
                    export [ policy-names ];
                    import [ policy-names ];
                    local-address address;
                    mode (mesh-group | standard);
                    traceoptions {
                        file name <replace> <size size> <files number> <no-stamp>
                            <(world-readable | no-world-readable)>;
                        flag flag <flag-modifier> <disable>;
                    }
                }
                peer address {
                    active-source-limit {
                        maximum number;
                        threshold number;
                    }
                    authentication-key peer-key;
                }
            }

```



```

        flag flag <flag-modifier> <disable>;
    }
}

```

<b>Hierarchy Level</b>	[edit logical-routers <i>logical-router-name</i> protocols msdp], [edit logical-routers <i>logical-router-name</i> protocols msdp group <i>group-name</i> ], [edit protocols msdp], [edit protocols msdp group <i>group-name</i> ], [edit routing-instances <i>instance-name</i> logical-routers <i>logical-router-name</i> protocols msdp], [edit routing-instances <i>instance-name</i> logical-routers <i>logical-router-name</i> protocols msdp group <i>group-name</i> ], [edit routing-instances <i>instance-name</i> protocols msdp], [edit routing-instances <i>instance-name</i> protocols msdp group <i>group-name</i> ]
<b>Release Information</b>	Statement introduced before JUNOS Release 7.4.
<b>Description</b>	<p>Define an MSDP peering relationship. An MSDP router must know which routers are its peers. You define the peer relationships explicitly by configuring the neighboring routers that are the MSDP peers of the local router. After peer relationships are established, the MSDP peers exchange messages to advertise active multicast sources. To configure multiple MSDP peers, include multiple <b>peer</b> statements.</p> <p>By default, the peer's options are identical to the global or group-level MSDP options. To override the global or group-level options, include peer-specific options within the <b>peer</b> statement.</p> <p>At least one peer must be configured for MSDP to function. You must configure <i>address</i> and <i>local-address</i>.</p>
<b>Options</b>	<p><i>address</i>—Name of the MSDP peer.</p> <p>The remaining statements are explained separately.</p>
<b>Usage Guidelines</b>	See “Configuring MSDP Peers” on page 272.
<b>Required Privilege Level</b>	<p>routing—To view this statement in the configuration.</p> <p>routing-control—To add this statement to the configuration.</p>

## rib-group

---

<b>Syntax</b>	<i>rib-group group-name</i> ;
<b>Hierarchy Level</b>	[edit logical-routers <i>logical-router-name</i> protocols msdp], [edit protocols msdp], [edit routing-instances <i>instance-name</i> logical-routers <i>logical-router-name</i> protocols msdp], [edit routing-instances <i>instance-name</i> protocols msdp]
<b>Release Information</b>	Statement introduced before JUNOS Release 7.4.
<b>Description</b>	Associate a routing table group with MSDP.

**Options** *group-name*—Name of the routing table group. The name must be one that you defined with the `rib-groups` statement at the [edit routing-options] hierarchy level.

**Usage Guidelines** See “Enabling MSDP” on page 272.

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

## source

---

**Syntax**

```
source prefix/mask {
  active-source-limit {
    maximum number;
    threshold number;
  }
}
```

**Hierarchy Level** [edit logical-routers *logical-router-name* protocols msdp],  
[edit protocols msdp],  
[edit routing-instances *instance-name* logical-routers *logical-router-name* protocols msdp],  
[edit routing-instances *instance-name* protocols msdp]

**Release Information** Statement introduced before JUNOS Release 7.4.

**Description** Limit the number of active source messages the router accepts from sources in this address range.

**Default** If you do not include this statement, the router accepts any number of MSDP active source messages.

**Options** The other statements are explained separately.

**Usage Guidelines** See “Configuring Per-Source Active Source Limit” on page 282.

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

## threshold

---

**Syntax** `threshold number;`

**Hierarchy Level** [edit logical-routers *logical-router-name* protocols msdp active-source-limit],  
[edit protocols msdp active-source-limit],  
[edit routing-instances *instance-name* logical-routers *logical-router-name* protocols msdp active-source-limit],  
[edit routing-instances *instance-name* protocols msdp active-source-limit]

**Release Information** Statement introduced before JUNOS Release 7.4.

**Description** Configure the random early discard (RED) threshold for MSDP active source messages. This number should be less than the configured or default maximum.

**Options** *number*—RED threshold for active source messages.  
**Range:** 1 through 1,000,000  
**Default:** 24,000

**Usage Guidelines** See “Configuring the MSDP Active Source Limit” on page 281.

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

**See Also** maximum on page 296

## 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 msdp],  
[edit logical-routers *logical-router-name* protocols msdp group *group-name*],  
[edit logical-routers *logical-router-name* protocols msdp group *group-name*  
peer *address*],  
[edit logical-routers *logical-router-name* protocols msdp peer *address*],  
[edit protocols msdp],  
[edit protocols msdp group *group-name*],  
[edit protocols msdp group *group-name* peer *address*],  
[edit protocols msdp peer *address*],  
[edit routing-instances *instance-name* logical-routers *logical-router-name* protocols  
msdp],  
[edit routing-instances *instance-name* logical-routers *logical-router-name* protocols  
msdp group *group-name*],  
[edit routing-instances *instance-name* logical-routers *logical-router-name* protocols  
msdp group *group-name* peer *address*],  
[edit routing-instances *instance-name* logical-routers *logical-router-name* protocols  
msdp peer *address*],  
[edit routing-instances *instance-name* protocols msdp],  
[edit routing-instances *instance-name* protocols msdp group *group-name*],  
[edit routing-instances *instance-name* protocols msdp group *group-name* peer *address*],  
[edit routing-instances *instance-name* protocols msdp peer *address*]

**Release Information** Statement introduced before JUNOS Release 7.4.

**Description** Configure MSDP tracing options.

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

**Default** The default MSDP trace options are those inherited from the routing protocol’s 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 `msdp-log` file.

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

#### MSDP Tracing Flags

- `keepalive`—Keepalive messages
- `packets`—All MSDP packets
- `route`—MSDP changes to the routing table
- `source-active`—Source-active packets
- `source-active-request`—Source-active request packets
- `source-active-response`—Source-active response packets

#### Global Tracing Flags

- `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`—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 MSDP Protocol Traffic” on page 285.

**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.

