

Chapter 23

SNMP

The JUNOS software supports the Simple Network Management Protocol (SNMP), which helps you monitor the state of a router. The software supports SNMP Version 1 and Version 2 (also known as Version 2c, or v2c). The SNMP software is controlled by the JUNOS SNMP and Management Information Base (MIB) II processes, which consist of an SNMP master agent and various subagents.

For IPv6 implementation, the JUNOS software allows SNMP data over IPv6 networks. There is also support for providing IPv6-specific MIB data, as well as support for SNMP agents for IPv6.

The SNMP agent exchanges network management information with SNMP manager software running on a network management system (NMS), or host. The agent responds to requests for information and actions from the manager. The agent also controls access to the agent's MIB, the collection of objects that can be viewed or changed by the SNMP manager.

The SNMP manager collects information about network connectivity, activity, and events by polling managed devices.

Communication between the agent and the manager occurs in one of the following forms:

Get, GetBulk, and GetNext requests—The manager requests information from the agent; the agent returns the information in a Get response message.

Set requests—The manager changes the value of a MIB object controlled by the agent; the agent indicates the status in a Set response message.

Traps—The agent sends traps to notify the manager of significant events that occur on the network device.

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SNMP Standards

The following standards documents define SNMP. For a list of the standard MIBs supported, see the *JUNOS Internet Software Configuration Guide: Getting Started*.

RFC 1157, *A Simple Network Management Protocol (SNMP)*

RFC 1213, *Management Information Base for Network Management of TCP/IP-Based Internets: MIB-II*

RFC 1215, *Convention for Defining Traps for Use with SNMP*

RFC 1901, *Introduction to Community-based SNMPv2*

RFC 1902, *Structure of Management Information for Version 2 of the Simple Network Management Protocol (SNMPv2)*

RFC 1905, *Protocol Operations for Version 2 of the Simple Network Management Protocol (SNMPv2)*

RFC 2465, *Management Information Base for IP Version 6: Textual Conventions and General Group*

RFC 2466, *Management Information Base for IP Version 6: ICMPv6 Group*

RFC 2578, *Structure of Management Information Version 2 (SMIV2)*

Requests for Comments (RFCs) can be found at <http://www.ietf.org>.

Configure SNMP

To configure SNMP, include the following statements at the [edit snmp] hierarchy level:

```
[edit]
snmp {
  description description;
  location location;
  contact contact;
  interface [ interface-name ];
  community community-name {
    authorization authorization;
    clients {
      address <restrict>;
    }
    view view-name;
  }
  trap-options {
    source-address address;
    agent-address outgoing-interface;
  }
  trap-group group-name {
    categories category;
    targets {
      address;
    }
    version version;
  }
}
```

```

view view-name {
  oid object-identifier (include | exclude);
}
traceoptions {
  file <files number> <size size>;
  flag flag <disable>;
}
}

```

Examples: Configure SNMP

Configure SNMP agents:

```

[edit]
snmp {
  community cm1 {
    clients {
      1.2.3.4/24;
      f8019:abcd::1/64;
    }
  }
}

```

Configure SNMP traps:

```

[edit]
snmp {
  trap-group group1 {
    targets {
      1.2.3.4;
      f8019:abcd::1;
    }
  }
}

```

