

Overview of SNMP Traps

The SNMP agent provides network management systems with SNMP trap notifications in case of component failure or when critical resources are out of configurable limits. This information is captured in a Management Information Base (MIB).

The SNMP agent can be run on each SRC host. It can monitor any SRC process running on the host and is preconfigured to monitor SRC processes. Additionally, it provides detailed monitoring and configuration of SRC server components.

MIBs

The SNMP agent monitors MIB variables. Most variables measure the performance of the system. Some variables are counters, such as the `saeLogins` variable, which counts the total number of subscriber logins since startup. Some variables are gauges, and their numbers go up and down, such as the `saeHeapUsed` variable, which measures the Java Virtual Machine heap that is currently in use.

A MIB defines a trap type that is associated with many MIB variables. For traps based on counters, the SNMP agent periodically polls each specified variable. It takes the difference between the previous and current values of the variable and compares that difference with the threshold. If the difference has moved up across thresholds, the SNMP agent sends a trap raising an alarm (minor, major, or critical) for the highest threshold crossed to all configured receivers. If the difference has moved down across thresholds, the agent sends a trap clearing the alarm of the lowest threshold crossed.

You can configure the polling interval between samples. If you change the polling interval, also adjust the thresholds. For instance, if the critical threshold for SAE logins is 1,000 and the interval is 60 seconds, then a critical alarm is raised if there are more than 1,000 logins in 60 seconds. But if you change the interval to 600 seconds, then you would need to change the threshold to 10,000 to have the same meaning.

For traps based on gauges, the previous value is not needed; the current value is compared with the thresholds.

In the trap tables, there is a field named R/AV, where R means rate, and AV means absolute value. Rate is used for variables that are counters, and it measures the rate of change of the counter. Absolute value is used for variables that are gauges.

Configuration MIBs

The SRC software has a limited number of MIB variables that can be set, such as variables to shut down or start components.

MIB Structure

The SNMP agent MIB uses the following Juniper Networks MIBs:

- Juniper-SDX-ACP-MIB—SRC-ACP MIB
- Juniper-SDX-CHASSIS-MIB—Chassis MIB (for C-series Controllers)
- Juniper-SDX-DES-MIB—Directory eventing system MIB

- Juniper-SDX-GW-MIB—Gateway applications MIB (includes the NIC MIB)
- Juniper-SDX-JPS-MIB—JPS MIB
- Juniper-SDX-LICENSE-MIB—Licensing MIB
- Juniper-SDX-MIB—Main Juniper Networks SDX MIB
- Juniper-SDX-MIBS—Collection of Juniper Networks SDX MIB modules
- Juniper-SDX-POM-MIB—Policy management MIB
- Juniper-SDX-REDIRECTOR-MIB—Redirector MIB
- Juniper-SDX-SAE-MIB—SAE MIB
- Juniper-SDX-TC-MIB—Textual conventions MIB
- Juniper-SDX-TRAP-MIB—SRC trap definition MIB
- Juniper-UNI-SMI—Base SMI MIB

MIB Location

The MIBs are located on the Juniper Networks Web site at

<http://www.juniper.net/techpubs/software/management/src>

Traps

Traps are individual events that the SNMP agent can monitor, such as the number of timeouts or errors that have occurred or connections that have opened or closed. There are two types of traps:

- Performance traps—Traps that poll MIB variables associated with the trap to determine whether a variable has crossed configured thresholds. If the variable crosses a threshold, an alarm is triggered and a trap is sent to the list of configured receivers.
- Event traps—Traps that are sent when an event occurs; for example, when a connection is established or closed.

SNMP Traps and Informs

SNMP notifications can be sent as traps or inform requests. SNMP traps are unconfirmed notifications. SNMP informs are confirmed notifications.

SNMP traps are defined in either standard or enterprise-specific MIBs. The standard and enterprise-specific traps are compiled into the network management software.

With traps, the receiver does not send any acknowledgment when it receives a trap and the sender cannot determine if the trap was received. To increase reliability, SNMP informs are supported in SNMPv3. With an inform, the receiver acknowledges the message with a response. For information about configuring SNMP notification handling,

- Related Topics**
- For information on system logging severity levels for SNMP traps, see Categories and Severity Levels for Event Messages
 - Configuring the SDX SNMP Agent
 - SAE Performance Traps
 - Accounting Performance Traps
 - Authentication Performance Traps
 - NIC Performance Traps
 - Router Driver Performance Traps
 - System Management Performance Traps
 - Policy Engine Performance Traps
 - SRC Redirector Performance Traps
 - SRC-ACP Performance Traps
 - JPS Performance Traps

