

SNMP Reporting

Intel® Platform Service Assurance

This feature brief discusses the Intel Platform Service Assurance support for the Internet-standard Simple Network Management Protocol (SNMP) and how support for this network management protocol is enabled for use in higher level management applications for platform service assurance.



Abstract

Simple Network Management Protocol (SNMP) is an Internet-standard protocol for collecting and organizing information about managed devices on IP networks. It can also modify that information to change device behavior. For service assurance, an SNMP agent is provided to facilitate the reporting of metrics gathered by other features to higher-level management systems via SNMP.

Management Information Base files (MIBs) are defined for statistics-based collectd plugins that gather telemetry for platform service assurance. The feature MIB comprises various managed objects, each identified by an Object Identifier (OID). Each OID is unique and represents specific characteristics of a device monitored by the feature.

Features Description

The SNMP agent is implemented as a collectd plug-in called **snmp-agent**. The plug-in registers with an SNMP master agent (as a subagent) using the net-snmp library (see Ref. 1). The snmp-agent plug-in is responsible for collecting, handling, and registration of scalar and tabular values. It also provides data to the master agent when a request, such as SNMP GET or GETNEXT, is received.

Feature Data Sets

The **snmp-agent** plug-in normalizes and sends the data sets provided by other collectd plugins so that the information can be reported using SNMP. Refer to the Feature Data Sets section of the various feature brief documents (see Ref. 2 to 4).

Configuration

The plug-in manages the MIBs specified in the snmp-agent plug-in section of the telemetry collection configuration file. Each OID is mapped to the appropriate type of value collected by the relevant feature plug-in. Features that support SNMP include:

- Reliability, Availability, and Serviceability (RAS) of Intel® Infrastructure Management Technologies (memory machine check exception statistics only from the mcelog plugin; intelMcelog MIB) (see Ref. 2)
- Huge page usage (see Ref. 3)
- Intelligent Platform Management Interface (IPMI) information retrieval (see Ref. 4)

Telemetry Collection Framework Support

The SNMP Reporting feature uses a collectd plug-in called snmp-agent that retrieves metrics collected by collectd plug-ins that have a defined MIB and provides those metrics to higher-level management systems. collectd is a daemon that receives system statistics and makes them available in various ways (see Ref. 5 for details). The main daemon relays the stats from the read plugins to this SNMP agent plug-in which maps them to the relevant OID and sends them out over SNMP.

External Interface Support

Not applicable.

Feature Dependencies

The SNMP reporting feature depends on having the following features running on the platform:

- Net-SNMP (see Ref. 1 for details)
- Collectd must be configured on the platform (see Ref. 5 for details)

Where to Get More Information

For more information, visit <https://networkbuilders.intel.com/network-technologies/serviceassurance>

REFERENCES

TITLE	LINK
Ref. 1: Net-SNMP	http://www.net-snmp.org/
Ref. 2: <i>Intel Platform Service Assurance – Reliability, Availability, and Serviceability (RAS) of Intel® Infrastructure Management Technologies</i>	https://networkbuilders.intel.com/network-technologies/serviceassurance
Ref. 3: <i>Intel Platform Service Assurance – Huge page Usage</i>	https://networkbuilders.intel.com/network-technologies/serviceassurance
Ref. 4: <i>Intel Platform Service Assurance – Intelligent Platform Management Interface (IPMI) Information Retrieval</i>	https://networkbuilders.intel.com/network-technologies/serviceassurance
Ref. 5: Collectd	https://collectd.org/documentation.shtml



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