SNMPv3 Common Object Identifiers (OIDs) in Catalyst 1200/1300 and CBS250/350 Switches

Objective

The objective of this article is to provide a list of the common SNMPv3 object identifiers (OIDs) for the Catalyst 1200/1300 and CBS250/CBS350 switches.

Applicable Devices

- CBS250 Switches
- CBS350 Switches
- Catalyst 1200 Switches
- Catalyst 1300 Switches

Introduction

The Simple Network Management Protocol (SNMP) is an Internet-standard protocol used to manage devices on IP networks. The SNMP messages are used to inspect and communicate information about managed objects. SNMP uses Management Information Bases (MIBs) to store available objects in a hierarchical or tree-structured namespace that contains object identifiers (OIDs). An OID identifies the information in the MIB hierarchy that can be read or set via SNMP.

The SNMP version 3 feature provides secure access to devices by authenticating and encrypting data packets over the network.

This article provides the list of the common SNMPv3 OIDs for the Catalyst 1200/1300 and CBS250/CBS350 switches.

SNMP OIDs

MIB Object Name	OID	Value List	Description
sysDescr	1.3.6.1.2.1.1.1.	DisplayString	System

	0		Description
entPhysicalSoftwareRev	1.3.6.1.2.1.47.1.1.1.1.10.67109120	DisplayString	The vendor-specific software revision string for the physical entity.
entPhysicalSerialNum	1.3.6.1.2.1.47.1.1.1.1.11.67109120	DisplayString	The vendor-specific serial number string for the physical entity.
entPhysicalMfgName	1.3.6.1.2.1.47.1.1.1.1.12.67109120	DisplayString	The name of the manufacturer of this physical component.
sysUpTime	1.3.6.1.2.1.1.3.0	TimeStamp	The value of sysUpTime.
rlCpuUtilDuringLastSecond	1.3.6.1.4.1.9.6.1.101.1.7.0	0 - 100	Percentage of the device CPU utilization during last second.

rlCpuUtilDuringLastMinute	1.3.6.1.4.1.9.6.1.101.1.8.0	0 - 100	Percentage of the device CPU utilization during last minute.
rlCpuUtilDuringLast5Minutes	1.3.6.1.4.1.9.6.1.101.1.9.0	0 - 100	Percentage of the device CPU utilization during last 5 minutes.
rlPhdUnitEnvParamTempSensorValue	1.3.6.1.4.1.9.6.1.101.53.15.1.10.1	EntitySensorValue	Current value for the Sensor being instrumented.
rlPhdUnitEnvParamFan1Status	1.3.6.1.4.1.9.6.1.101.53.15.1.4.1	1 - normal, 2 - warning 3 - critical, 4 - shutdown 5 - notPresent, 6 - notFunctioning	The mandatory state of the FAN 1 being instrumented.
rlPhdUnitEnvParamFan2Status	1.3.6.1.4.1.9.6.1.101.53.15.1.5.1	1 - normal, 2 - warning 3 - critical, 4 - shutdown 5 - notPresent,	The mandatory state of the FAN 2 being instrumented.

		6 - notFunctioning	
rlPhdUnitEnvParamFan3Status	1.3.6.1.4.1.9.6.1.101.53.15.1.6.1	1 - normal, 2 - warning 3 - critical, 4 - shutdown 5 - notPresent, 6 - notFunctioning	The mandatory state of the FAN 3 being instrumented.
rlPhdUnitEnvParamFan4Status	1.3.6.1.4.1.9.6.1.101.53.15.1.7.1	1 - normal, 2 - warning 3 - critical, 4 - shutdown 5 - notPresent, 6 - notFunctioning	The mandatory state of the FAN 4 being instrumented.
rlPhdUnitEnvParamFan5Status	1.3.6.1.4.1.9.6.1.101.53.15.1.8.1	1 - normal, 2 - warning 3 - critical, 4 - shutdown 5 - notPresent, 6 - notFunctioning	The mandatory state of the FAN 5 being instrumented.

Command

The SNMP get command is as follows:

Snmpget –v 3 –u USERNAME –a AUTH-METHOD –A “AUTH-PASSWORD” –x PRIVACY-METHOD –X “PRIV-PASSWORD” –l authPriv SWITCH-IP-ADDRESS

Example

Here is an example of the SNMP get command.

```
snmpget -v 3 -u exampleu -a SHA -A "cisco123" -x AES -X "cisco321" -l authPriv 192.168.89.144 \
1.3.6.1.2.1.1.1.0 \
1.3.6.1.2.1.47.1.1.1.1.10.67109120 \
1.3.6.1.2.1.47.1.1.1.1.11.67109120 \
1.3.6.1.2.1.47.1.1.1.1.12.67109120 \
1.3.6.1.2.1.1.3.0 \
1.3.6.1.4.1.9.6.1.101.1.7.0 \
1.3.6.1.4.1.9.6.1.101.1.8.0 \
1.3.6.1.4.1.9.6.1.101.1.9.0 \
1.3.6.1.4.1.9.6.1.101.53.15.1.10.1 \
1.3.6.1.4.1.9.6.1.101.53.15.1.4.1 \
1.3.6.1.4.1.9.6.1.101.53.15.1.5.1 \
1.3.6.1.4.1.9.6.1.101.53.15.1.6.1 \
1.3.6.1.4.1.9.6.1.101.53.15.1.7.1 \
1.3.6.1.4.1.9.6.1.101.53.15.1.8.1 \
```

Result

The string return of CBS350-16XTS is shown here. It lists the firmware version, serial number, manufacturer, system up time, the CPU utilization for the last second, last minute, last 5 minutes, current temperaure, and fan status. This CBS350 model has three fans showing normal status. Fans 4 and 5 are not present.

```
SNMPv2-MIB::sysDescr.0 = STRING: CBS350-16XTS 16-Port 10G Stackable Managed Switch
SNMPv2-SMI::mib-2.47.1.1.1.1.10.67109120 = STRING: "3.3.0.16"
SNMPv2-SMI::mib-2.47.1.1.1.1.11.67109120 = STRING: "DNI251101DK"
SNMPv2-SMI::mib-2.47.1.1.1.1.12.67109120 = STRING: "Cisco"
DISMAN-EVENT-MIB::sysUpTimeInstance = Timeticks: (1359200) 3:46:32.00
SNMPv2-SMI::enterprises.9.6.1.101.1.7.0 = INTEGER: 1
SNMPv2-SMI::enterprises.9.6.1.101.1.8.0 = INTEGER: 1
SNMPv2-SMI::enterprises.9.6.1.101.1.9.0 = INTEGER: 2
SNMPv2-SMI::enterprises.9.6.1.101.53.15.1.10.1 = INTEGER: 57
SNMPv2-SMI::enterprises.9.6.1.101.53.15.1.4.1 = INTEGER: 1
SNMPv2-SMI::enterprises.9.6.1.101.53.15.1.5.1 = INTEGER: 1
SNMPv2-SMI::enterprises.9.6.1.101.53.15.1.6.1 = INTEGER: 1
SNMPv2-SMI::enterprises.9.6.1.101.53.15.1.7.1 = INTEGER: 5
SNMPv2-SMI::enterprises.9.6.1.101.53.15.1.8.1 = INTEGER: 5
```

Conclusion

Now you know some of the common SNMPv3 OIDs for the Catalyst 1200/1300 and CBS250/CBS350 switches.