Contents

Introduction

This document describes how to perform Simple Network Management Protocol (SNMP) Walk for Serial Interface Utilization on Cisco Routers.

Prerequisites

Requirements

Cisco recommends that you meet these requirements before you attempt this configuration:

- Server from where you are polling the router is reachable
- Correct read-write SNMP community configured on the router

Components Used

This document is created using a Cisco 1941 router with VWIC2-1MFT-T1/E1. However, this document is not restricted to specific software and hardware versions.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Background

This document helps a technician to understand why SNMP walk to poll Serial Interface Utilization using **ifHCInOctets** and **ifHCOutOctets** does not work and what is the workaround in such situations.

Configure

Note: Use the Command Lookup Tool (registered customers only) in order to obtain more information on the commands used in this section.

Configuration on the router

A sample of the configuration on Cisco 1941 router on which we poll ifHCInOctets / ifHCOutOctets on the serial interface of VWIC2-1MFT-T1/E1 card:

```
NAS(config)#snmp-server community test RW

NAS#show ip interface brief | e un
Interface                  IP-Address      OK? Method
Status                Protocol
GigabitEthernet0/1         10.106.65.131   YES DHCP
up                    up

NAS#sh snmp mib ifmib ifindex g0/1
Interface = GigabitEthernet0/1, Ifindex = 3

NAS#sh snmp mib ifmib ifindex serial 0/1/0:30
Interface = Serial0/1/0:30, Ifindex = 11

ifHCInOctets: .1.3.6.1.2.1.31.1.1.1.6
ifHCOutOctets: .1.3.6.1.2.1.31.1.1.1.10


snmp-server% snmpwalk -v2c -c test  10.106.65.131
.1.3.6.1.2.1.31.1.1.1.6.3
IF-MIB::ifHCInOctets.3 = Counter64: 1712486

snmp-server% snmpwalk -v2c -c test 10.106.65.131
.1.3.6.1.2.1.31.1.1.1.6.11
IF-MIB::ifHCInOctets.11 = No Such Instance currently exists at this OID

snmp-server% snmpwalk -v2c -c test 10.106.65.131
.1.3.6.1.2.1.31.1.1.1.10.11
IF-MIB::ifHCOutOctets.11 = No Such Instance currently exists at this OID

snmp-server% snmpwalk -v2c -c test 10.106.65.131
.1.3.6.1.2.1.31.1.1.1.10.3
IF-MIB::ifHCOutOctets.3 = Counter64: 1063644
```

As we can see above, SNMP poll returns “No Such Instance currently exists at this OID” for serial interface, while it returns the correct value for GigabitEthernet interface.

For Serial interfaces with speeds/bandwidth less than 20 Mbps, HC counters for Octets are not implemented. Hence it is expected that SNMP polling returns "no such instance" error.

Workaround:

Use 32bit version – ifOutOctets/ ifInOctets. This works with both SNMPv2 and SNMPv3 as shown

below:

ifOutOctets- 1.3.6.1.2.1.2.2.1.16
ifInOctets- 1.3.6.1.2.1.2.2.1.10

```
NAS#sh snmp mib ifmib ifindex serial 0/1/0:30
Interface = Serial0/1/0:30, Ifindex = 7
```

SNMPv2:

```
snmp-server% snmpwalk -v2c -c test 10.106.65.131 1.3.6.1.2.1.2.2.1.16.7
IF-MIB::ifOutOctets.7 = Counter32: 1874894

snmp-server% snmpwalk -v2c -c test 10.106.65.131 1.3.6.1.2.1.2.2.1.10.7
IF-MIB::ifInOctets.7 = Counter32: 2275304
```

SNMPv3:

```
snmp-server% snmpwalk -v3 -u ciscouser -A ciscopwd 10.106.65.201
1.3.6.1.2.1.2.2.1.16.7
IF-MIB::ifOutOctets.7 = Counter32: 5030145

snmp-server% snmpwalk -v3 -u ciscouser -A ciscopwd 10.106.65.201
1.3.6.1.2.1.2.2.1.10.7
IF-MIB::ifInOctets.7 = Counter32: 6126029
```

Note: For configurations regarding SNMPv3, please refer to SNMPv3 configurations

Related Information

- How To Calculate Bandwidth Utilization Using SNMP
- SNMP v3 configurations
- Frame Relay 64-Bit Counters
- MIB Locator
- Performance Management: Best Practices White Paper
- Technical Support - Cisco Systems