Switch Performance under SNMP load

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Agenda

• Introduction	Thomas JAGSICH
• Management Information Base	
• Cisco Catalyst 2980 switch	
• Fluke One Touch	Tilman LINNEWEH
• Software tools used	
• Measuring conditions	René MERY
• Results	
• WWW - Resources	
• Summary	Thomas JAGSICH

Management Information Base (MIB)

- Defines variables in Managed Node
- Defined according SMI rules
  (Structure of Management Information)
- Described using ASN.1
  (Abstract Syntax Notation One)
- MIB I, MIB II (185 objects)
- Standard, Proprietary MIBs

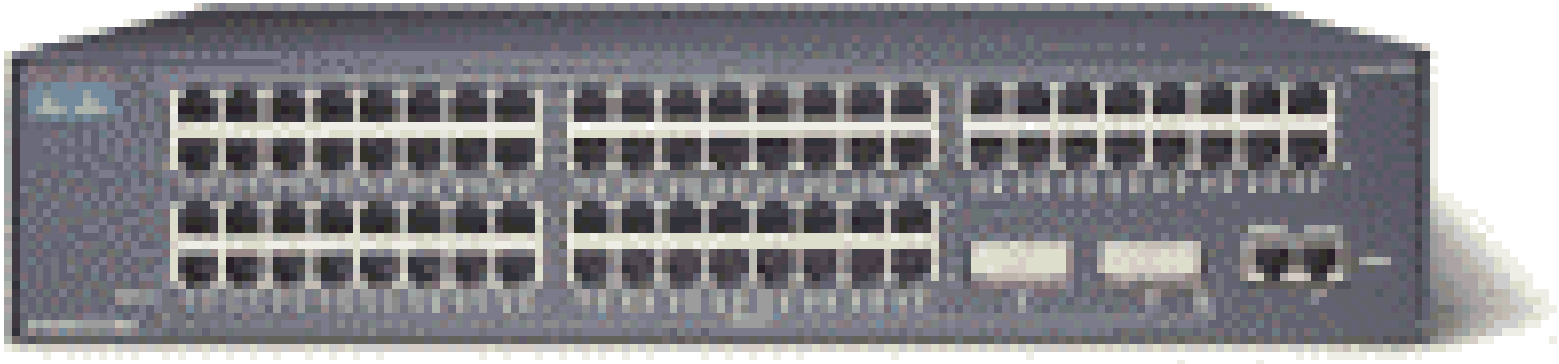
MIB sample

```
RFC1213-MIB DEFINITIONS ::= BEGIN
IMPORTS mgmt, NetworkAddress, IpAddress, Counter, Gauge,
   TimeTicks FROM RFC1155-SMI
mib-2      OBJECT IDENTIFIER ::= { mgmt 1 }
system     OBJECT IDENTIFIER ::= { mib-2 1 }

sysUpTime OBJECT-TYPE
    SYNTAX  TimeTicks
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
            "The time (in hundredths of a second) since the
            network management portion of the system was last
            re-initialized."
    ::= { system 3 }
iso.org.dod.internet.mgmt.mib.system.sysUpTime
 1 . 3 . 6 .   1    . 2  . 1 .   1  .    3
```

Cisco Catalyst 2980 switch

- 80-port, 10/100 Mbps Ethernet
- 2-port, 1000BaseX Gigabit Ethernet
- 24 Gbps non-blocking switch fabric
- 18 million packets-per-second forwarding rate
- 208 W



WWW - Resources

- **MIB**
  http://www.mibcentral.com/
- **SNMP**
  http://net-snmp.sourceforge.net/
  http://www.snmp.com/protocol/
  http://www.simpleweb.org/

Summary

- Network management necessary
- Management Traffic Overhead
  - What is relevant?
  - How often is absolutely necessary?
  - Is there a bandwidth issue?