Monitoring: NTP, Syslog, SNMP

NTP (Network Time Protocol)

Serverport

UDP 123

Router als NTP-Client

```
Router(config)# ntp server 1.2.3.4
```

Syslog

Serverport

UDP 514

Router/Switch als Syslog-Client

```
Router(config)# logging host 1.2.3.4  # IP-Adresse des Servers
Router(config)# logging trap debugging  # Alles mit Level ≤ 7 mitloggen
Router(config)# service timestamps log datetime msex  # Zeit mitloggen
```

Severity Level (Schwere des Fehlers)

Level	Name	Erklärung
0	Emergencies	System Unusable
1	Alerts	Immediate Action Needed
2	Critical	Critical Condition
3	Errors	Error Condition
4	Warnings	Warning Condition
5	Notifications	Normal, but Significant Condition
6	Information	Informational Message
7	Debugging	Debugging Message

Message Format

```
*Mär 01, 00:37:41.3737: %SYS-5-CONFIG_I: Configured from console by console

Mär 01, 00:37:41.3737              Timestamp
SYS                                Sylog reporting facility
5                                  Severity level
CONFIG_I                           Mnemonic
Configured from console by console  Description
```

SNMP (Simple Network Management Protocol)

Serverport

UDP 161

Router/Switch als SNMP-Agent (Server)

```
Router(config)# snmp-server community PASSWORTLESEN ro  # Read Only
Router(config)# snmp-server community PASSWORTSCHREIBEN rw  # Read Write
```

SNMPv3

Zusätzlich: authentication and encryption

1. Authorisierte SNMP-Manager definieren

```
Router(config)# ip accass-list standard ACL
Router(config-std-nacl)# permit host 1.2.3.4
```

2. View: Auf welche MIB Object Identifiers (OIDs) darf zugegriffen werden?

```
Router(config)# snmp-server view VIEW iso included
```

3. SNMP-Group

```
Router(config)# snmp-server group GROUP v3 priv read VIEW access ACL
```

4. SNMP-Group-User

```
Router(config)# snmp-server user USER GROUP v3 auth sha PASSWORT1  priv aes 128 PASSWORT2
```

Diagnose

```
Router# show snmp group
Router# show snmp user USER
```

SNMP-Client

PC mit MIB-Browser