Network Management Architecture:

- A network management system consists of two software components:
- Network manager
  - often called a NMS (Network Management Station)
- Agent
  - Software that runs on the device being monitored/managed

- simple request -> response protocol

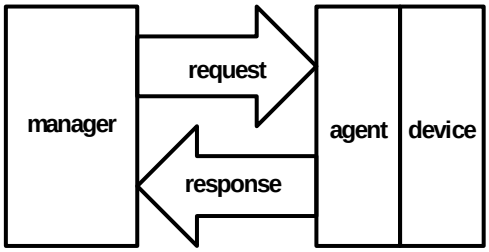
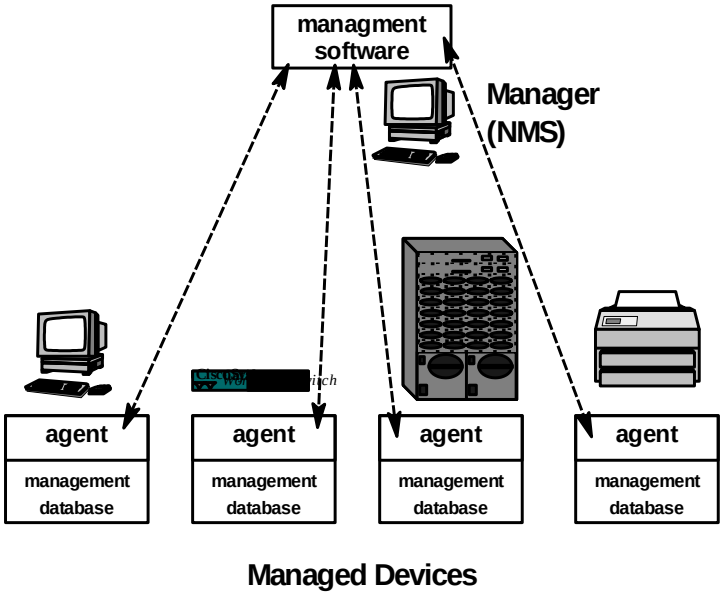


Figure: How communication occurs between managed device and the manager



SNMP

- SNMP runs on UDP
  - UDP = User Datagram Protocol
  - Unreliable (no acknowledgment in UDP protocol)
  - Low overhead
  - Won't flood a failing network with retransmissions
  - UDP port 161 for sending, receiving requests
  - UDP port 162 for receiving traps

- SNMP Communities
  - SNMPv1, v2 use a "community" as a way of establishing trust between manager and agent
  - This is simply a plain text password
  - There are three:
    - Read-only (often defaults to "public")
    - Read-write (often defaults to "private")

        - Trap
- Authentication in SNMPv3
    - Sophisticated authentication system
    - User based
    - Supports encryption
    - Overcomes the biggest weakness of SNMPv1, v2 community strings