Network Management Lecture
Basics of Network Mangement

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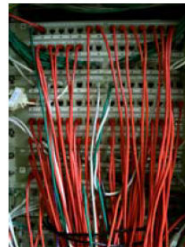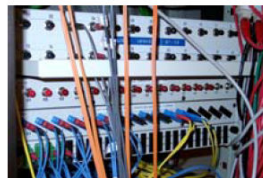

Racks and Panels

▷ Racks

▷ TP panel

How to handle this "chaos" to that the users can access their IT services at the expected/afforable quality level?
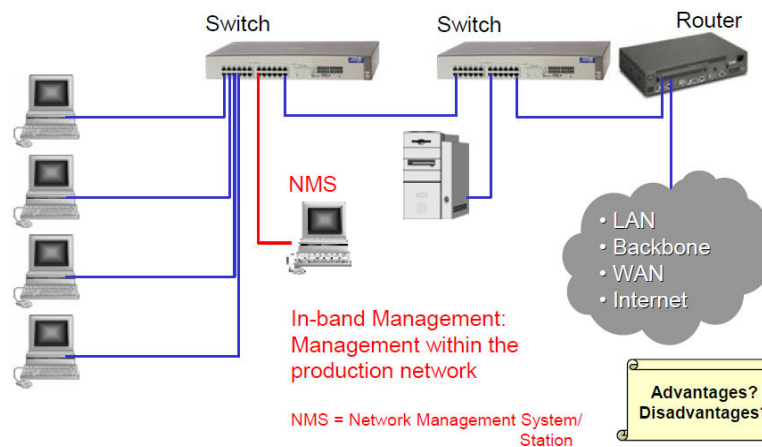
▷ Optical panel

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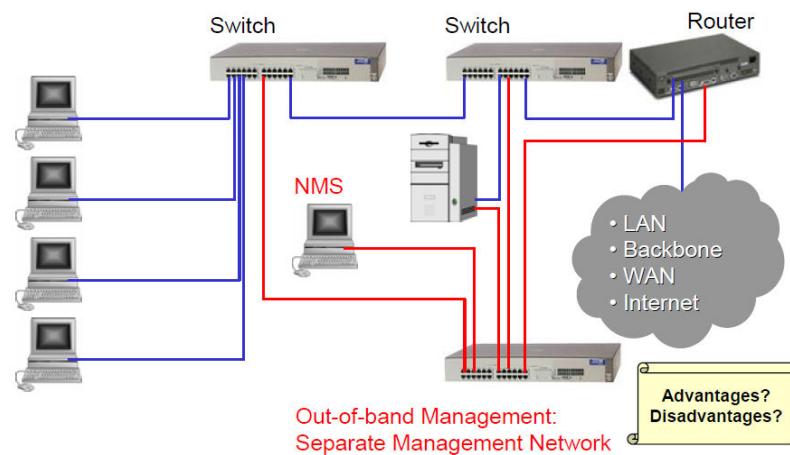## Typical LAN/Intranet Management

Switch Switch Router

NMS

• LAN
• Backbone
• WAN
• Internet

In-band Management:
Management within the
production network

NMS = Network Management System/
Station

Advantages?
Disadvantages?

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Alternative LAN/Intranet Management

Switch Switch Router

NMS

• LAN
• Backbone
• WAN
• Internet

Out-of-band Management:
Separate Management Network

Advantages?
Disadvantages?

Switches: From the Edge to the Core

▷ 8-port switches

▷ Some 24-port switches

  ▪ SNMP/RMON management
  ▪ Cisco 2924 with optional slots
    (*e.g.* for optical interfaces)
    and 3.2 Gbps backplane capacity

▷ 48-port switch
  ▪ Cisco 2948; optical uplink
▷ 12-port Giga switch
  ▪ Cisco 4912; optical interfaces

▷ "Switchrouter"
  ▪ Cisco 6500
  ▪ modular
  ▪ routing
    function
  ▪ optical

Routers: From the Edge to the Core

▷ Access router
  ▪ Cisco 1605
  ▪ 2 Ethernet ports
  ▪

▷ Access router, older series
  ▪ Cisco 2514
  ▪ 2 Ethernet and 2 serial ports
  ▪
  ▪ New series: 2600 (modular)

▷ Large access/small core router
  ▪ Cisco 3620 (2 slots, modular)
  ▪
    (incl. 1 module à 4x10 Mbps)

▷ "Switchrouter" (core)
  ▪ Cisco 6500
  ▪ modular
  ▪ Gbit ports
  ▪
  ▪ memory
    flash card

1/16/2009

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Internet Addressing

- Why is this so important?
- Components
  - ▫ Network
  - ▫ Subnetwork
  - ▫ Host
- The role of the netmask

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Homework

- A company got a C network (198.76.54) assigned and wants to
- divide the network into sub networks for 50 computers each.
  - ▫ How many of those subnets can be established?
  - ▫ How many usable addresses does each subnet have?
  - ▫ Which netmask do they have to use?
  - ▫ Which are the usable addresses per subnet?