

Computer Networking

The diagram illustrates a complex computer network topology. It features several interconnected components:

- Core Network:** A central core network highlighted with red lines, consisting of three routers: R1 (1941), R2 (1941), and R3 (1941). They are interconnected with IP addresses 10.0.0.1, 10.0.0.2, and 10.0.0.3.
- Edge Routers:** Four edge routers (R4, R5, R6, R7) are connected to the core network. R4 (1941) has IP 10.0.0.4, R5 (1941) has IP 10.0.0.5, R6 (1941) has IP 10.0.0.6, and R7 (1941) has IP 10.0.0.7.
- Switches:** Multiple switches are connected to the edge routers. For example, R4 is connected to switches 2960-01, 2960-02, 2960-03, and 2960-04. R5 is connected to switches 2960-05, 2960-06, 2960-07, and 2960-08. R6 is connected to switches 2960-09, 2960-10, 2960-11, and 2960-12. R7 is connected to switches 2960-13, 2960-14, 2960-15, and 2960-16.
- Servers:** Seven servers (SC-01 to SC-07) are connected to the switches. SC-01 (1941) has IP 10.0.0.1, SC-02 (1941) has IP 10.0.0.2, SC-03 (1941) has IP 10.0.0.3, SC-04 (1941) has IP 10.0.0.4, SC-05 (1941) has IP 10.0.0.5, SC-06 (1941) has IP 10.0.0.6, and SC-07 (1941) has IP 10.0.0.7.
- IP Addressing:** Various IP addresses are assigned to the interfaces of the devices. For example, the core routers have IP addresses in the 10.0.0.0/24 range, while the edge routers have IP addresses in the 10.0.0.0/24 range.

The diagram shows a hierarchical network structure with a central core, edge routers, and multiple access switches, all interconnected to provide a robust and scalable network environment.

NETWORK SIMULATOR SOFTWARES

Learn Networking Practically



Syllabus

Module 1: Introduction to Computer Networking

- Overview of computer networks
- The importance of computer networking
- Key networking terminologies
- Historical development of networking

Module 2: Network Models and Protocols

- OSI and TCP/IP networking models
- Understanding protocols and their role
- Introduction to Ethernet, IP, and TCP/UDP
- Common network services (DNS, DHCP, etc.)

Module 3: Network Devices

- Routers, switches, hubs, and access points
- Network cables and connectors
- Network addressing (IP addressing, subnetting)
- Introduction to network security

Module 4: Network Configuration and Setup

- Configuring network devices (routers and switches)
- IP address assignment
- Basic network troubleshooting
- Setting up a home/small office network