MTA: Networking Fundamentals – Skills Measured

NOTE: The bullets that appear below each of the skills measured are intended to illustrate how we are assessing that skill. This list is not definitive or exhaustive.

NOTE: In most cases, exams do NOT cover preview features, and some features will only be added to an exam when they are GA (General Availability).

Exam 98-366: Networking Fundamentals

Understanding network infrastructures (30–35%)

Understand the concepts of Internet, intranet, and extranet

- Virtual Private Network (VPN), security zones, firewalls

Understand local area networks (LANs)

- perimeter networks; addressing; reserved address ranges for local use (including local loopback IP), VLANs; wired LAN and wireless LAN

Understand wide area networks (WANs)

- leased lines, dial-up, ISDN, VPN, T1, T3, E1, E3, DSL, cable modem, and more, and their characteristics (speed, availability)

Understand wireless networking

- types of wireless networking standards and their characteristics (802.11a,b,g,n,ac including different GHz ranges), types of network security (WPA, WEP, 802.1X, and others), point-to-point (P2P) wireless, ad hoc networks, wireless bridging

Understand network topologies and access methods

- star, mesh, ring, bus, logical and physical topologies

Understanding network hardware (20–25%)

Understand switches

- transmission speed, number and type of ports, number of uplinks, speed of uplinks, managed or unmanaged switches, VLAN capabilities, Layer 2 and Layer 3 switches and security options, hardware redundancy, support, backplane speed, switching types and MAC table, understand capabilities of hubs versus switches, virtual switches

Understand routers

- transmission speed considerations, directly connected routes, static routing, dynamic routing (routing protocols), RIP vs. OSPF, default routes; routing table and how it selects best route(s); routing table memory, Network Address Translation (NAT), software routing in Windows Server, installing and configuring routing; Quality of Service (QoS)

Understand media types

- cable types and their characteristics, including media segment length and speed; fiber optic; twisted pair shielded or unshielded; catxx cabling, wireless; susceptibility to external interference (machinery and power cables); susceptibility to electricity (lightning), susceptibility to interception

Understanding protocols and services (45-50%)

Understand the Open Systems Interconnection (OSI) model

- OSI model; Transmission Control Protocol (TCP) model; examples of devices, protocols, applications, and which OSI/TCP layer they belong to; TCP and User Datagram Protocol (UDP); well-known ports for most used purposes (not necessarily Internet); packets and frames

Understand IPv4

- subnetting, IPconfig, why use Internet Protocol version 4 (IPv4), addressing, ipv4toipv6 tunneling protocols to ensure backward compatibility, dual IP stack, subnetmask, gateway, ports, packets, reserved address ranges for local use (including local loopback IP)

Understand IPv6

- subnetting, IPconfig, why use IPv6, addressing, ipv4toipv6 tunneling protocols to ensure backward compatibility, dual IP stack, subnetmask, gateway, ports, packets, reserved address ranges for local use (including local loopback IP)

Understand names resolution

- DNS, resource records, Windows Internet Name Service (WINS), steps in the name resolution process, HOSTS file, LMHOSTS file

Understand networking services

- Dynamic Host Configuration Protocol (DHCP), Network Address Translation (NAT), firewalls, remote access, VPN

Understand TCP/IP

- tools (such as ping), tracert, pathping, Telnet, IPconfig, netstat, reserved address ranges for local use (including local loopback IP), protocols