

STUDENT ACTIVITY 3.3_A_KEY: NETWORKING FUNDAMENTALS

MTA Course: 98-366 Networking Fundamentals

Topic: Understand IPv6. Addressing, dual IP stack, and gateway

File name: NetFund_SA_3.3_A_Key

Lesson Objective

3.3_A: Understand IPv6. Addressing, dual IP stack, and gateway.

3.3_A: Understand IPv6. *This objective may include but is not limited to:* subnetting; Ipconfig; why use IPv6; addressing; ipv4toipv6 tunneling protocols to ensure backwards compatibility; dual IP stack; subnetmask; gateway; ports; packets; reserved address ranges for local use (including local loopback IP).

Directions to the student

Select the best answer to each of the following questions.

Content

1. What is the current IP standard?

→a. IPv4

→b. IPv5

→c. IPv6

Answer: A, IPv4

2. What is the main reason for IPv6 being developed?

a. Not enough MAC numbers

→b. To make more addressing available for new or additional use

→c. Newer hardware required the change

Answer: B, To make more addressing available for new or additional use

3. How many bits does the new expanded addressing provide?

a. 16 bit

☒ b. 24 bit

☒ c. 32 bit

☒ d. 40 bit

☒ e. 128 bit

Answer: E, 128 bit

4. What benefits does IPv6 provide?

a. IPv6 solves the International Address Allocation problem.

☒ b. IPv6 restores end-to-end communication—makes NATs no longer necessary.

☒ c. IPv6 solves the address depletion problem.

☒ d. All of the above

Answer: D, All of the above

5. What are the different classifications of IPv6 addresses?

a. Unicast, videocast, and anycast

☒ b. Audiocast, multicast, and anycast

☒ c. Unicast, multicast, and simulcast

☒ d. Unicast, multicast, and anycast

Answer: D, Unicast, multicast, and anycast

6. What is unicast?

a. Communication between a single host and a single receiver

☒ b. Communication between a single host and multiple receivers

☒ c. Communication between a single sender and a list of addresses

☒ d. Both a and c

Answer: A, Communication between a single host and a single receiver

7. What is multicast?

a. Communication between a single host and a single receiver

☒ b. Communication between a single host and multiple receivers

☒ c. Communication between a single sender and a list of addresses

☒ d. Both b and c

Answer: B, Communication between a single host and multiple receivers

8. What is anycast?

- a. Communication between a single host and a single receiver
- ☒ b. Communication between a single host and a multiple receivers
- ☒ c. Communication between a single sender and a list of addresses
- ☒ d. Both b and c.

Answer: D, Both b and c.