

## REVIEW LESSON

MTA Course: 98-366 Networking Fundamentals

Lesson name: Understanding Network Infrastructures 1.2\_A

Topic: Understand local area networks (LANs)

(One 50-minute class period)

File name: NetFund\_RL\_1.2\_A

### Lesson Objective

**1.2\_A:** Understand local area networks (LANs). *This objective may include but is not limited to:* perimeter networks; addressing; reserved address ranges for local use (including local loopback IP), VLANs, wired LAN, and wireless LAN.

### Preparation Details

#### Prerequisite student experiences and knowledge

This MTA Certification Exam Review lesson is written for students who have learned about networking fundamentals. Students who do not have the prerequisite knowledge and experiences cited in the objective will find additional learning opportunities using resources such as those listed in the Microsoft® resources and Web links at the end of this review lesson.

#### Instructor preparation activities

- On small pieces of paper write a number from 1 to the max number of students in the class and place in a box from which students can draw.
- Prepare a computer connection to the Internet that is also connected to a room projector to show the video embedded in the PowerPoint® presentation (slide 14).
- Reproduce the diagram NetFund\_SA\_1.2\_A.

**Resources, software, and additional files needed for this lesson**

- NetFund\_PPT\_1.2\_A
- Access to the video at [http://www.youtube.com/watch?v=\\_u3hNRZWMcc](http://www.youtube.com/watch?v=_u3hNRZWMcc).
- NetFund\_SA\_1.2\_A
- NetFund\_SA\_1.2\_A\_Key

**Teaching Guide****Essential Vocabulary**

**address**—a unique identifier assigned to each node on a network.

**local area network (LAN)**—a group of computers and other devices dispersed over a relatively limited area and connected by a communications link that enables any device to interact with any other on the network.

**local loopback IP**—an IP address that routes messages back to the originating node. Typically, 127.0.0.1 is the loopback IP.

**perimeter network**—a network in and of itself and the boundary between the private and locally managed of a network and the public (and usually provider-managed) side of a network.

**Lesson Sequence****Activating prior knowledge/lesson staging (Anticipatory Set: 10 minutes)****1. As directed on the PowerPoint slideshow:**

- Two students draw a slip of paper from the box. Arrange yourselves in order at the front of the room. Two more students select numbers and add to the network forming.
- The student with number 1: Tell a “secret” to number 2. Continue to pass information from one student to the next until the message reaches the end of the network.
- When the last person receives the message, repeat it to the class.
- Describe how this process is similar and different to a computer passing information throughout a network.

**Lesson activity (40 minutes)**

1. Distribute the Student Activity NetFund\_SA\_1.2\_A. Direct students to label the components as they follow along on the video.  
Show the movie on LAN from YouTube:  
[http://www.youtube.com/watch?v=\\_u3hNRZWMcc](http://www.youtube.com/watch?v=_u3hNRZWMcc).  
Explain that for a person who is new to the networking environment it is very useful information because while network hardware and architecture has changed, the standards and principles are the same. Look at the listing of related videos on You Tube and choose one that would help show and explain what a LAN is and does to the student.
2. Use the PowerPoint slide show 1.2\_A and explain and discuss the vocabulary. Repetition is important when covering the material so the information should be stated many different ways. Using images helps the student visualize the topic.
3. Involve students as you introduce each new word and discuss the topic by asking them to put what you just stated in their own words or by giving an example that would clarify what you stated.

**Assessment/lesson reflection (10 minutes)**

Use a “ticket out the door” to encourage the students to process the review and to give an opportunity for additional questions. The last slide in the PowerPoint facilitates this exercise:

1. Instruct students to summarize the key points about network hardware and architecture presented in the video on the bottom of the Student Activity document.
  - Be sure to give ample time for students to write their summaries.
  - If time allows, pick a few students to read their summaries.
2. On the back of the page, instruct students to write down any questions they have or any topics about which they would like more assistance. After class, look through the student responses and follow up with any student requiring additional help.

**Note:** A “ticket out the door” is an informal assessment strategy used to provide closure and give the teacher an additional opportunity to check for understanding. Students complete the exercise and give it to the teacher as they leave the room. This ensures that every student participates.

### Microsoft resources and Web links

- **The Network for Technology Professionals**  
*[www.internet.com](http://www.internet.com)*
- **Techtarget**  
*<http://searchnetworking.techtarget.com>*
- **Techtarget: Local Area Network**  
*[http://searchnetworking.techtarget.com/sDefinition/0,,sid7\\_gci212495,00.html](http://searchnetworking.techtarget.com/sDefinition/0,,sid7_gci212495,00.html)*
- **IP Address location**  
*<http://www.ipaddresslocation.org>*
- **Computer & Technology Terms**  
*<http://www.computerdictionary.info>*
- **Wikipedia.org: Local Area Network**  
*[http://en.wikipedia.org/wiki/Local\\_area\\_network](http://en.wikipedia.org/wiki/Local_area_network)*
- **Webopedia.com: Local Area Network**  
*[http://www.webopedia.com/TERM/L/local\\_area\\_network\\_LAN.html](http://www.webopedia.com/TERM/L/local_area_network_LAN.html)*