

Objectives

- ◆ In this session, you will learn to:
 - ◆ Create network connections.
 - ◆ Install and configure web browsers.
 - ◆ Maintain and troubleshoot network connections.
 - ◆ Identify components that are specialized for laptops and portable computing devices.

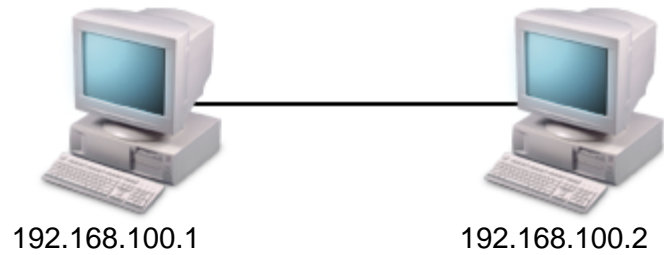
Create Network Connections

- ◆ Before creating network connection, you need to understand the following:
 - ◆ IP address configuration methods
 - ◆ Name resolution with the Domain Name System (DNS)
 - ◆ WINS
 - ◆ Workgroups
 - ◆ Directory services
 - ◆ Active directory domains
 - ◆ Novell eDirectory
 - ◆ Network client options

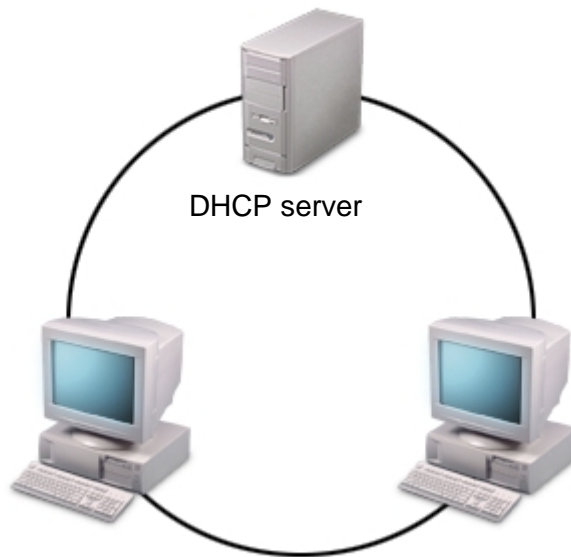
IP Address Configuration Methods

- ◆ Methods for assigning addresses to IP hosts are:
 - ◆ Manual configuration
 - ◆ Automatic configuration with DHCP
 - ◆ Automatic configuration with APIPA

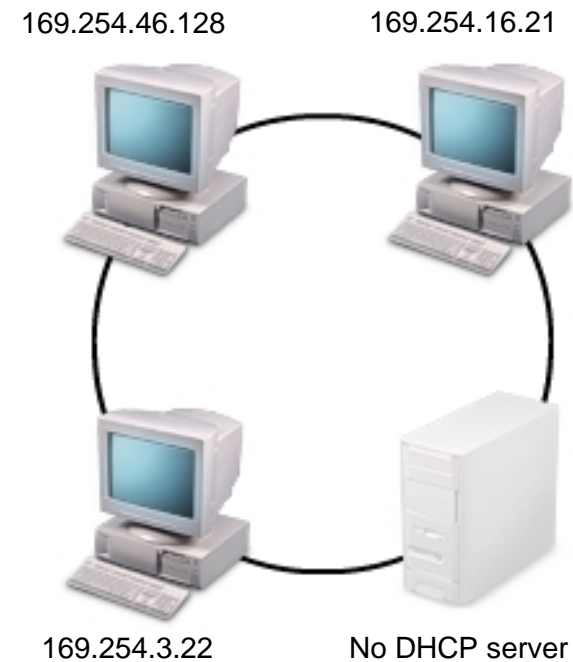
IP Address Configuration Methods (Contd..)



Manual



DHCP

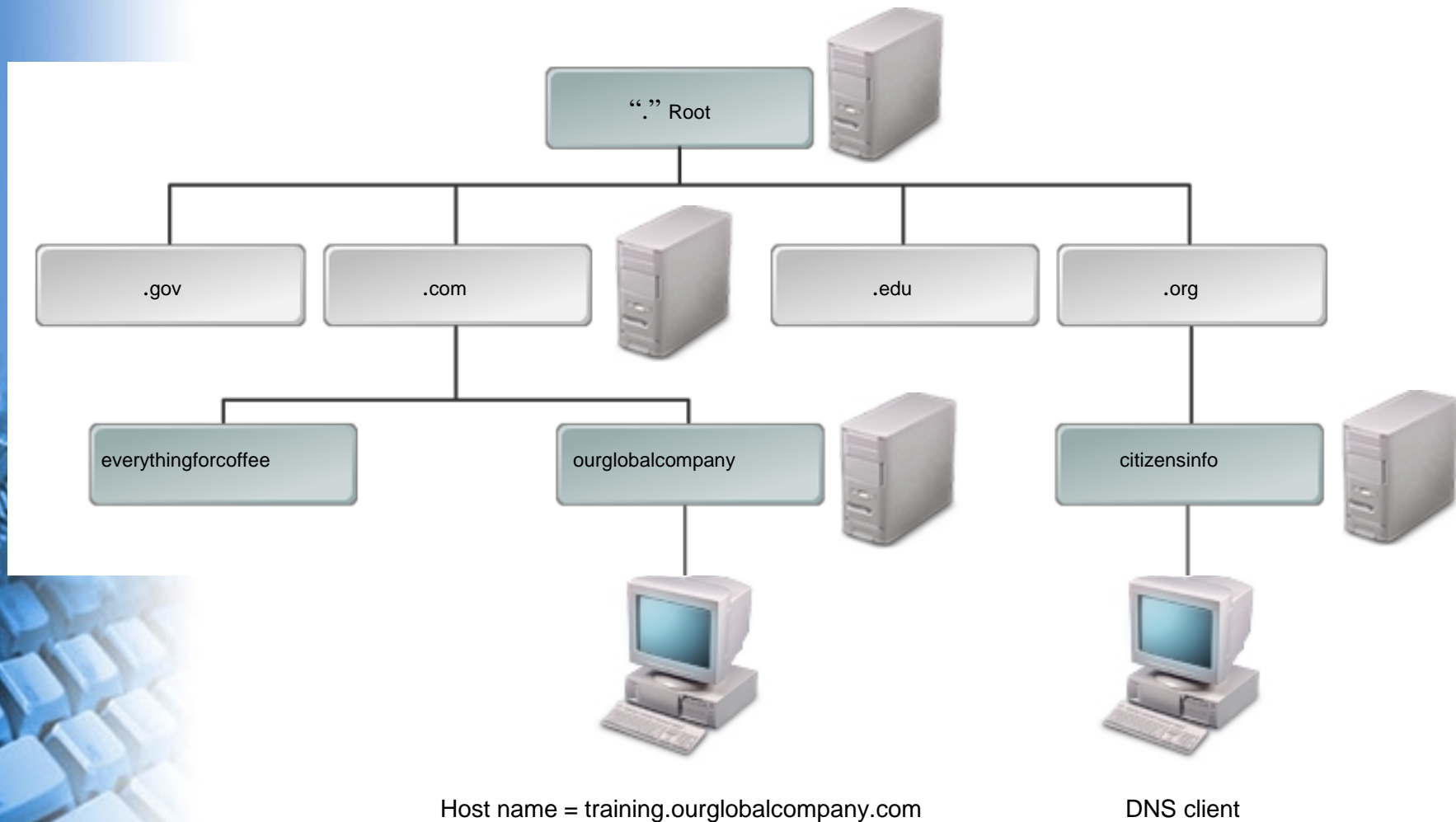


APIPA

Name Resolution with the Domain Name System (DNS)

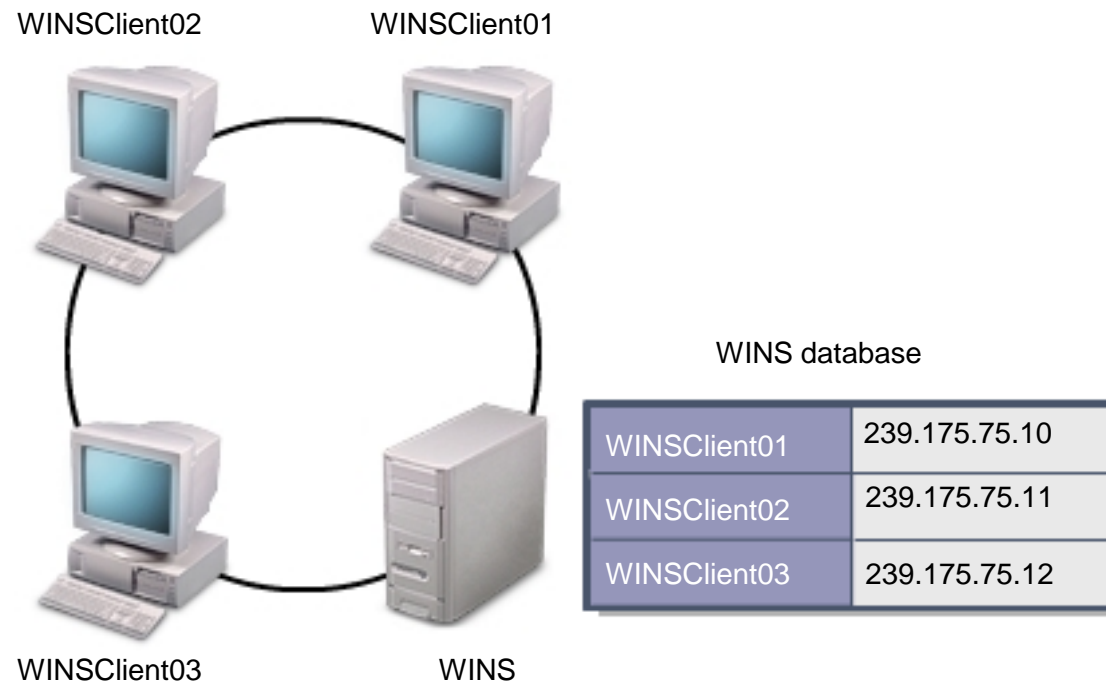
- ◆ The Domain Name System (DNS) is the primary name resolution service:
 - ◆ On the Internet
 - ◆ On the private IP networks

Name Resolution with the Domain Name System (DNS) (Contd..)



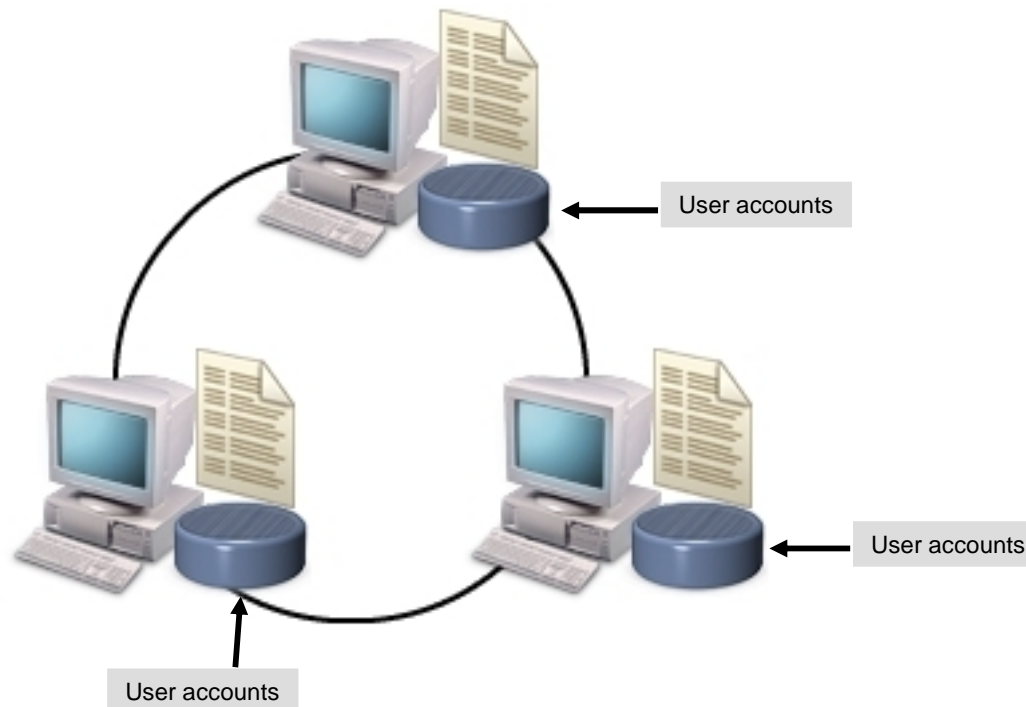
WINS

- ◆ The Windows Internet Name Service (WINS):
 - ◆ Microsoft's NetBIOS name resolution service
 - ◆ Reduce the number of NetBIOS name resolution



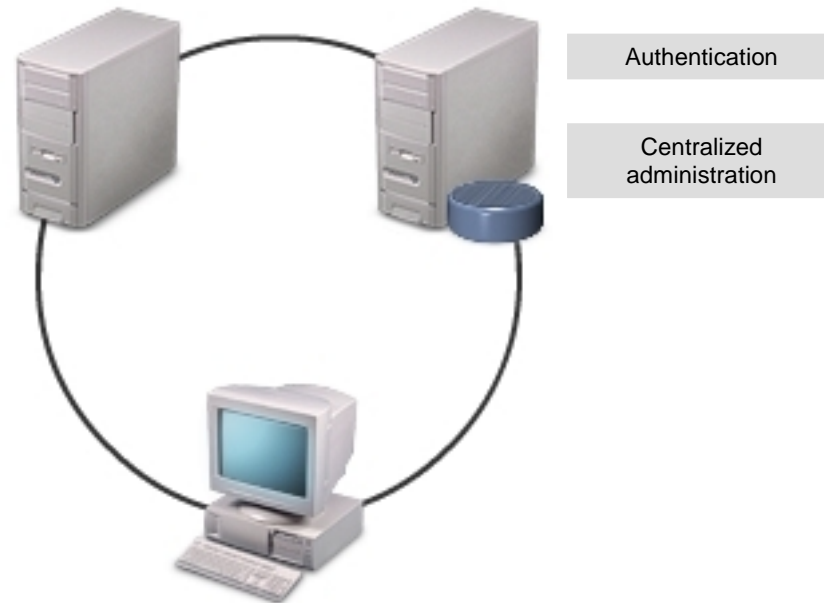
Workgroups

- ◆ A workgroup is a Microsoft peer-to-peer network model.



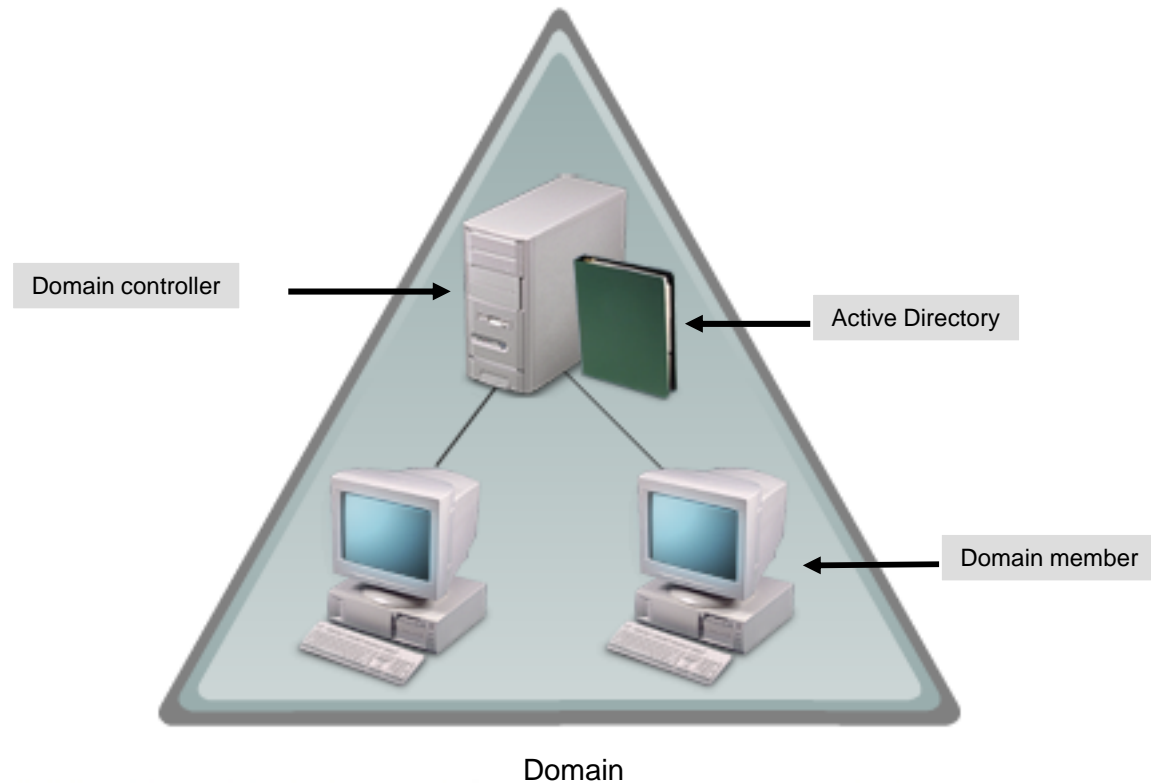
Directory Services

- ◆ A directory service is a centralized database that includes objects:
 - ◆ Servers
 - ◆ Clients
 - ◆ Computers
 - ◆ User names
 - ◆ Passwords



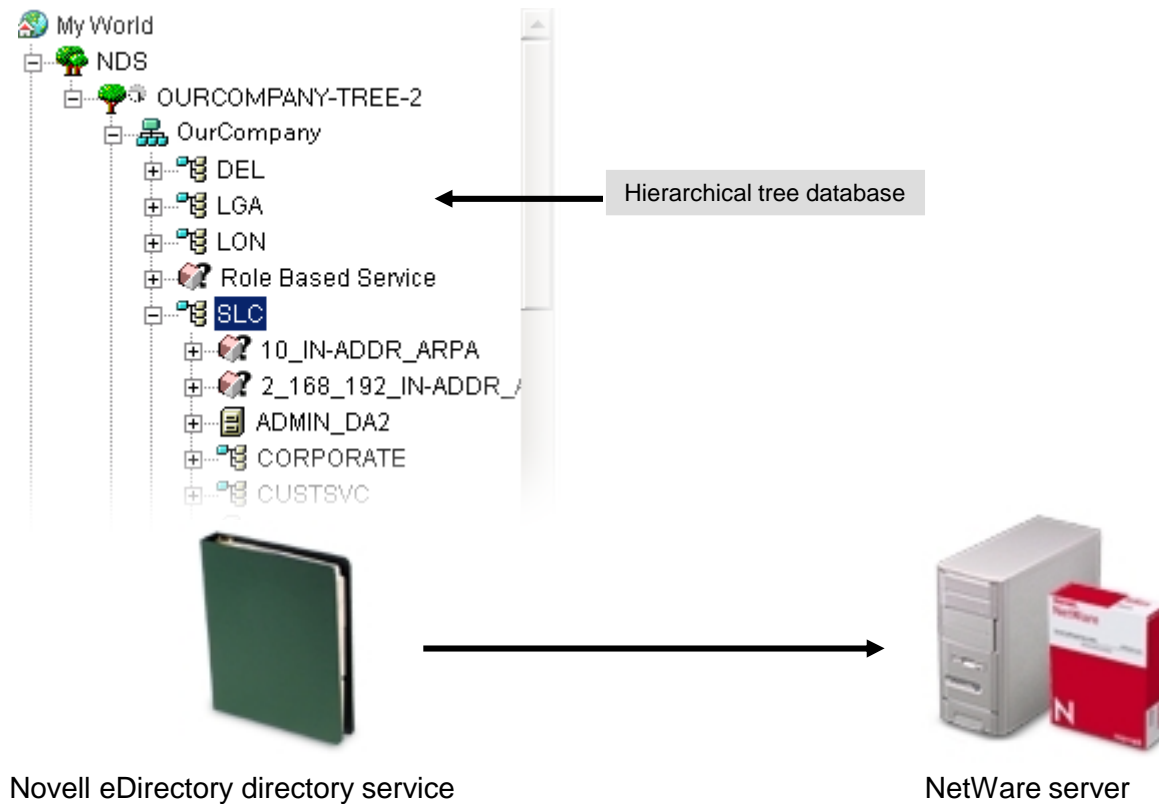
Active Directory Domains

- ◆ The active directory domain:
 - ◆ A Microsoft client/server network model



Novell eDirectory

- ◆ Novell eDirectory is Novell's standards-based, enterprise-level directory service.



Network Client Options

- ◆ Network client options:
 - ◆ Microsoft Client for Microsoft Networks
 - ◆ Microsoft Client Service for NetWare
 - ◆ Novell Client from Novell
- ◆ Properties of Microsoft Client Service for NetWare:
 - ◆ Add Form Feed
 - ◆ Default Tree And context
 - ◆ Notify When Printed
 - ◆ Preferred Server
 - ◆ Print Banner
 - ◆ Run Login Script

Activity 11-1

Activity on Configuring TCP/IP Manually

Activity 11-2

Activity on Configuring TCP/IP Automatically

Activity 11-3

Activity on Installing the NetWare Client

Activity 11-4

Activity on Removing the NetWare Client

Install and Configure Web Browsers

- ◆ Before installing and configuring Web Browsers, you need to understand following:
 - ◆ Web Browsers
 - ◆ Web Browser Settings

Web Browsers

- ◆ The Web Browser:
 - ◆ A software application
 - ◆ Helps locate and display web pages

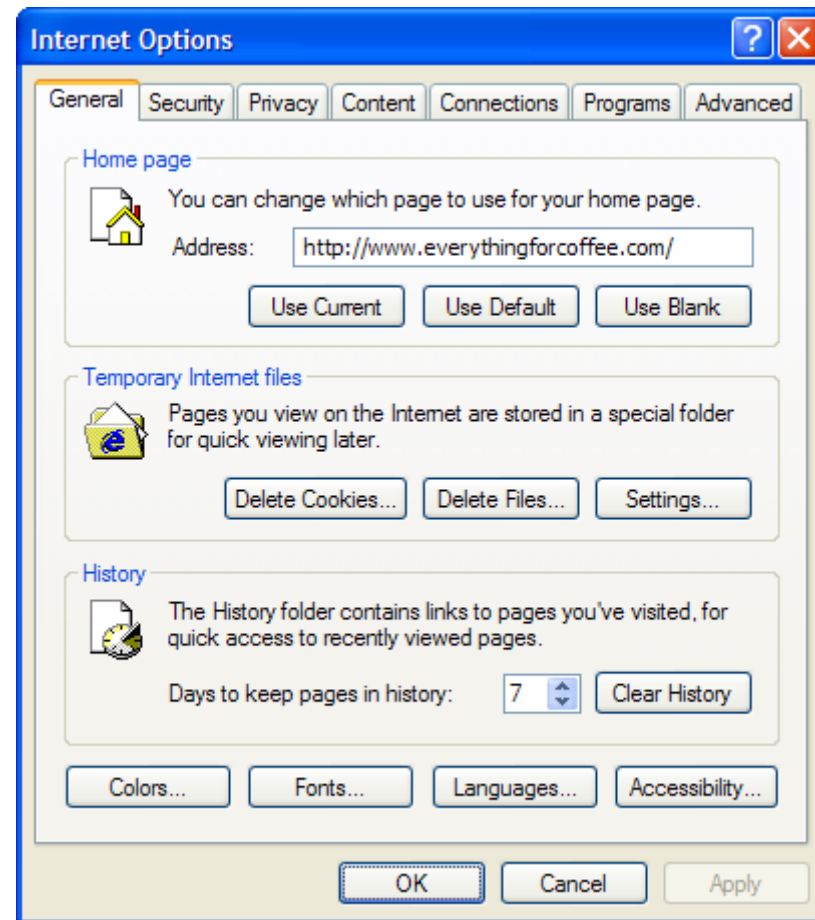
Web Browsers (Contd..)

The image shows a screenshot of a Microsoft Internet Explorer browser window displaying the website 'Everything For Coffee'. The browser's address bar shows the URL 'http://www.everythingforcoffee.com/'. The website content includes a large image of a coffee cup, a search bar, and a navigation menu with items like 'Coffee Makers', 'Gourmet Beans', and 'Coffee Filters'. A shopping cart icon is visible in the top right corner. Several callout boxes with arrows point to specific elements: 'Browser functionality and navigation controls' points to the menu and address bar; 'Graphics' points to the coffee cup image; 'Text' points to the 'Gourmet Beans' menu item; and 'Interactive forms' points to the search input field.

Web Browser Settings

◆ Web Browser settings:

- ◆ Homepage
- ◆ History
- ◆ Colors
- ◆ Fonts
- ◆ Languages
- ◆ Accessibility
- ◆ Security
- ◆ Privacy
- ◆ Advanced Settings



Activity 11-5

Activity on Configuring a Web Browser on a Windows XP Computer

Maintain and Troubleshoot Network Connections

- ◆ Before maintaining and troubleshooting network connections, you need to understand following:
 - ◆ Preventative Maintenance Techniques
 - ◆ Networking Tools and Utilities
 - ◆ Cable Testers
 - ◆ Common Network Issues

Preventative Maintenance Techniques

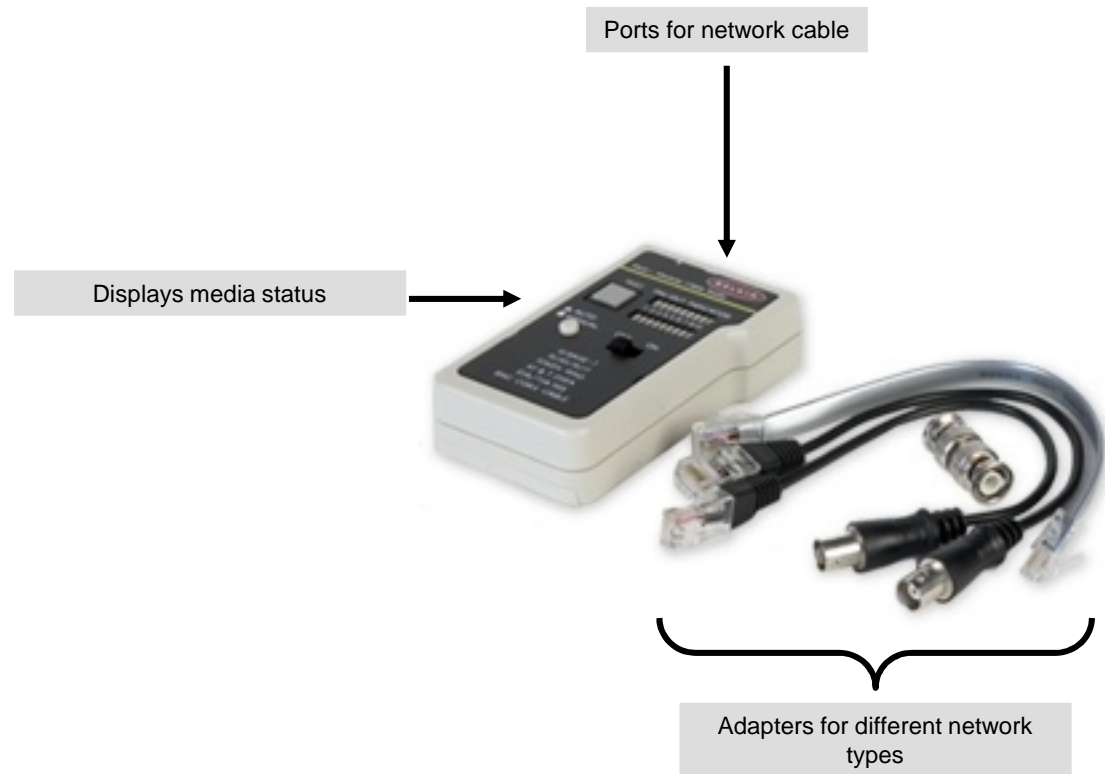
- ◆ Preventative maintenance techniques:
 - ◆ Disk redundancies
 - ◆ UPS deployment
 - ◆ Backup and restore

Networking Tools and Utilities

- ◆ Networking tools and utilities:
 - ◆ ipconfig
 - ◆ ping
 - ◆ nslookup
 - ◆ tracert
 - ◆ Local Area Connection Status
 - ◆ Network Troubleshooters

Cable Testers

- ◆ A cable tester or a media tester:
 - ◆ An electrical instrument
 - ◆ Helps verify if a signal is present on a network cable



Common Network Issues

- ◆ Common network issues:
 - ◆ No connectivity or connection lost
 - ◆ Slow communications
 - ◆ Local connection but no Internet connection
 - ◆ Resource access problems
 - ◆ Connect by IP address not name

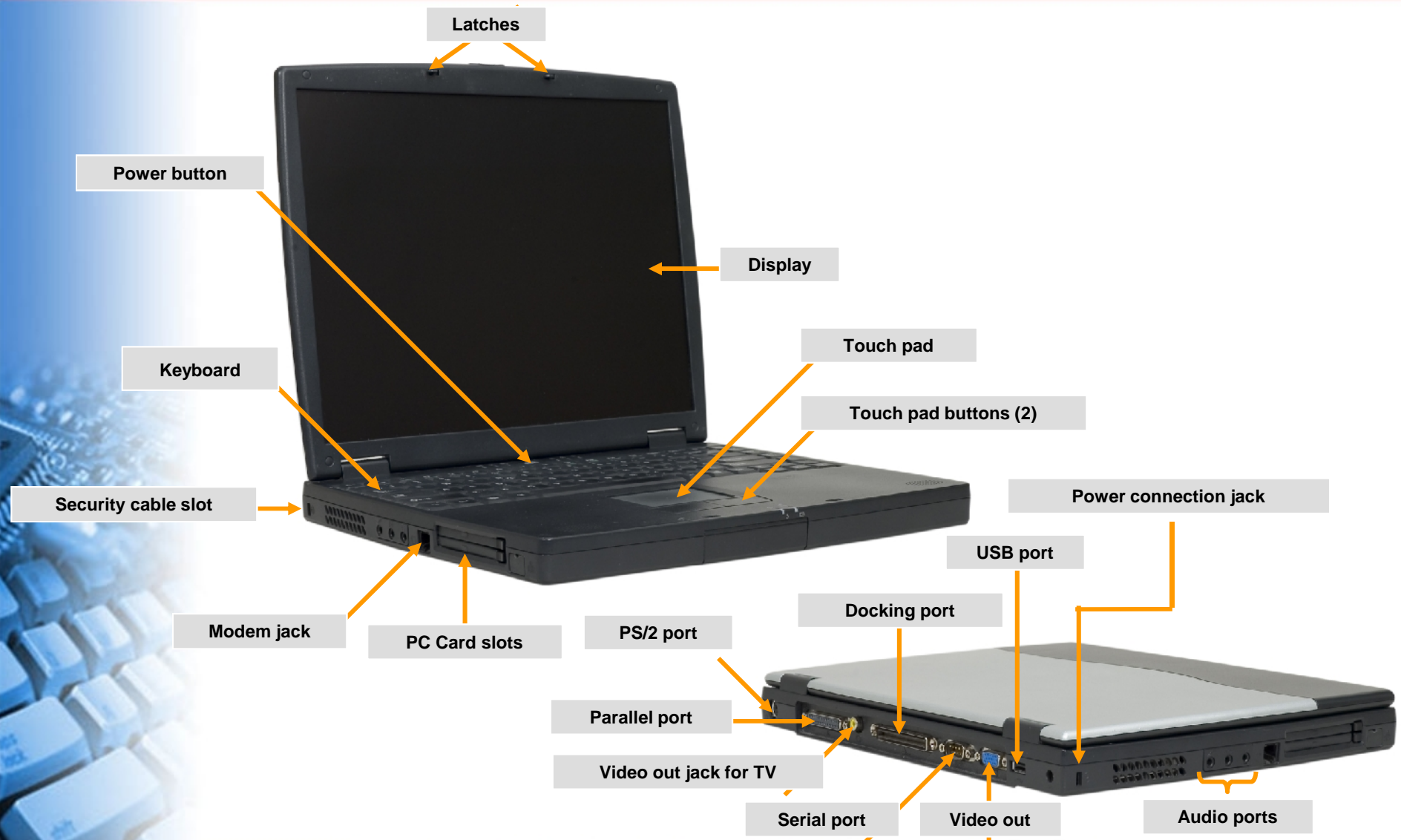
Laptop and Portable Computing Device Components

- ◆ Following are the laptop and portable computing device components:
 - ◆ Laptop Computers
 - ◆ Portable Computing Devices
 - ◆ Mobile System Boards
 - ◆ Mobile Processors
 - ◆ Mobile Hard Drive Form Factors
 - ◆ Mobile Memory Form Factors
 - ◆ Mobile Adapter Card Form Factors and Expansion Slots
 - ◆ Mobile Device Ports
 - ◆ Mobile Device Peripheral Components
 - ◆ Power Supplies and Batteries
 - ◆ Mobile Input Devices
 - ◆ Video Sharing

Laptop Computers

- ◆ A laptop computer:
 - ◆ Complete computer system
 - ◆ Small
 - ◆ Portable
 - ◆ Lightweight
- ◆ Hardware components of laptop:
 - ◆ CPUs
 - ◆ Hard drives
 - ◆ Battery packs
 - ◆ Memory
 - ◆ Monitor
 - ◆ Key pad
 - ◆ Touch pad

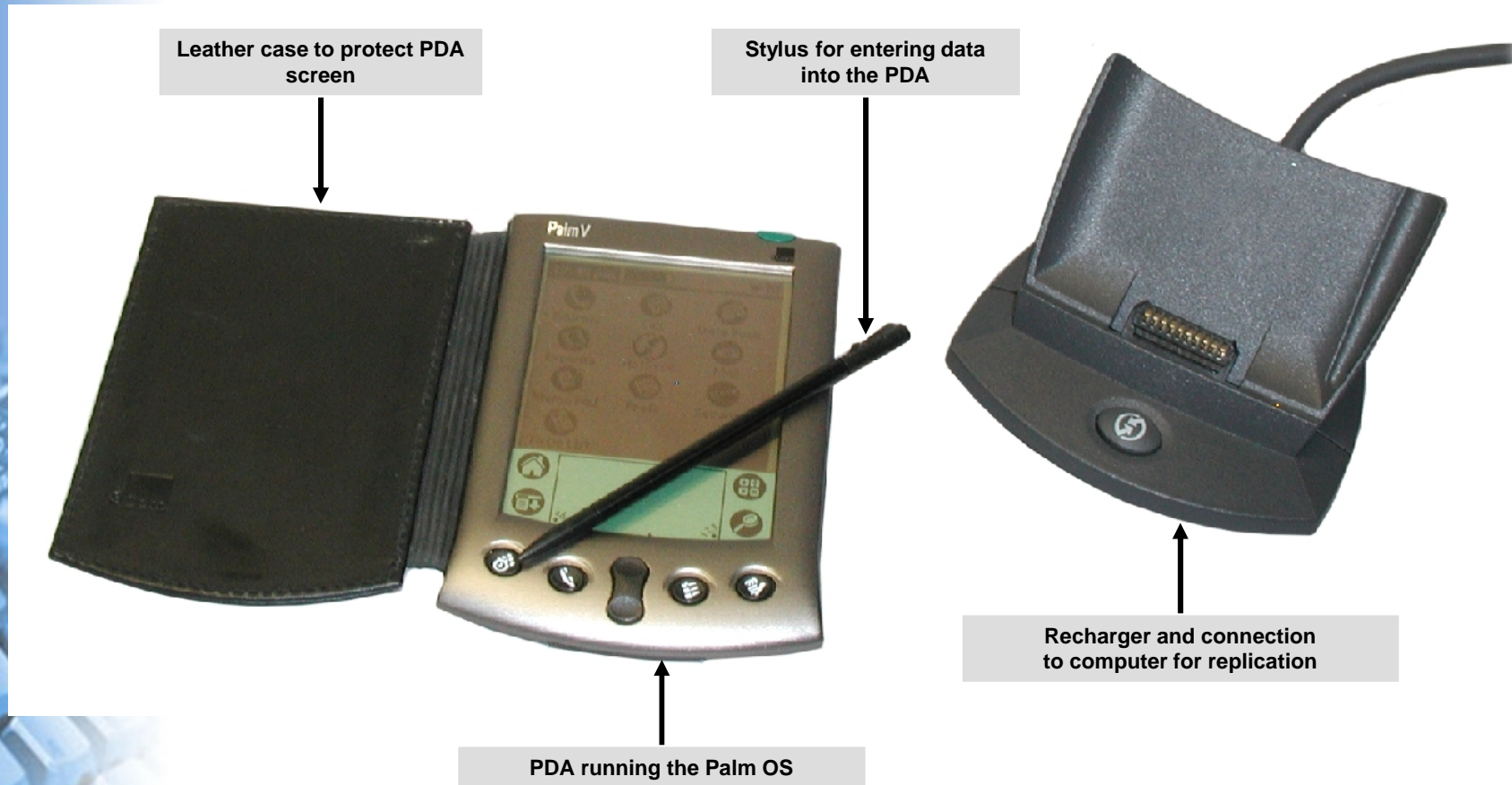
Laptop Computers (Contd..)



Portable Computing Devices

- ◆ A device:
 - ◆ With computing capability
 - ◆ Portable
 - ◆ Movable
- ◆ Various types are:
 - ◆ PDA
 - ◆ Tablet PC
 - ◆ Notebook
 - ◆ Sub-notebook

Portable Computing Devices (Contd..)



Mobile System Boards

- ◆ The ***mobile system board*** is the portable computing device component that acts as the backbone for the entire system.
 - ◆ Smaller than PC system boards
 - ◆ Reduced power consumption
 - ◆ Power management and CPU throttling
 - ◆ Integrated components
 - ◆ Video
 - ◆ Sound
 - ◆ Network interface
 - ◆ USB/FireWire connections
 - ◆ Wireless interface



Mobile Processors

- ◆ The **Mobile CPU**, sometimes called mobile processor or just processor.
 - ◆ Intel
 - ◆ Mobile Pentium MMX
 - ◆ Mobile Celeron
 - ◆ Mobile Pentium
 - ◆ AMD
 - ◆ Mobile AMD Athlon
 - ◆ Mobile AMD Sempron
 - ◆ Mobile AMD Turion



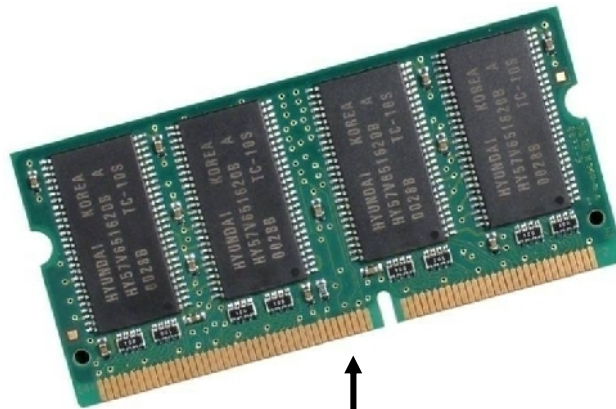
Mobile Hard Drive Form Factors

- ◆ A **mobile hard drive** a system component, stores and saves data for reuse.
 - ◆ Can be unique to manufacturer and model
 - ◆ 2.5-inch platters
 - ◆ Some run at slower speeds than standard PC hard drives
 - ◆ Can be difficult to access physically
 - ◆ Flash memory as alternative for more compact devices

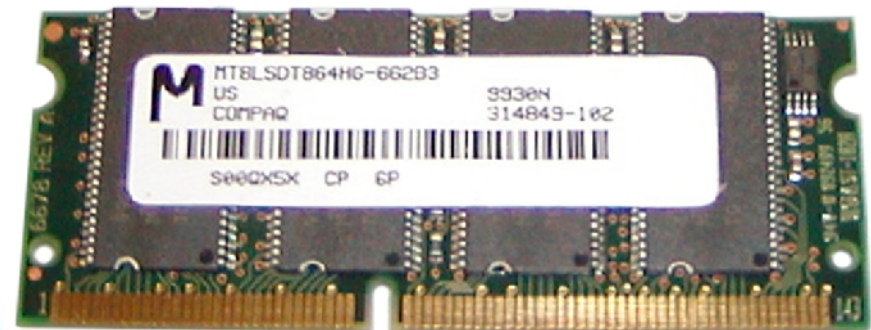


Mobile Memory Form Factors

- ◆ The **mobile memory** is the mobile device component that comprises the electronic storage areas.
- ◆ Laptop memory packages:
 - ◆ SODIMM
 - ◆ MicroDIMM



Custom memory for a portable system



Memory for Compaq Armada

Mobile Adapter Card Form Factors and Expansion Slots

- ◆ A **mobile adapter card** circuit board helps expand the functionality of the mobile computer device.
 - ◆ I: Memory
 - ◆ II: Adapters
 - ◆ III: Miniature hard drives
- ◆ Common uses for cards:
 - ◆ Modem
 - ◆ Network adapter (NIC)
 - ◆ Wireless network adapter
 - ◆ SCSI adapter
 - ◆ USB
 - ◆ IEEE 1394/FireWire
- ◆ Bus types used by PC cards:
 - ◆ CardBus and Zoomed Video (ZV)
 - ◆ eXecute In Place (XIP)

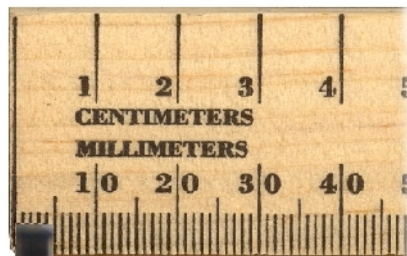
Mobile Adapter Card Form Factors and Expansion Slots (Contd..)



Uses CardBus;
is 54 mm wide by 85.6 mm long



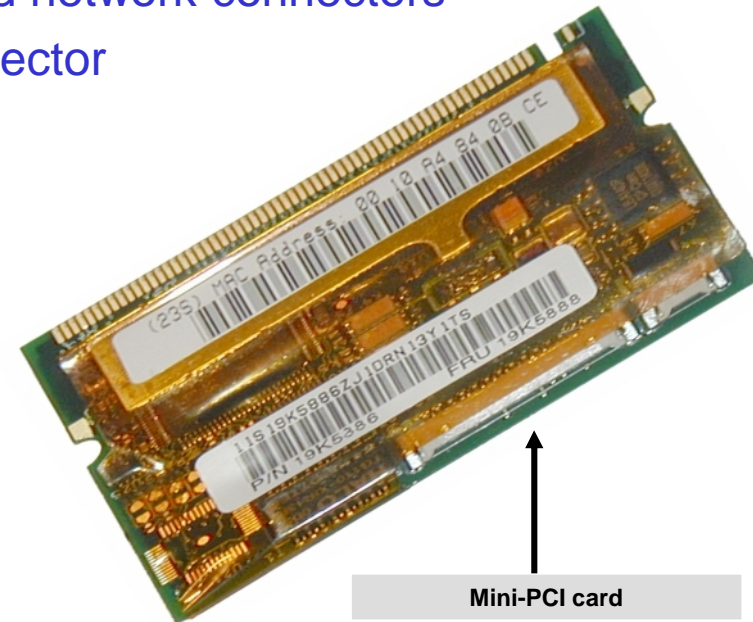
Is inserted into a laptop PC
Card slot



5 mm thick

Mobile Device Ports

- ◆ Mobile device ports are Mini-PCI cards expand system functionality.
 - ◆ I: Can be installed anywhere in the computer chassis Memory
 - ◆ II: Has built-in modem and network connectors
 - ◆ III: Uses a SODIMM connector



Power Supplies and Batteries

- ◆ Power supplies (adapter) are AC based and batteries are DC based.
- ◆ Types of batteries are:
 - ◆ Nickel Cadmium (NiCad)
 - ◆ Nickel Metal-Hydride (NiMH)
 - ◆ Li-Ion
 - ◆ Lithium Polymer
 - ◆ Zinc Air
 - ◆ Fuel Cell

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Power Supplies and Batteries (Contd..)

Power cord connects to power connector below, and the other end plugs into an electrical outlet



Rectangular connector with three pins



Square connector with four pins



Ni-MH battery



Li-ion batteries



Mobile Input Devices

- ◆ Mobile input devices are:
 - ◆ Touch screens
 - ◆ Touch pads
 - ◆ Mini keyboards
 - ◆ Thumb keyboards
 - ◆ Styluses
 - ◆ Function keys
 - ◆ Point sticks/track points



A laptop touchpad

A laptop keyboard

Video Sharing

- ◆ In video sharing
 - ◆ Integrated video controller shares system RAM
 - ◆ Uses RAM for buffering
 - ◆ Can prevent upgrading video, RAM, or both

Summary

- ◆ In this session, you learned that:
 - ◆ How to create network connections using IP address configuration methods and DNS technology.
 - ◆ How to configure web browser settings.
 - ◆ Preventative maintenance techniques and networking tools help maintain and troubleshoot network connections.
 - ◆ Laptop and portable computing device has multiple components, such as mobile system boards and processors.