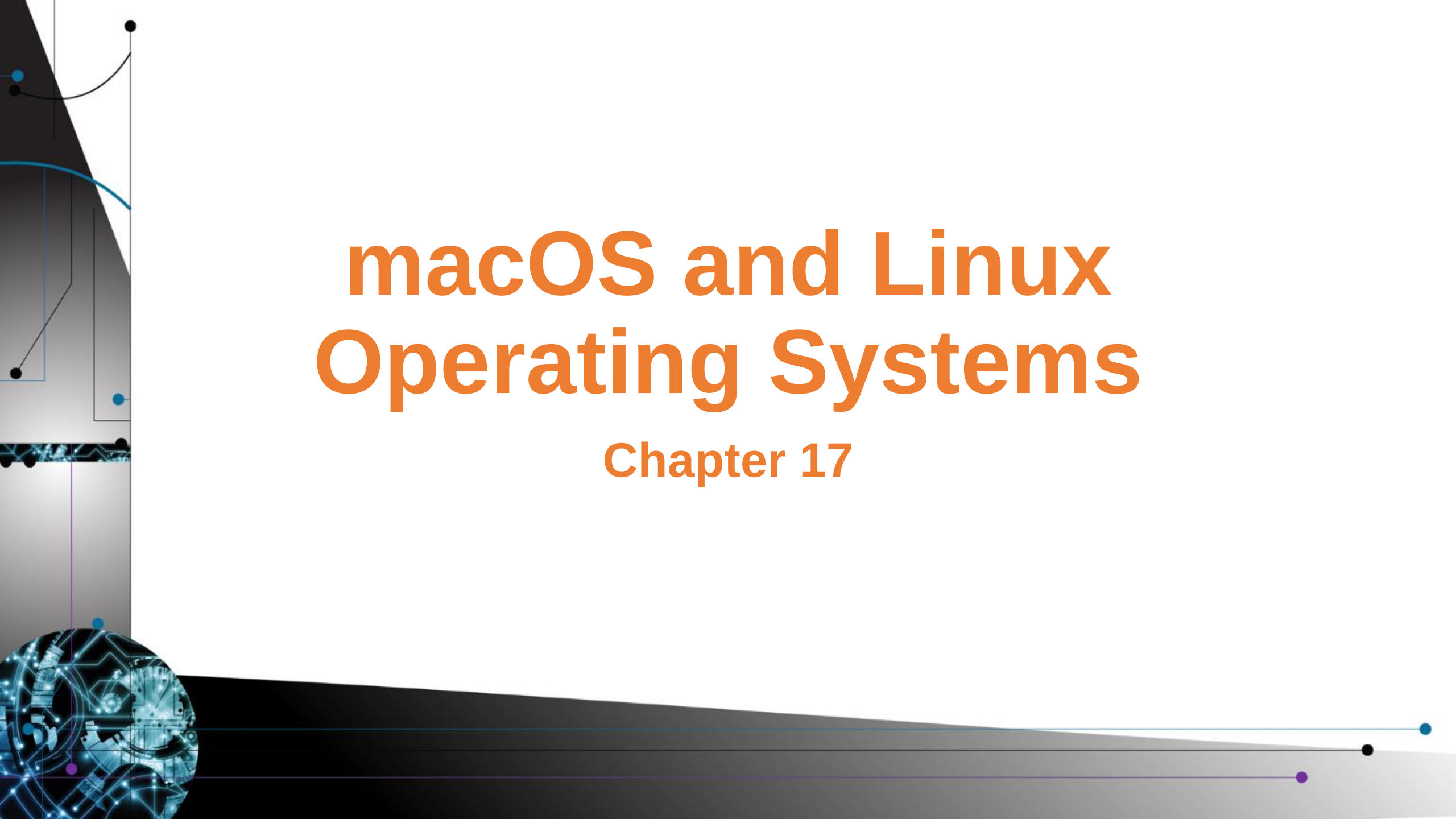


macOS and Linux Operating Systems

Chapter 17

This presentation covers:

- Be Humble
- Introduction to OS X
- Basic System Usage, Updates, and Backups
- Management and Troubleshooting Tools

Qualities of a Good Technician

"Soft skills" as they are known across many industries are essential

Be Humble

- Be confident that you can repair most anything and figure things out but avoid arrogance
- You cannot know everything; You may know a little bit about a lot of things or a lot about a specific side of IT
- Show a little humility and be humble with your knowledge
- Avoid boasting about your knowledge and expertise over those you support
- Showing empathy for those people you support and interact with goes a long way


Introduction to OS X

Introduction to OS X

- OS X (pronounced OS ten) is a UNIX-based operating system that was developed by Apple, Inc., for its Macintosh line of computers, called Mac for short
- Most-used type of UNIX/Linux-based desktop operating system
- OS X utilizes many open source projects to make up the core and functionality of the operating system, along with a touch of Apple's own customization
- Open source software is software made freely available and is open to outside contribution to improve

Navigating the User Interface

- OS X is renowned for its intuitive and easy-to-learn graphical user interface (GUI) that has multiple ways to interact with it, from the standard mouse and keyboard to more advanced trackpad multitouch gestures
- There are four basic elements to the GUI of OS X
  - (1) The Dock is the shortcut organizational bar used for launching, switching, and managing applications
  - (2) The Finder, which is the file manager included in OS X and is used for navigating and managing files or folders in the file system
  - (3) Menu bar which is anchored to the top of the screen and is a dynamically changing bar that presents contextual drop-down menu options on the left side depending on what window is active
  - (4) The right side provides shortcuts to things such as connecting to a Wi-Fi network or changing volume

OS X Desktop


Menu bar
Finder window
Finder
Dock
Finder File Edit View Go Window Help
Mon 3:37 PM
Macintosh HD
Applications
Search
Favorites
All My Files
iCloud Drive
Applications
Desktop
Documents
Downloads
Devices
Macintosh HD
Shared
192.168.1....
Jeff's Mac P...
Tags
Red
App Store
Automator
Calculator
Calendar
Chess
Contacts
Dashboard
Dictionary
DVD Player
FaceTime
Font Book
Game Center

Basic System Usage, Updates, and Backups

- OS X comes bundled with a wide range of software for general usage as well as system upkeep
- iWork (Apple's office productivity suite) includes a word processor called Pages, a presentation application called Keynote, and a spread-sheet application called Numbers
- Other useful bundled applications such as Mail, Safari (the default web browser of OS X), Calendar, Contacts, Photos, and so on are available
- OS X also comes with iCloud, a cloud-based service offering storage, application support, and syncing of contacts, photos, email, bookmarks, documents, and more between multiple OS X, iOS, and even Windows devices

Management and Troubleshooting Tools

- OS X comes with a robust set of tools to keep the system running smoothly
- The most basic tool is the System Preferences menu
- System Preferences is the equivalent to the Control Panels in Windows
- The System Preferences shortcut by default is located on the Dock, listed in Launchpad

Utilities

- Use the tools located under the Utilities director for more advanced system management, maintenance, and troubleshooting
  - Open Finder
  - Select the Applications section on the left side of the bar
  - Go into the Utilities folder

Utilities window

Share a Mac Screen

- If another user has screen sharing turned on, another Mac user can view and even control the display of another Apple computer that is on the network
  - Open Finder > and look for computers that have sharing enabled in the Shared section
  - Hover the pointer over the word Shared and select Show
  - Select a particular computer and select Share Screen

System Updates & Time Machine

- System Updates
  - The App Store is how Apple releases patches and updates for OS X
  - Check the Updates tab in the App Store from time to time to get the latest operating system and application updates
  - Previously purchased applications can be recovered through the App Store but it is not a backup system
- Time Machine
  - Time Machine is a bundled application in OS X that enables you to do full and incremental system backups to an external hard drive

Force Quit

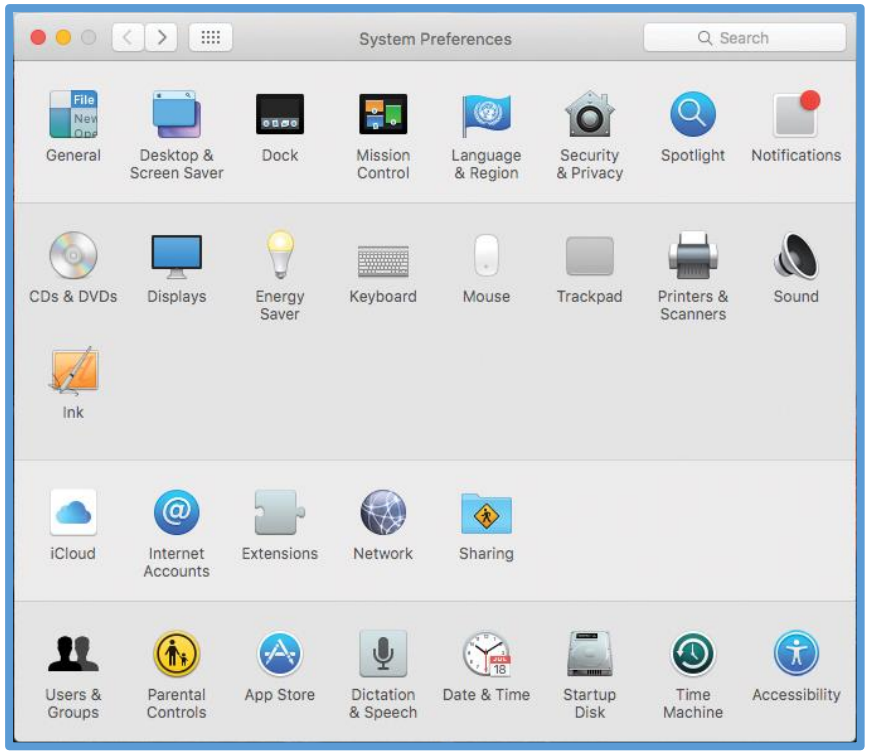
- OS X is a stable operating system that rarely crashes or requires you to use backups to recover any-thing
- When a program stops responding or working properly, it may require the Force Quit feature
- To access the Force Quit menu, either click the Apple icon on the top left of the screen and then select Force Quit, or hold down the Cmd, Option, and Esc keys at the same time
- A menu appears allowing you to choose which applications to quit

Remote Disc

- Macs do not have an optical CD/DVD drive
- Macs have the option to plug in an external USB optical drive, but that isn’t always possible
- In this instance OS X has a Remote Disc feature
- Remote Disc is what enables you to remotely use the optical drive of another Mac, or even from a Windows-based PC

Management and Troubleshooting Tools

- The most basic tool is the System Preferences menu
- System Preferences is the equivalent to the Control Panels in Windows
- It contains most of the system settings such as desktop backgrounds and screen savers, etc.
- The System Preferences shortcut by default is located on the Dock, listed in Launchpad or through the Finder



System Preferences Window

Remote Activity Monitor

- Activity Monitor is a tool used to see what processes and services are running, plus what system resources are used
- CPU tab: shows what is consuming most of the CPU processing power.
- Memory tab: shows how much RAM each process is using
- Disk tab: shows a breakdown of how much disk read/write I/O is occurring

Console

- A centralized place to find system and application logs and messages
- OS X and the applications running on it constantly send activity logs to the console
- The Console lets you parse these manually or by searching for something specific

System Information

- System Information is a utility that provides an overview of the Mac, including basic diagnostic information such as installed hardware, software, and network settings
- Accessed from the Utilities directory, or by clicking the Apple icon in the upper-left corner on the menu bar

Keychain Access

- Keychain Access is a utility for securely managing saved passwords
- Passwords are then encrypted by default with the password for the user account they are saved under
- A common problem occurs when a user updates his password when logging on, and then Keychain asks for his keychain password
- A useful feature of the Keychain Access utility is the ability to see saved passwords

Disk Utility

- Disk Utility is an application that handles the management of disks and images in OS X
- This utility can be used to rename, reformat, erase, repair, and restore disks
- It is a powerful tool and should be approached with caution because the wrong usage could delete all data on the system or on an external disk attached to the system

vBoot Camp

- Boot Camp is a boot-loading utility designed to assist with partitioning, installation, and support of running Windows on a Mac
- Installation requires a USB flash drive with at least 16GB of space, a Windows installation ISO file or DVD installer, and a minimum 30GB of free space on the hard drive
- The Boot Camp application guides you through the process of repartitioning your hard drive to make a partition labeled BOOTCAMP
- Boot Camp can also be used to remove a Windows partition

Navigating the User Interface

- There are many types of graphical user interfaces for Linux such as GNOME, KDE, Xfce, and Cinnamon
- Unity is the name of the graphical user interface in Ubuntu
- By clicking the Ubuntu icon at the top of Launcher, a menu allows a local search on the system, as well as the ability to get results from the internet
- Nautilus is the file manager for Ubuntu and can quickly be accessed by clicking the Files icon on the Launcher dock

Basic System Usage, Updates, and Backups

- The best example of a tool that is commonly used through the GUI is Gparted
- GParted is a disk management tool that allows the creation, deletion, and resizing of partitions on a physical disk
- GParted has an easy-to-use drag-and-drop interface for partition management that is far easier to visualize and understand than trying to manage partitions from the command line
- When installing Linux or partitioning with GParted, be aware of the options.
- Most distros, including Ubuntu, default to using a file system known as ext4 (fourth extended file system), an improvement on ext3 (third extended file system), which was the most widely used file system for many years

OS X and Linux Best Practices

Key best practices are as follows:

- Perform scheduled backups: Back up the operating system and important data on a regular basis. As an IT staff member, you should gently remind users of this, too.
- Schedule disk maintenance: Drives become fragmented over time. For best system performance, perform disk maintenance on a regular basis.
- System updates: Be sure to install the latest operating system updates for security and performance reasons.

OS X and Linux Best Practices, cont'd

- Driver/firmware updates: Ensure the latest hardware drivers and firmware updates are installed.
- Patch management: Patches are code changes that tend to fix a particular problem in an operating system or application. Patch management is the process of downloading, testing, installing, retesting, and documenting these changes. Patch management helps with security issues too. See Chapter 18 for more information.
- Antivirus/antimalware: Many people believe that Apple computers and Linux-based computers do not need antivirus or antimalware. This is not true. Not only should they be installed, but they also need to receive updates on a regular basis.

Computer Terms

Refer to the glossary terms at the end of the textbook chapter. Review Chapter 17 and become familiar with the terms.

This PPT deck was developed

to support instruction of

The Complete CompTIA A+ Guide to IT Hardware and Software 8th Ed.