

## Mac OS

### □ Mac OS presentation Draft 11.29

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### ☰ Title Slide

- ☰ This presentation is intended to provide an overview for customers who are interested in hearing about upcoming system software releases.

It is Apple's recommendation that any discussion of a specific Mac OS release be preceded by an overview of Apple's Mac OS strategy. Thousands of briefings attendees have told us that this material was as valuable to them as the detailed product information also provided.

This information is accurate as of December 1996.

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### ☰ Title Slide v.2

## Mac OS

### ☰ Agenda

- - ☒ The key messages for this presentation are:
    - ☒ Regular system software releases give customers the advantage of the latest and best technology integrated into a single release.
    - ☒ Harmony provides easy and pervasive Internet access and richer and easier multimedia capabilities (OpenDoc®, Live Objects Essentials, and the latest QuickTime® technologies), helping users to communicate in compelling new ways.
    - ☒ Harmony improves individual and group productivity with better stability, performance, networking, and PC file and media support.
    - ☒ The new Mac OS release strategy is tangible proof that Apple remains on the cutting edge of personal computing technology and is committed to delivering advanced capabilities to customers on a regular basis; evidence that the Mac OS continues to offer, and in many areas define, the state-of-the-art in personal computing technologies.
  - ☒ For more information on the Mac OS, visit the Mac OS Internet home page at <http://www.macos.apple.com>.
  - ☒ The information discussed in this document is based on features and functionality planned for a future release. The discussion herein does not represent a commitment on the part of Apple Computer, Inc. to provide or ship the features and functionality discussed. Information is subject to change without notice.
- ☐ Mac OS Strategy
- ☐ Mac OS Release Strategy
- ☐ Mac OS 7.6
  - ☐ Best-of-class Internet
  - ☐ Improved productivity and efficiency
  - ☐ State-of-the-art multimedia
  - ☐ Easy PC file and media exchange
- ☐ Summary
- ☐ Q&A

### ☰ Mac OS Strategy

- - ☒ Apple has specific strategic goals in mind for Mac OS which will be reflected in each of the system software releases. I would like to review these goals with you to provide you framework to evaluate what we are delivering with Mac OS 7.6 and beyond.

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- ☐ Apple's vision for system software technologies has four critical areas of focus:
  - ☐ Making the Internet an integrated part of the Macintosh experience;
  - ☐ Continuing to make complex technology easy to use, by giving our customers great tools to simplify the ways they work with their personal computers, and improve system performance and reliability;
  - ☐ Moving our acknowledged leadership position in multimedia and graphics ahead, and making our technology available to more customers;
  - ☐ And continuously improving the operating system, by delivering OS releases on a consistent, predictable schedule and bringing new capabilities to our customers sooner.

☐ Make complex technology easy to use

☐ Integrate Internet access into the Mac OS

☐ Build on flexible component-based technology

☐ Advance the total user experience

☐ Improve productivity and efficiency

☐ Extend multimedia leadership

☐ Video/audio/3D graphics/VR/conferencing

☐ Continuously improve the OS

☐ Regularly scheduled Mac OS releases

### ☐ **Mac OS Release Strategy**

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- ☐ In his keynote address at MacWorld Boston 1996, Apple CEO Gil Amelio announced that Apple is changing its Mac® OS strategy to deliver new functionality through regularly scheduled releases. **Apple will deliver complete reference releases that integrate the latest software technologies and features twice yearly, in January and July.**
- ☐ Regular and more frequent system software releases will enable us to deliver new software developments more quickly, so both customers and developers can take advantage of innovative technology sooner.
- ☐ In addition, Apple will continue its delivery of incremental system updates between reference releases. The objective of these updates is to build into our software release strategy a vehicle for Apple to be responsive to the most urgent customer and developer needs which cannot wait until the next reference release.
- ☐ This new strategy of regular and more-frequent releases lets Apple get new software developments out to customers more quickly. Apple's release strategy gives customers a convenient way to keep up with the accelerated pace of change in technology.

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- ▣ Many customers may already have found versions of some of Apple's updated software technologies by other means, such as the Internet. However, the predictable availability of a reference release that's easily installed, integrates all of the latest software technologies, and is stable and reliable should help customers in managing their computer system(s).
- ▣ Since these releases will be more predictable, this release strategy will make it easier for our customers to better plan for the releases, and make it easier to integrate them into their existing systems.
- ↳ Continuously improve the Mac OS
- ▣ Regular delivery of Mac OS releases
  - ▣ Beginning in January '97, major (reference) releases semiannually
  - ▣ System updates between OS releases
- ▣ Integrate latest core technologies
- ▣ Enable customers to better plan, test and implement

### ▣ Mac OS Releases

- ▣
  - ▣ Set Up slide for the next # slides
  - ▣ Apple will deliver complete reference releases that integrate the latest software technologies and features semiannually, in January and July. Additionally, Apple will continue its delivery of incremental system updates between reference releases, and targeted rapid-response releases as needed.
  - ▣ The upcoming 7.6 release of the Mac OS represents the first step in Apple's new strategy of delivering state-of-the-art operating system functionality to customers on a regular and semiannual basis. Mac OS 7.6 will unite many Apple technologies that have recently become available with additional features and functionality, to offer customers improved productivity, efficiency, and PC file compatibility.

### ▣ System 7.5.5 Update

- ▣
  - ▣ System 7.5.5 Update, which was delivered on September 19, 1996, provides an excellent example of the type of updates you can expect to see in the future. It addressed some very specific customer and developer issues and made the Mac OS significantly better in the areas of reliability and performance.

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- ☐ System 7.5.5 Update included a revised version of virtual memory(VM) that significantly improved overall VM performance, as well as the launch time of some of the most popular Mac OS applications. Tests conducted by Apple on a 8100/80 and a 7200/75 showed that applications such as MicroSoft Word 6.0, PhotoShop 3.0, and Factel Design Painter 4.0 launched up to 50% faster. These improvements will vary significantly depending on the system, application, and the amount of VM allocated.
- ☐ Having a single system folder which can boot a wide variety of systems is important to many of our customers, especially support professionals. With System 7.5.5 Update, a "Universal System Folder" created with System 7.5.3 can be updated to support some of the more current systems including the 5400 and 6400 series.
- ☐ Some of the pressing customer issues addressed were:
  - more dependable use of the floppy drive on DOS-compatible systems,
  - improved floppy formatting and better reliability during system startup for 180MHz or higher 604 or 604e microprocessor-based systems,
  - a reduction of Type 11 errors on PowerPC-based systems,
  - better use of sound-intensive applications for Macintosh Quadra and Centris systems updated with the Apple Power Macintosh Upgrade Card,
  - more dependable operation of the remote control included with the Apple TV tuner and Macintosh TV.
- ☐ In response to customer feedback, Apple has standardized how the version number will change for future system software releases. If major architectural changes are being delivered, the first digit of the version number will be incremented. If new features are added to a system software reference release without major architectural changes, the second digit will be incremented. When system software updates are delivered with only reliability and performance improvements, the third digit will be incremented.

### ↳ Enhancing performance and reliability

#### ☐ Enhanced virtual memory

- ☐ Improves application launch performance

#### ☐ Universal System Folder

- ☐ Updated systems supported

#### ☐ Response to pressing customer issues

#### ☐ Clear naming scheme

### ☰ **Mac OS 7.6 Basics**

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## Mac OS

- ☐ Mac OS 7.6 is being designed to be installed with minimal disruption. It is based on the System 7 foundation, which will provide excellent compatibility with existing applications.
- ☐ Mac OS 7.6 will run on a broad set of systems, those based on the 68030 processor and above, so long as they support 32-bit memory addressing. The 68030 systems that do not support 32-bit memory addressing are noted here: the Macintosh II, IIx, and SE/30. Older Macintosh models will continue to be supported by Macintosh System 7.5.5.
- ☐ Mac OS 7.6 will also run on Mac OS compatible systems from a variety of manufacturers.

- ↳ Designed for a smooth transition
- ☐ Excellent compatibility
  - ☐ System 7 based
- ☐ Supports a broad set of systems
  - ☐ Includes 68030, 68040, PowerPC
  - ☐ Exceptions: IIx, IIcx, SE/30
- ☐ Supports Mac OS compatible computers

### ☰ **New Features: Mac OS 7.6**

- ☐
  - ☐ Mac OS 7.6 advances the Mac OS in four key areas:
    - ☐ Enhanced Internet functionality
    - ☐ Improved productivity & efficiency
    - ☐ State-of-the-art multimedia
    - ☐ Improved PC file and media exchange
  - ☐ Let's go into more detail on each of them.

- ↳ The easiest way to get the most \_\_\_\_\_ out of your Mac OS computer

### ☰ **Best-of-Class Internet**

- ☐
  - ☐
    - ☐ By including the latest versions of the Apple Internet Connection Kit, OpenDoc, Cyberdog, and Open Transport software—as well as key connectivity tools such as TCP/IP, PPP, and ARA—Harmony makes it easy to connect to the Internet and its vast communications and information resources, including both local and remote networks.
    - ☐ The Apple Internet Connection Kit (AICK) will be bundled with the retail Mac OS 7.6 product, providing an integrated collection of best-of-class Internet applications, including Netscape Navigator and Claris EMailer Lite.

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- ☐ The combination of Cyberdog and OpenDoc lets users actually bring the Internet into their applications—embedding live web links in their documents as easily as they would text or graphics.
- ☐ Mac OS 7.6 also lets users save and launch URLs from the Finder, in the same way that opening a document automatically launches the appropriate application.
- ☐ For new Internet users, America Online (AOL) is bundled to provide the simplest Internet access.
- ☐ Due to the problem with the Code Fragment Manager for 68K systems (CFM-68K) announced on November 27th, neither Cyberdog or OpenDoc will run on 68K systems with Mac OS 7.6. The current and previous versions of CFM-68K will not be allowed to load on any system running Mac OS 7.6. Apple is working on delivering a new version of CFM-68K which will allow OpenDoc and Cyberdog to run safely on 68K systems on Mac OS 7.6.
- ☐ QE: Cyberdog logo

### ☐ Internet Tools for every user

- ☐ Apple Internet Connection Kit (AICK) provides best-of-class Internet applications
- ☐ Pervasive access across the Mac OS with Cyberdog
  - ☐ Cyberdog brings the Internet into Live Objects-aware documents
  - ☐ URLs can be activated from the Finder, automatically launching Cyberdog
- ☐ America OnLine (AOL) included for easy Internet access

### ☐ **Easy Internet Set Up and Configuration**

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- ☐
- ☐ The best network connectivity tools are built in to Mac OS 7.6, so that it is easy to connect to your the Internet or your company's intranet.
  - ☐ TCP/IP provides easier configuration and better performance as compared to MacTCP, especially for PPC customers.
  - ☐ OpenTransport PPP delivers the most stable option with better performance for customers who use a modem.
  - ☐ ARA provides an easy way for companies to provide network access to remote or traveling users.
- ☐ AICK provides automatic configuration and registration, allowing users to set up an Internet connection in as little as 10 minutes.. With the simple click of a button, it configures all key applications and communication settings. And the built-in Dialer automatically connects to an Internet Service Provider

## Mac OS

- ▣ The Internet applications delivered with Mac OS 7.6 support all of the important Internet standards, including HTML, Netscape plug-ins, and SMTP/POP/MIME (for mail).
- ▣ Includes connectivity tools (TCP/IP, OT/PPP, ARA) for easy Internet connection
- ▣ Easy Internet configuration via Apple Internet Connection Kit
  - ▣ One button install
  - ▣ Simplifies signing up for a Service Provider
- ▣ **Best-of-Class Internet Connectivity**
  - ▣ Mac OS 7.6 also provides the best tools to connect to the Internet
  - ▣ Open Transport makes it easy to switch from one network configuration to another. A computer user "on the go" might want to hook up to the Internet in various locations, each requiring a different networking configuration. With Open Transport settings for each network location can be stored for easy access and use.
  - ▣ Open Transport also allows reconnection of a dial-up TCP/IP session without reloading the networking and without system restarts--- as well as provides support for PPP (Point-to-Point) based AppleTalk and TCP/IP remote networking. For dial-up connectivity to TCP/IP networks including the Internet, Open Transport recognizes third-party MacTCP software extension, providing SLIP or PPP connectivity.
  - ▣ MacOS 7.6 will include version OpenTransport 1.1.1 which supports a broader set of products (5200, 5300, 6200, and 6300 series), as well as performance and stability improvements. This broad support for OpenTransport is important since Mac OS 7.6 completes the transition to Open Transport as the sole networking protocol for the Mac OS. This means Mac OS 7.6 will not support classic AppleTalk directly. However, Open Transport will work with old AppleTalk-based software with some performance degradation, just as it does today.
  - ▣ For connectivity to an AppleTalk network, Open Transport is fully compatible with Apple Remote Access client and personal server versions.
  - ▣ Apple Remote Access software is the dial-up solution favored by organizations that want to extend their Internet and intranet connection to remote or traveling users. The ARA 2.1 client is included with Mac OS 7.6.
- ▣ Open Transport: simplified Internet and intranet networking
  - ▣ Switch easily between network configurations
  - ▣ Hook up to Internet from various locations
  - ▣ Reconnect dialup TCP/IP more easily

## Mac OS

- Apple Remote Access: Easy and secure
  - Connect to information from a remote location
  - Supports industry standards and Internet access

### ☰ **Cyberdog Integrates Internet Access**

- - Cyberdog integrates the Internet into Live Objects-aware documents; for example, users can bring live web pages into their documents or drop-in buttons for single-click access to the Internet.
  - Cyberdog is an integrated suite of tools for the Internet with a common interface that includes these features:
    - World Wide Web browser
    - E-mail reader and handlers
    - Newsgroup reader and handlers
    - Gopher browser
    - File transfer and remote login facilities (FTP and Telnet)
    - Utilities for storing and organizing Internet information
    - Security facilities
  - Cyberdog's Internet Starting Point combines these tools into one easy-to-use package, making Internet solutions simple. The Starting Point is Cyberdog's predesigned way of using the Cyberdog tools. Because Cyberdog is based on OpenDoc component technology, you can also use Cyberdog "parts" to create your own documents with embedded Internet functionality, thus creating your own Internet "starting point."
- Lets you embed live Internet links into documents
- Provides a unified "notebook" for any Internet access— Mail, Web, News groups, file transfer, Gopher, Telnet

### ☰ **Best-of-Class Internet**

- ↳ Summary
- New features
  - OpenDoc and Live Objects component software
  - Cyberdog: integrated Internet links
  - Open Transport: faster, easier networking
  - TCP/IP: faster, more stable Internet connection
- What this means

## Mac OS

- ▢ The industry's easiest and most reliable Internet access

### ☰ **Productivity and Efficiency**

- ▢
  - ▣ Extending Apple's leadership in ease of use to new levels, Mac OS 7.6 will provide new features and enhancements that speed essential and frequently performed tasks.
  - ▣ Mac OS 7.6 improves productivity in four areas:
    - ▣ Simplified installation and system management
    - ▣ Faster and easier networking and printing
    - ▣ Simplify the way you work with OpenDoc & Live Objects
    - ▣ Improved performance and reliability
  - ▣ Let's go into more detail in each of these areas.
- ▢ More than just ease of use
- ▢ Simplified installation and system management
- ▢ Faster and easier networking and printing
- ▢ Simplify the way you work
- ▢ Improved performance and reliability

### ☰ **Productivity and Efficiency**

- ▢
  - ▣ In Mac OS 7.6 we deliver a new Installer which simplifies installation, and improves the reliability of system software.
  - ▣ This Installer combines a number of separate tasks (such as reviewing ReadMe files, updating hard disk drivers, and inspecting the disk's file system) in a single four-step utility program, eliminating the need for multiple installations.
  - ▣ Integration of the hard disk driver update and Disk First Aid into the install process will result in a more reliable installation and will increase the system's overall stability: More problems will be fixed and potential conflicts will be reported before the new software is installed on the computer.
  - ▣ Once you have selected all of the features you want installing from Mac OS 7.6 (like ARA, Cyberdog, and Dataviz MacLinkPlus translators, you can then select one button to install them all. You no longer need to install each of these separately, which will be a big time savings for customers installing from a CD or over the network.
- ▢ Faster & easier installation
- ▢ New, streamlined Installer
  - ▢ Easy four-step process

## Mac OS

- ▢ Unifies multiple installations
- ▢ Provides more stable system

### ☰ **Simplified Installation Process**

- ▢
  - ▢ Installer screenshot—this screen shows you the various steps which this new installer will walk you through to ensure a more trouble-free installation. If any of the recommended steps are skipped, a warning will appear. Once all of the software products to be installed are selected, the installer takes care of installing them all in one step, avoiding the hassle of having to administer multiple software installations.
  - ▢ The first step, Read Important Information, brings you to a single document which is only a few pages long which contains all of the critical information you need to install all of the software. This document represents a consolidation of much information which was previously available on many different documents.
  - ▢ The second step, Update Your Hard Disk Driver, insures that you go through the important step of making sure your hard disk has the latest drivers. If you have a non-Apple hard drive, you are given the option of skipping this step.
  - ▢ The third step allows you to choose the disk on which the system software will be installed.
  - ▢ Lastly, the fourth step allows you to select which software you want to install. One of the nice benefits of this new Installer is that you can select multiple products, and have them all install in one step. Therefore, you can check all of the software you want installed from the CD, select start, and 15-20 minutes later you have all of the software installed on your system. You no longer have to administer several different installations. Once you press Start, you will note that the installer automatically runs Disk First Aid to make sure the final installed software is more reliable.
- ▢ New Installer provides a unified step-by-step control panel to simplify installation

### ☰ **Productivity and Efficiency**

- ▢
  - ▢ The new Extensions Manager provides our customers better tools and information to manage their systems.
  - ▢ This new Extensions Manager delivers a new foundation for helping our customers understand how the various system software components relate to each other.
    - ▢ Feature “clusters” or packages allow users to track the components in the System Folder that belong together, and disable or enable all or some of these startup files with a single click.

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- ▣ Text descriptions are provided for some software components, and will be provided for more components in future releases.
- ▣ In the past, settings files were stored as resources in one preferences file and could not be exported or transferred. With this version, settings are stored as individual files within the Extensions Manager Preferences folder, which is in the main Preferences folder. These files can be treated as any other file—allowing users to share or apply settings with other users. This is important to organizations who want their people using the same system configurations.
- ▣ Lastly, with the new Extensions Manager, you can easily create a text file that lists all of the active control panels, extensions, and other system components in your system. This can be a very useful troubleshooting tool for telephone support groups so that they can get a more accurate picture of a customer's system folder.
- ↳ Improved Extensions Manager
  - ▣ Shows relationships between components
    - ▣ New foundation for “clustering”
    - ▣ Available for some components today
    - ▣ More clustering in future releases
  - ▣ Component descriptions are provided
  - ▣ Individual settings are exportable
  - ▣ Simplifies technical support
- ☰ **Extensions Manager Screenshot**
  - ▣
    - ▣ Extensions Manager screenshot—shows how feature clustering works. For example, if you wanted to disable all of the Cyberdog components in the System Folder, all you need to do is uncheck the box next to Cyberdog. This saves you the trouble of hunting for all of the related Cyberdog parts, and disabling each one individually.
    - ▣ Developers are able to take advantage of this feature as well. And while not all Apple system software components can take advantage of clustering with the release of Mac OS 7.6, many more will in with the next release.
  - ▣ New Extensions Manager helps you organize, control and understand system extensions
- ☰ **Faster and Easier Printing and Networking**
  - ▣

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- ☐ The new LaserWriter 8.4 driver simplifies setup, speeds printing, and offers enhanced printing capabilities including n-up printing. The new printer dialog box allows customers to change printers without having to go to the Chooser. Also, starting with version 8.4, the LaserWriter software is PowerPC native, which will result in up to a 35% speed increase while printing to networked printers. Lastly, with the new Desktop Printing software, your Desktop Printing icons can be moved to anywhere on your hard drive.
- ☐ Due to the problem with CFM-68K which was announced on November 27th, LaserWriter 8.4 will not run on 68K systems with Mac OS 7.6 until a new version of CFM-68K is delivered by Apple. Mac OS 7.6 will install LaserWriter 8.3.4 on 68K-based systems.
- ☐ Because Mac OS 7.6 is based upon OpenTransport, it simplifies networking in several ways:
  - ☐ To make networking more understandable, Open Transport integrates on-line help, based on Apple Guide technology, to make it easier for an individual to hook up to a network, with fewer demands on network manager and support resources.
  - ☐ With Open Transport, various network settings can be stored for easy access and use. Changed settings are available immediately--no reboot of the computer is required to use the new configuration.
  - ☐ Internet customers that have been using MacTCP will now see an improvement in networking performance with TCP/IP, even via modems.
  - ☐ Open Transport provides significant new flexibility in setting up network configurations; with Open Transport, the network manager can recommend or require configuration settings for users on the network, or allow users to determine their own settings
  - ☐ Open Transport also improves support for centralized configuration management. For example, Open Transport/TCP supports Dynamic Host Configuration Protocol (DHCP), allowing network managers to administer addressing and other TCP/IP configuration from a central server.
- ☐ **Faster and easier printing**
  - ☐ New printing software speeds printing, improves print dialogs, and supports desktop printing icons
- ☐ **Open Transport simplifies networking**
  - ☐ Simplified network connections with on-line Apple Guide help
  - ☐ Reconfigure networking without system reboot
  - ☐ Easier and more flexible centralized control of network configuration
  - ☐ Support for PPP and TCP/IP

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### ☰ Productivity and Efficiency

- - ▣ Users can extend the usefulness of their applications by embedding Live Objects software components into their Live Objects documents. And as new Apple technologies become available in the form of Live Objects, users can integrate them immediately, without having to upgrade all their software
  - ▣ Users can learn how to use Live Objects once, then leverage them once in many different applications. No more learning how do the same functionality (like graphing) in four different ways in four different applications
  - ▣ Users can combat “feature creep” because they can select the features they need and want, without the extra complexity of memory overhead of “bloatware.” Users can embed a graph in their document and only take the memory hit of the actual functionality used.
  - ▣ The Live Objects seal & brand identify consumer products based on OpenDoc technology. Live Objects are small, reusable software components that can be mixed and matched. OpenDoc is the technology architecture behind Live Objects, and is a term used with developers.
  - ▣ When you buy software with the Live Objects seal, you’ll know that it has passed a series of validation tests to ensure compatibility. Component Integration Laboratories (CI Labs), a non-profit industry association, licenses, registers, and validates all software before it can carry the Live Objects seal and brand name. So you can count on Live Objects components working together, consistently, in a predictable manner—regardless of which software manufacturer’s product you’re using.
- ▣ Mix and match Live Objects
- ▣ Live Objects - small reusable software components based on OpenDoc
- ▣ Freely mix software components
  - ▣ Extend the functionality of applications through drag-and-drop simplicity
  - ▣ Learn functionality once and reuse across many applications

### ☰ Productivity and Efficiency

- - ▣ With various internal optimizations and improvements, a better performing Virtual Memory is delivered with Mac OS 7.6 as compared to System 7.5.5, including faster launch times, greater stability, and the ability to have more programs open simultaneously.

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- ▣ The Resource Manager, which is used by both system software and applications, has been improved. This will result in a modest overall performance improvement. Along with other improvements, this has resulted in what our customer beta testers tell us is “snappier performance” for Mac OS 7.6 over System 7.5.3.
- ▣ A more robust file system cache will save information stored in the disk cache more often (after one second of idle time). This will result in better data integrity as you will be safer from the potential consequences of system problems, such as crashes.
- ▣ All of the improvements from System 7.5.5 Update are integrated into Mac OS 7.6. In addition, there are numerous other reliability improvements which will make a stable OS even more rock-solid.

### ↳ Improved performance & reliability

#### ▣ Performance improvements

- ▣ Enhanced Virtual Memory
- ▣ Improved File System Cache and PowerPC Resource Manager

#### ▣ Reliability improvements

- ▣ Integration of updates
- ▣ Deliver new reliability improvements

#### ▣ Updated universal System Folder

### ☰ **Productivity and Efficiency**

#### ↳ Summary

#### ▣ New and improved features

- ▣ Open Transport
- ▣ LaserWriter 8.4 printer driver
- ▣ QuickDraw GX
- ▣ New Installer and Extensions Manager
- ▣ Live Objects Essentials

#### ▣ What this means

- ▣ Better and easier ways of working
- ▣ Streamlined user interface
- ▣ System performance and efficiency advances

### ☰ **State-of-the-Art-Multimedia**

▣

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- ▣ This system software release will bring together the latest versions of several of Apple's QuickTime technologies, collectively known as the QuickTime Media Layer (QTML)—which is rapidly becoming a standard for adding and playing back media elements such as video, music, and three-dimensional graphics to documents.
- ▣ In addition, because Mac OS 7.6 will include Live Objects Essentials, users will be able to drag and drop Apple's multimedia technology into any OpenDoc document, creating high-impact communications with compelling three-dimensional images, various graphic images and sound.
- ▣ QuickTime is a key technology behind many popular titles and applications, including Toy Story , Doom, Photoshop & Director.
- ↳ The "magic" behind multimedia on CD-ROM, broadcast and the Internet
- ▣ QuickTime Media Layer (QTML) - industry standard multimedia cross-platform file format
- ▣ Video, animation, music, virtual reality, 3D graphics, speech, teleconferencing
- ▣ Enabling technology behind titles and applications
- ▣ **State-of-the-Art Multimedia**
  - ▣ Mac OS 7.6 will include the following QTML components:
    - ▣ QuickTime, the "wrapper" that unites the QTML technologies and provides a means of working with any compression/decompression standard to control virtually any digital media content
    - ▣ QuickDraw 3D, a technology that brings real-time, workstation-class three-dimensional graphics to desktop computing
    - ▣ Apple's Text-to-Speech technology, which enables speech synthesis, supporting applications that talk
  - ▣ Because Harmony will include OpenDoc Essentials, users will be able to drag and drop Apple's multimedia technology into any OpenDoc document, creating high-impact communications with compelling three-dimensional images, various graphic images and sound.
  - ▣ The Apple OpenDoc Essentials Kit will provide a basic starter kit allowing users to experiment with OpenDoc and Live Objects software components.

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- ☐ Users can access Apple's multimedia technologies using the Live Objects Essentials Kit components: Included with the kit is a draw container, along with viewers for QuickDraw 3D graphics and Images (PICT, TIFF, GIF, and JPEG). In addition, the Essentials Kit will include Live Objects parts, such as the Apple Button which enables users to embed a button within a document that can speak text, open a URL, or play a sound. Apple Audio lets users record their own sounds that can be incorporated into their documents.
- ☐ Using the Apple Draw container, users can get a feel for mixing and matching Live Objects components. Apple Draw will act like MacDraw for OpenDoc; Apple will ship it with Harmony to provide multimedia-rich Read Me files. The Essentials Kit will also give users a basic set of functionality that goes beyond SimpleText. The Apple Draw container application is not in competition with third-party products like ClarisWorks; its features are more basic.
- ☐ Other major software products that will provide "container" support for Live Objects include ClarisWorks, WordPerfect, World Write, Nisus Writer & WAV. The first container applications are expected to hit the market as early as November 96 (Nisus Writer & WorldWrite), with more landing at MacWorld SF & throughout 1997.

### ↳ Create dazzling communications

#### ☐ QuickTime Media Layer

- ☐ QuickTime, QuickDraw 3D, Text-to-Speech

#### ☐ Apple OpenDoc Essentials

- ☐ Starter kit for Apple's multimedia technologies with drag and drop ease of use
  - ☐ • QuickDraw 3D and Image viewer for PICT, GIF, JPEG, and TIFF
  - ☐ • Draw Container
  - ☐ • Audio and Button tools

### ☐ QuickTime 2.5



- ☐ QuickTime is a pervasive industry standard for CD-ROM and Internet content authoring, playback and delivery
- ☐ QuickTime has been updated to allow for higher performance playback. The data handler has been modified to maximize throughput resulting in noticeable performance improvements.
- ☐ Today QuickTime supports multiple data types, including video, sound, graphics, animation, text, music/MIDI, MPEG and sprite 3D, with the ability to synchronize all the media types to a common time base.

## Mac OS

- ☐ QuickTime 2.5 supports the Netscape QuickTime plugin, which delivers FastStart. This feature allows a QuickTime movie to begin playing before the movie is completely downloaded over the Internet, thereby providing for a more interactive feel to a website.

- ↳ Better, bigger and faster movies
- Plays all digital media types - video, audio, MIDI digital music, MPEG
- The defacto industry standard for multimedia on the Internet
- FastStart feature: create dramatic websites with movies that start playing while they download
- Text track lets you jump to specific dialog

### ☐ **State-of-the-Art-Multimedia**

- ↳ Summary
- New features
  - QuickTime Media Layer (QTML)
  - OpenDoc Essentials
- What you still get
  - QuickDraw GX for better quality text and graphics
  - TrueType scalable font technology
  - Desktop printing capabilities and printer selections
- What this means
  - The industry's best solution for graphics and multimedia

### ☐ **Improved PC Compatibility**

- - ☐ NOTE TO PRESENTER: The following 2 slides are very important, in that Apple research has shown that PC compatibility is a key requirement and perceived obstacle for choosing the Mac platform. Although previous versions of the Mac OS included cross-platform compatibility tools, many users remain unaware of these capabilities.
  - ☐ Building on the strong foundation of the existing software—PC Exchange and Mac OS Easy Open, as well as DataViz MacLinkPlus translators—Harmony will provide better support for opening, viewing, and saving files from DOS and Windows media into either Macintosh or PC formats, so users can share files easily, regardless of platform.
  - ☐ Users will find that they can open most Mac OS and Windows files without the application in which those files were created. And Harmony will offer enhanced support for Windows 95.

## Mac OS

- ↳ Easily work with PC files & media
- ↳ Share work with others: open, view and save DOS and Windows documents
- ↳ Open Mac OS and Windows files without the original application
- ↳ Ability to easily share disks and media with Windows users

### ☰ Improved PC Compatibility

- - ↳ Mac OS 7.6 adds support for the DMF file format used by Windows 95 floppies to its existing support of DOS & Windows 3.x files and media. This means users can read & write to PC floppy disks, SCSI drives & removable media from their Macs. The DMF support is provided for PCI-based systems as well as 6100 and 630 series systems.
  - ↳ With the new DataViz MacLinkPlus translators, file support is provided for the Macintosh and Windows versions of ClarisWorks 4.0, including support for word processor, spreadsheet, and database files.
- ↳ Easily work with PC files & media
- ↳ Enhanced PC Exchange for Windows '95
  - ↳ Supports DMF format on PCI-based systems
- ↳ New DataViz MacLinkPlus translators
  - ↳ Convert Windows files to Mac OS formats, and vice versa
- ↳ Supports a variety of media
  - ↳ Read and write to PC-formatted floppy disks, Syquest cartridges, and SCSI drives

### ☰ Improved PC Compatibility

- ↳ Summary
- ↳ New features
  - ↳ Enhanced support for opening viewing, and saving DOS and Windows files
  - ↳ DMF file-format support (Windows 95)
- ↳ What you still get
  - ↳ PC Exchange
  - ↳ Mac OS Easy Open
  - ↳ DataViz MacLinkPlus Translators
- ↳ What this means
  - ↳ Easily share files with others, regardless of platform

### ☰ Mac OS 7.6 Features

-

## Mac OS

- ▣ This feature list provides a partial list of all of the various components we have revised for Mac OS 7.6. Some of these are available via the Internet, and others are only available from Mac OS 7.6. But all of them are conveniently integrated into this one release to make it easy for our customers to take full advantage of all the Mac OS has to offer.



### ☰ **Mac OS 7.6 Summary**



- ▣ Again, the key messages for this Mac OS release:
  - ▣ Regular system software releases give customers the advantage of the latest and best technology.
  - ▣ Mac OS 7.6 provides easy and pervasive Internet access and state-of-the-art multimedia capabilities (OpenDoc®, Live Objects Essentials, and the latest QuickTime® technologies), helping users to communicate in compelling new ways.
  - ▣ Mac OS 7.6 improves individual and group productivity with better stability, performance, networking, and PC file and media support.
- ▣ Tangible proof that Apple remains on the cutting edge of personal computing technology and is committed to delivering advanced capabilities to customers on a regular basis; evidence that the Mac OS continues to offer, and in many areas define, the state-of-the-art in personal computing technologies.
- ▣ Giving customers the advantage of the latest and best technology.



The easy way to get the most out of your Mac OS computer

- ▣ Provides best-of-class Internet support
- ▣ Improves user productivity and efficiency
- ▣ Provides state-of-the-art multimedia
- ▣ Improves compatibility

### ☰ **Q&A**



- ▣ Why did Apple move to a semiannual system software release policy?
  - ▣ Apple's former approach to system software did not allow us to bring innovation to the Mac OS platform as quickly as the market now demands. Today, the industry is moving at an extremely fast pace—many software companies are releasing updates on the Internet as often as three or four times a year. By moving away from infrequent releases, Apple will be able to give customers exciting system software enhancements on a more timely basis.

## Mac OS

- ▣ How much will these releases cost? And will there be discounts for volume or education purchasers?
  - ▣ Apple offers system software through a variety of distribution channels. In addition to the traditional retail and mail-order channels, there are also volume licenses and subscription programs available for large installations. Specific changes to these existing programs will be announced prior to product introduction.
- ▣ Customers have expressed concerns about “tracking” OS releases—will they have to upgrade every six months?
  - ▣ No. Certain releases will be more interesting to some customers than to others, and Apple will highlight the key elements as each release becomes available. For example, the Harmony release described in this document will primarily be of interest to customers who want to use Live Objects and take advantage of improved Internet integration. As Apple looks at future releases, we’ll make a point of communicating their particular benefits to customers and developers as far in advance as possible.
- ▣ What are the major features that differentiate this system software release from the current system software version?
  - ▣ Mac OS 7.6 includes the most up-to-date versions of OpenDoc (which comes with Live Objects Essentials), Cyberdog, Open Transport, and Apple’s multimedia technologies, as well as new, enhanced versions of the Installer, Extensions Manager, PC Exchange compatibility software, LaserWriter 8.4 printing software, and improved virtual memory. These components combine to provide users with improved productivity, efficiency, and compatibility—and they can be installed easily, with minimal disruption.
- ▣ What will happen to Mac OS 8 (Copland)?
  - ▣ The delivery model for Mac OS 8 has changed. Instead of a single, monolithic release, Mac OS technologies will be released as quickly as possible. Over time, many of the features talked about as part of Mac OS 8 will become available. Of course, development of the Mac OS will continue after delivering these features: Mac OS 8 is not, and never was, the endpoint of Apple’s system software innovation. Apple remains committed to advancing many of the low-level elements of the Mac OS, and will continue to develop new services for improved multitasking, better memory protection, and enhanced performance.

## ▣ Appendix

□

- ▣ The following slides contain more information about the topics discussed throughout the presentation

## ▣ Built-in Support for

## OpenDoc

## Mac OS

- - ▣ OpenDoc as a technology is targeted at developers, both software vendors and in-house corporate developers.
    - ▣ OpenDoc is a multiplatform, component software architecture that simplifies the way people develop and use software. It breaks down the barriers between different applications and bridges the gap between many operating systems.
    - ▣ It's all made possible through a simple but powerful idea called component software. Component software is a new way of thinking about software; a more flexible way to create, revise and use software so that it works the way people do.
    - ▣ The real power of OpenDoc is its ability to operate seamlessly between different operating systems--OpenDoc components are as at home on the Mac OS as they are in the Windows, environment. And as comfortable in OS/2 as on an AIX system
      - ▣ Multiplatform, standards-based component software endorsed by the Object Management Group (OMG).
    - ▣ OpenDoc is comprised of a series of small, reusable software components that fit together called Live Objects. New pieces can be mixed and matched without disturbing the overall structure. It's something like the plug-ins for a program called Adobe Illustrator--except that everything can be plugged into everything else.
    - ▣ Live Objects identify OpenDoc technology-based products. OpenDoc refers to the component technology and Live Objects refers to consumer products.
  - ▣ Universal component software technology
    - ▣ Interoperable with: Java, OLE, Netscape
    - ▣ Multiplatform: Mac OS, Windows, OS/2, AIX
    - ▣ Standards-based and endorsed by OMG
  - ▣ Plug-in architecture for applications
  - ▣ Enables the mix and match use of Live Objects component software
    - ▣ OpenDoc technology-based products
- ▣ **Apple Internet Connection Kit 1.2**
- - ▣ You get high quality "best of class" software in all of the categories you need for successful Internet access and use.
    - ▣ You also get the Apple Internet Dialer, which makes signing up with a qualified Internet service provider and getting connected to the Internet a matter of minutes, rather than days.

## Mac OS

- ☐ Just double click the application and fill in the blanks, and the Apple Internet Dialer automatically helps you create an account with a service provider.
- ☐ The Apple Internet Connection Kit is the perfect solution for direct Internet access
- ☐ Apple and Third party software includes:
  - ☐ Apple Internet Dialer, Netscape Navigator, Claris Emailer Lite, Dartmouth Fetch, Newswatcher, QuickTime VR Player, RealAudio Player, Aladdin Stuffit Expander, Adobe Acrobat Reader, and more
- ☐ Making the Internet as easy as a Macintosh
- ☐ Quick, direct Internet access
  - ☐ Sign up with an internet service provider on-line quickly and easily
- ☐ Easy to use
  - ☐ One button installation and configuration
- ☐ Includes Apple and third party applications
- ☐ Convenient technical support
  - ☐ Includes a "Getting Started" guide, on-line help via Apple Guide, and phone support

### ☐ **Apple Remote Access Client 2.1**

- ☐
  - ☐ ARA supports both ARA 1.0 and 2.0 compatible servers
  - ☐ ARA Offers a range of dialing and connection options, and supports a variety of modems
  - ☐ Powerful Security Features:
    - ☐ Select the level of security that's appropriate for your needs
    - ☐ A secure method of access, whether you're connecting from home or outside the country
  - ☐ Apple Remote Access Client 2.1 provides an easy, productive and secure way to connect your desktop Macintosh or PowerBook to information and resources at a remote location.
  - ☐ It works with the Apple Remote access compatible server and lets you choose the level of server support your needs, whether you belong to a small workgroup or multinational corporation. It installs in minutes, and is remarkably easy to use, minimizing the need for ongoing support
  - ☐ Because it supports System 7, it lets you work with familiar features as the Chooser, the Finder and the Alias manager
  - ☐ It provides everything you need to help you get your work done from wherever you are.
- ☐ Connect your Macintosh to resources at a remote location
- ☐ Easy installation and use
  - ☐ Built-in context-sensitive help allows you to access services intuitively

## Mac OS

- Remote productivity
  - Work with the familiar desktop features of System 7
  - DialAssist technology takes the complexity out of working with the worldwide telephone system
- Adaptable
- Powerful security features