Media Integration Presentation Support Notes

This presentation is best given by a Systems Engineer who is familiar with QuickTime. I strongly suggest that the presentation be accompanied by several demos!!! Play a movie or 2 at the beginning to show the capabilities of QuickTime's software compressors. After the photo compressor demonstrate PICTCompressor and squeeze some 800Kb 24-bit images town 20-40Kb or so. Show that existing applications such as Aldus Persuasion can work with compressed stills. After the video compressor section use Wild Magic to copy and paste video clips into a word processor or presentation package and play them back. At the conclusion of the demonstration use the QuickTime Application montage from the ARPL 8.0 CD or use News navigator (if available). I can't overemphasize the importance of relevant demos to drive the power of QuickTime home.

If you want to shorten this presentation cut the slides I have marked with an asterisk(*)

Slide 1

Apple logo splash screen-- use as video wallpaper while audience is assembling.

Slide 2

Media Integration splash screen-- Use to introduce the topic. Contrast media integration from multimedia by pointing out that media integration brings non traditional computer data types such as audio, animation, video, etc. into the mainstream by extending the operating system to work with, and understand them alongside of traditional data such as text and graphics.

Slide 3

Create a systems architecture for the 1990s--QuickDraw provided the architectural foundation for the graphical user interface in the 1980's. As a result the Macintosh became the defacto reference standard for ease of use (aka 'user friendly'). Now that graphical computing is widely accepted (ala Windows 3.0, Open Look, Motif), it is appropriate that Apple redefine the computing experience by 'raising the bar' beyond the well worn cliche of user friendliness.

Slide 4

Move beyond 'user friendly' to 'user engaging'-- If Apple could redefine user expectations of what the computing experience should be we could lead the way to new types of interaction (usages) for our products. We should also allow users to have easy and transparent access to any kind of media (videotape, laserdisc, etc.). By moving beyond a static graphical interface to a more visual (dynamic) graphics interface Apple can also clearly differentiate Macintosh in the eyes of potential customers.

Slide 5

Engaging definition-- focus on #3 to interlock, mesh with, and #4 participate or induce to participate.

Slide 6

Engaging definition #2-- New Apple user interface standard.

Slide 7

Complement QuickDraw with QuickTime-- QuickTime allows the Macintosh to work with data that has a temporal (time based) dimension. Examples include audio, animation, and video. QuickDraw continues to be the graphics model used by Macintosh but QuickTime complements QuickDraw by allowing the Macintosh to easily display graphics that vary with time (movies). It is important to note that these are synergistic and additive architectures (QuickTime would not be viable without QuickDraw). We also want the impact of QuickTime to be pervasive across all applications. In our opinion their will never be a '123' of multimedia-- the value is added when any application can use visual/dynamic data.

Slide 8

General architecture for the next generation of personal computing-- QuickTime manages any time based data (movies in MacSpeak). It also provides support for an open movie file format that is designed to allow for cross application or cross platform data interchange. QuickTime also provides compression services to assist in the storage of high bandwidth data types such as 24-bit still images, animation, and digital video. Finally QuickTime allows the operating system to work with 'non traditional' peripherals such as VCRs, CamCorders, and LaserDisc players through a device control and registration facility.

Slide 9*

Architectural components at a glance-- use to point out the three major components of QuickTime.

Slide 10

Movie Toolbox: support for dynamic data such as sound, animation & video-- provides a consistent and intuitive user interface. Also supports data stream arbitration so that the user can select from multiple data sources with a click of the mouse. In addition synchronization services are available to ensure that events always happen at the right time regardless of what type of Macintosh CPU you are using. Finally the movie toolbox provides the ability to save movies (dynamic data) as a file on mass storage devices such as hard disk or CD-ROM.

Slide 11*

Macintosh goes to the movies, or what is a movie anyway?-- MacSpeak for time based data. Movies contain a time coordinate system and the ability to navigate through it via a TimeBase. This allows the application or user to control the rate (playback speed) or direction (forward, backward, pause, etc.) that are typically associated with traditional analog video devices such as VCRs. Movie files also consist of tracks. By allowing a movie to have multiple tracks it is possible for example to provide alternative audio sources to accompany video or animation. This makes it easy to support other Chinese, French, German, Arabic, etc. alongside of English.

Slide 12*

Macintosh goes to the movies, or what is a movie anyway?-- much like the movies you see at a theater MacMovies may contain previews to attract the attention of a user or contain posters (a still image) that would provide consistency when printing a document to a printer. QuickTime provided Public Movies for playback purposes from any QuickTime aware application and also allows for the development of editing or authoring systems through the standard Movie file format. Routines are available to convert Movies to Public Movies & vice versa.

Slide 13*

Movies also define other data characteristics-- spatial properties (how big of a screen area does a movie use), a preferred playback rate (frames per second), and the ability to preset audio levels for playback purposes. Movies can also contain user data to ensure the inclusion of copyright or other source information. Finally movie files can alter their playback characteristics based upon the type of media they are being played back from (hard disk vs CD-ROM for example)

Slide 14

Going to the movies has never been easier: full clipboard & application support-- In a nutshell movies can be copied and pasted between applications just as easily as the graph from a spreadsheet that you paste into a word processor today. In addition QuickTime provides playback controls that are consistent from application to application to ensure that user can easily navigate and view the data contained in movie files.

Slide 15

Movie Files: open container for dynamic data-- Apple has published the movie file format. It is open for use by application developers and Apple has endorsed the movie file as a defacto standard for cross platform dynamic data interchange. Developers also have the ability to create custom track types to hold application specific data. Examples of the data that would be contained in tracks include video, audio, MIDI (Musical Instrument Digital Interface) or AppleEvents.

Slide 16

Image compression manager: shields applications from a rapidly changing technology-- The second major component of QuickTime. The Image Compression Manager allows application developers to take advantage of compression today with the commitment from Apple that as compression technology evolves their applications will be able to take advantage of the latest technology. With the release of QuickTime 1.0 Apple will provide an assortment of compressors that have been implemented in software.

Slide 17

Initial Apple supplied software compressors-- The Photo Compressor is ideal for still images. The animation compressor was designed for computer generated (synthetic movies) while the video compressor is ideal for compacting digital video. Let’s look at each in more detail.

Slide 18*

Photo Compressor: JPEG for the Macintosh-- Joint Photographic Experts Group. Rest of relevant information provided on slide. For information on JPEG consult the QuickTime CD.

Slide 19*

Photo Compressor: ideal for demanding applications-- talk around bullet points

Slide 20*

Animation Compressor: ideal for animation & computer generated images-- Refer to QuickTime CD documentation for additional details

Slide 21*

Animation compressor: lossy and lossless modes-- Refer to QuickTime CD documentation for additional details

Slide 22*

Animation compressor: high performance on any color Mac-- Refer to QuickTime CD documentation for additional details

Slide 23*

Video Compressor: very fast decompression with good picture quality-- Refer to QuickTime CD documentation for additional details

Slide 24*

Video Compressor: acceptable playback rates from CD-ROM-- Refer to QuickTime CD documentation for additional details. Key benefit-- allows digital to be distributed on CD-ROM which is mush less expensive to produce & distribute than LaserDisc based solutions.

Slide 25

Future Apple labeled hardware or software compressors-- MPEG (Motion Picture Experts Group) does/is for moving images what JPEG does/is for stills. Will be adopted in the near future by Apple when standards process is complete. The technologies listed in dark blue are examples of alternative schemes that could be implemented by third parties. DVI is Digital Video Interactive supported by Intel & IBM, Fax refers to fax machines which in the broadest sense is a compression technology. Future compression techniques may by based on fractal geometry, etc.

Slide 26

Apple's compression strategy targets users & standards-- Software is a low-cost or no-cost way to provide additional functionality. Apple techniques such as the video compressor provide acceptable playback rates on the Macintosh LC. As standards continue to evolve Apple will embrace them. It is important to note that over 2 million Macintosh CPUs are fully QuickTime ready today (68020 or 030 based, color ROMs, 8-bit or better display card, 4MB DRAM, and a hard disk drive). Contrast this to the PC world. Their is no such thing as an installed base of 'multimedia PCs' today.

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Benefits of using compression include...-- talk around bullet points

Slide 27

Some examples of still image compression applications-- talk around bullet points

Slide 28

Moving image compression application examples-- talk around bullet points.

Slide 29*

Why software compression & decompression-- talk around bullet points mention for second time 2 million Mac QuickTime ready installed base for developers, fact that current product line can also take advantage of QuickTime.

Slide 30

Component Manager: device registration facility-- allows Macintosh applications to interface to devices such as VCRs, CamCorders, LaserDisc players etc. at a much higher level than is possible today. Eases the development process and allows developers to write to a generalized API that will allow applications to work with newer technology as it becomes available. Bottom line-- affordable media peripherals for the rest of us, not just professionals.

Slide 31

Component Manager: device registration facility-- provides new ways to use existing devices. Talk around bullet points. Emphasize CamCorders as information acquisition tools. Point out that printing to video (VHS cassettes for example) is an ideal way to take sophisticated Macintosh graphics and distribute them to users that may not even have a Macintosh.

Slide 32

Component Manager: device registration facility-- a good example to reference is the ViSCA (Video Interface Systems Control Architecture) developed by Sony. In addition to Sony and Canon, Hitachi, & Matsushita will also incorporate ViSCA into future products. This would allow the

component manager to communicate with products from any of these vendors in a consistent way. Other vendors such as NEC can also integrate their products into the component manager. Finally professional equipment can be supported as well.

Slide 33

The power to be your best-- end of presentation.