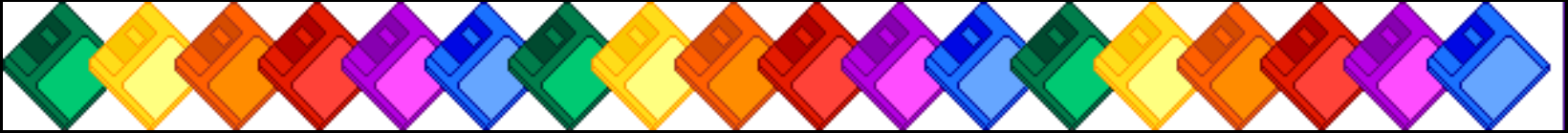


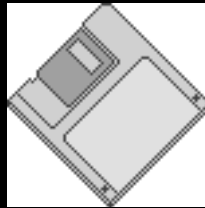
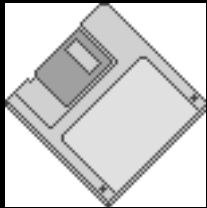
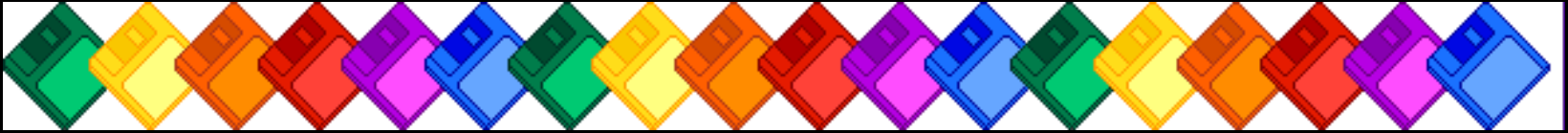


System 7.0

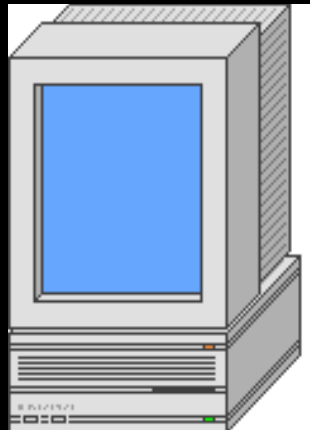


Macintosh System Software Strategy

Macintosh System Software Development Strategy



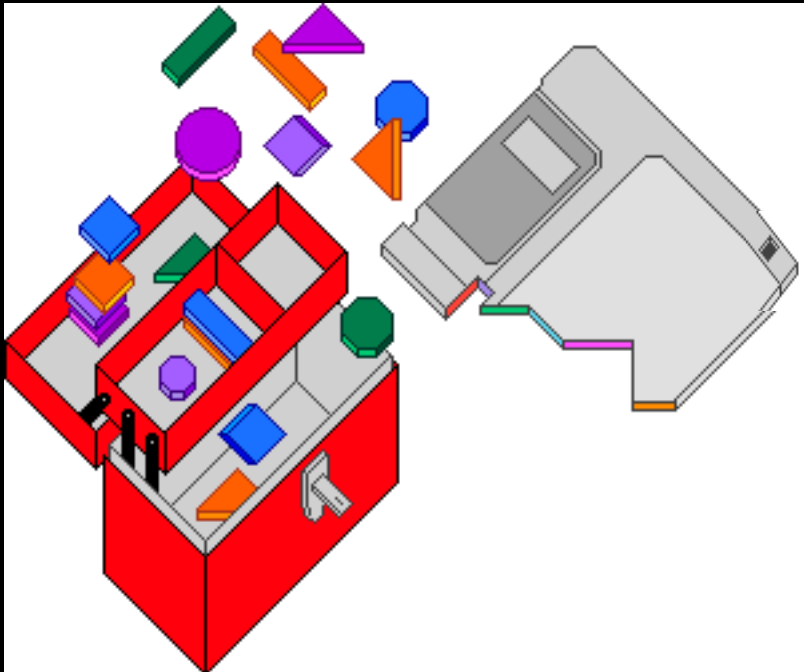
† Feature & product support releases



† Upward compatibility

† Highest priority features first

System 7.0 Technologies Announcement

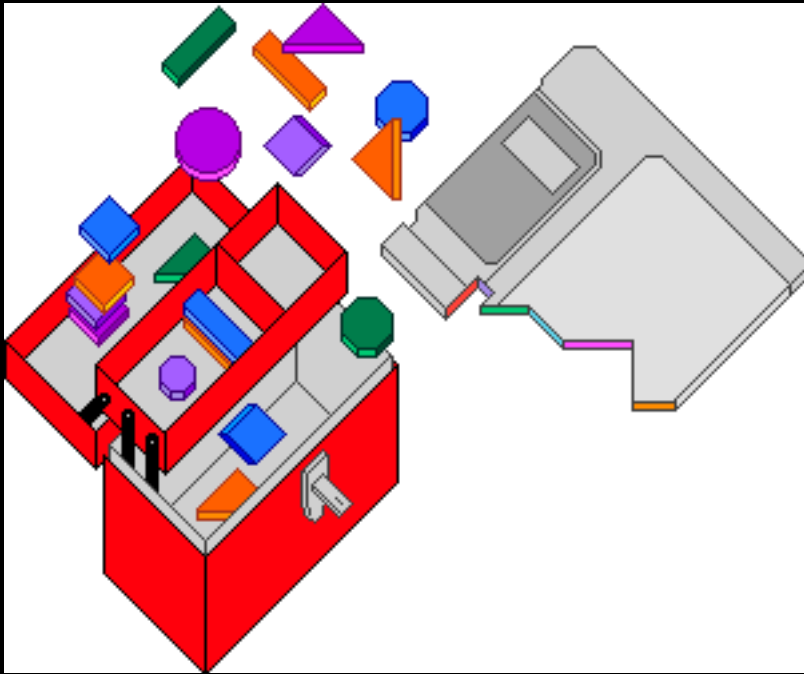


† Core technologies under development

† Announce customer availability later this year

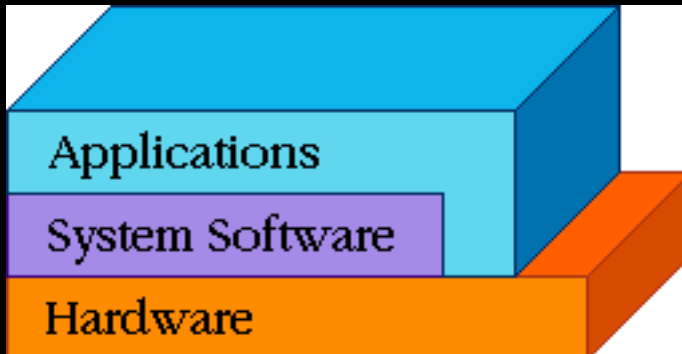
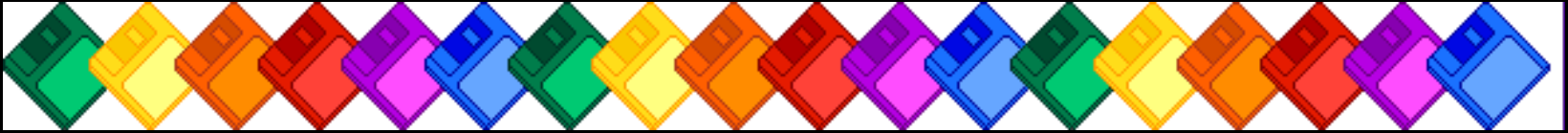
† Seeding will begin in the fall

System 7.0 Goals



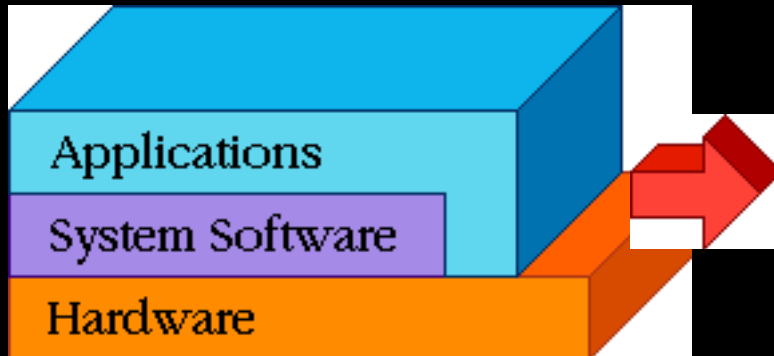
- ✦ Extend the users reach
- ✦ Create new developer opportunities
- ✦ Add value to the installed base
- ✦ Create new reasons to buy Macintosh

Expand Developer Opportunities

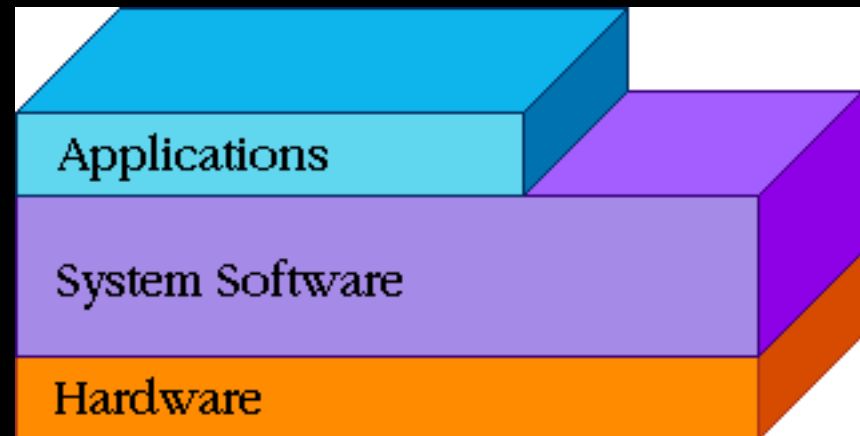


Today

Expand Developer Opportunities

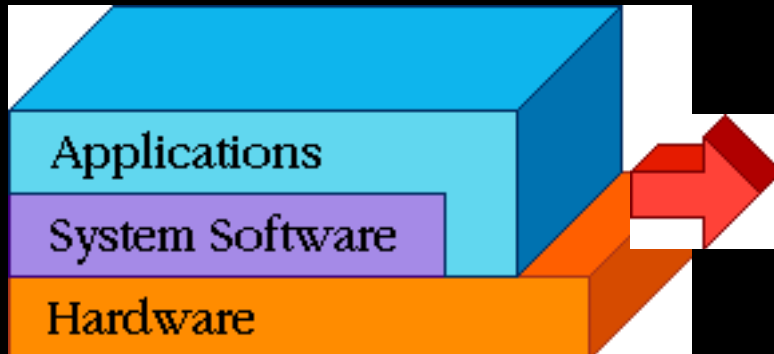


Today

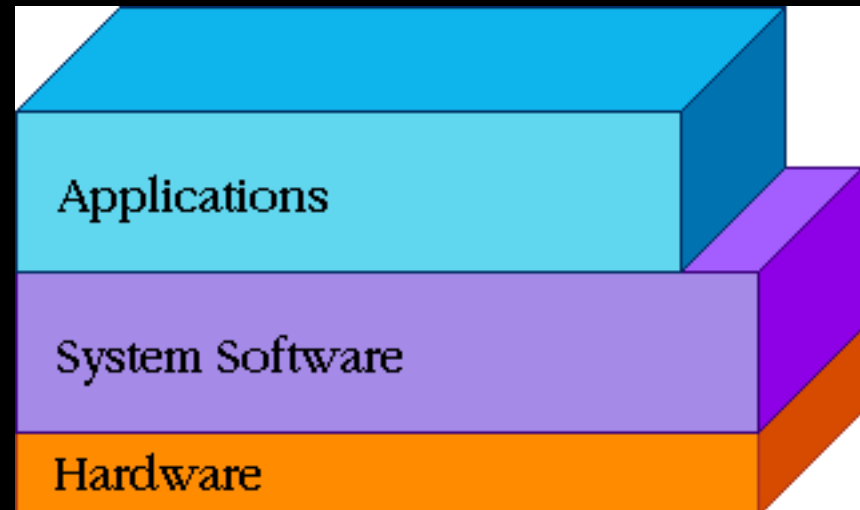


Our Direction

Expand Developer Opportunities

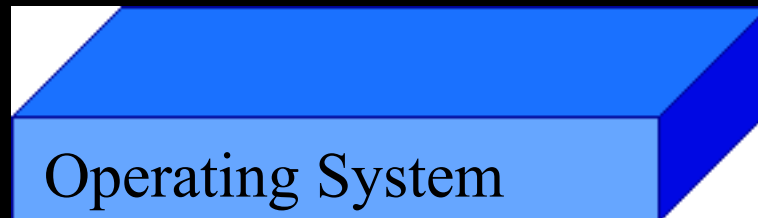


Today



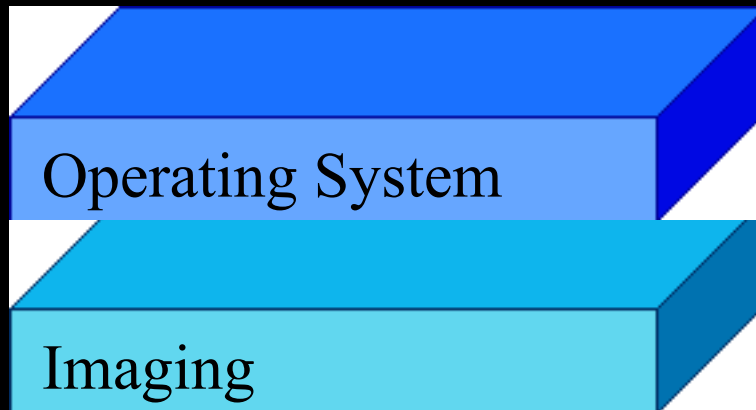
Our Direction

System 7.0 Core Technologies



Virtual Memory
32-Bit Clean
Interapplication Comm Arch

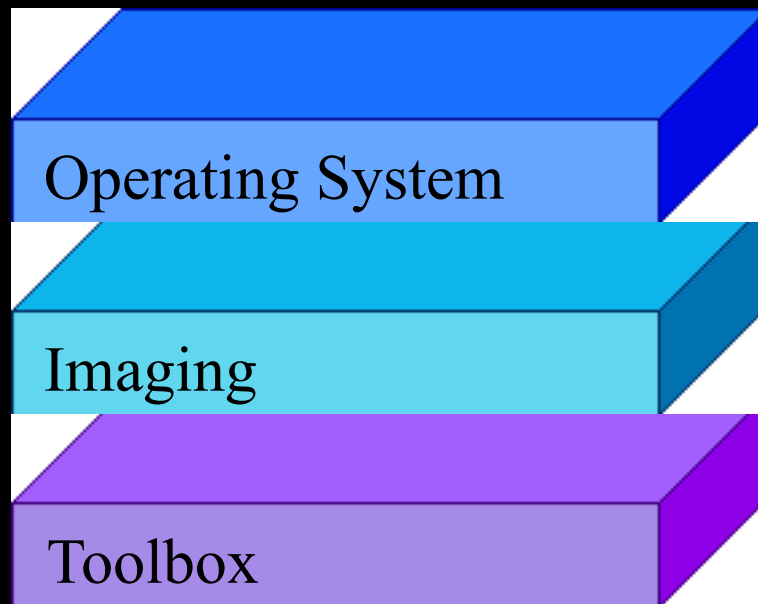
System 7.0 Core Technologies



Virtual Memory
32-Bit Clean
Interapplication Comm Arch

Outline Fonts
Layout Manager
New Print Architecture

System 7.0 Core Technologies

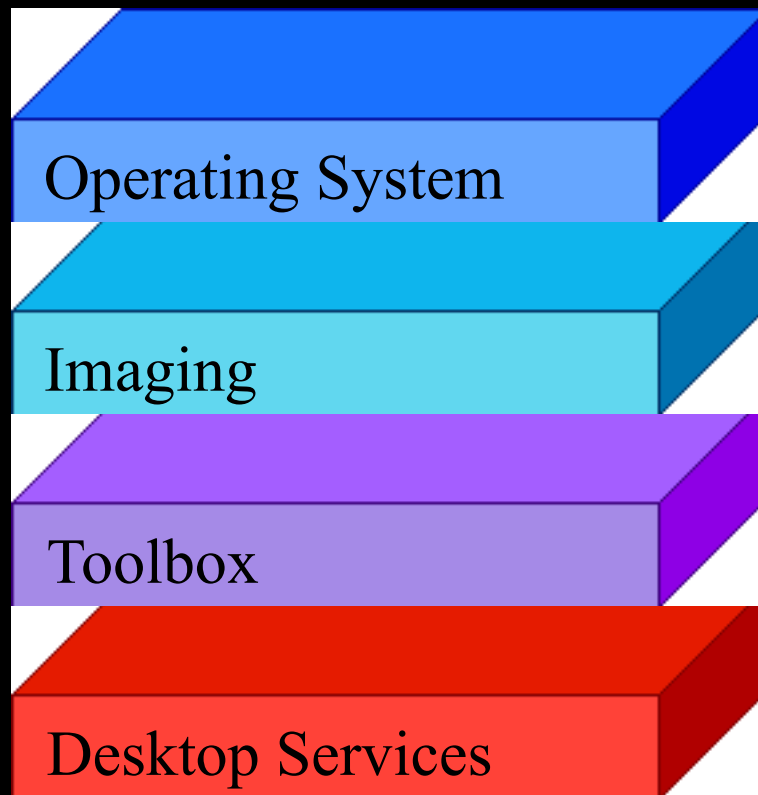


Virtual Memory
32-Bit Clean
Interapplication Comm Arch

Outline Fonts
Layout Manager
New Print Architecture

Database Access

System 7.0 Core Technologies



Virtual Memory
32-Bit Clean
Interapplication Comm Arch

Outline Fonts
Layout Manager
New Print Architecture

Database Access

New Finder

Shipping Now & In System 7.0



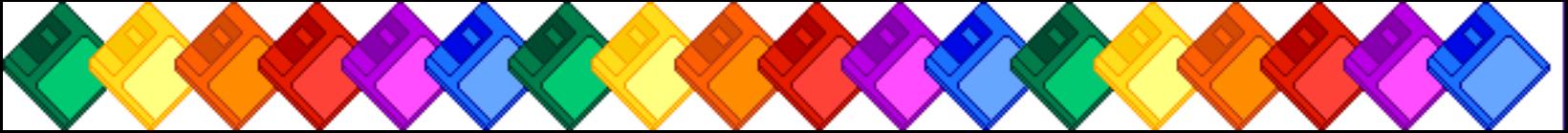
- † 32-bit QuickDraw
- † Communications Toolbox (Beta release)

System 7.0 - Additional Enhancements



- † File system extensions
- † New sound utilities
- † New international services
- † One button installer

Operating System Evolution/Strategy



- † Implement highest priority features each release
- † Assure upward compatibility



Finder

1 Application

Operating System Evolution/Strategy



- † Implement highest priority features each release
- † Assure upward compatibility



Finder

1 Application



MultiFinder

Multiple Apps

Multitasking



Operating System Evolution/Strategy



- † Implement highest priority features each release
- † Assure upward compatibility



Finder

1 Application



MultiFinder

Multiple Apps

Multitasking



System 7.0

VM

IAC

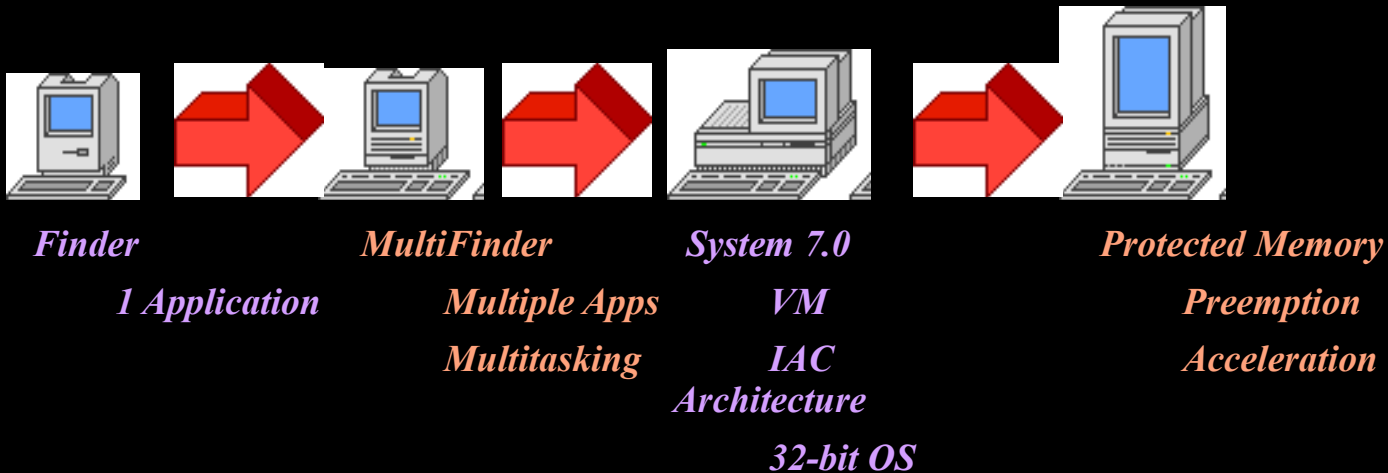
Architecture

32-bit OS

Operating System Evolution/Strategy



- † Implement highest priority features each release
- † Assure upward compatibility



32 - Bit Addressing



- † Breaks the 8Mb barrier on 020/030 systems
- † Up to 4 gigabytes of linear address space
- † No API changes - backward compatible with existing applications
- † 24-bit memory manager for old or poorly behaved applications

Benefits: More and larger applications, "clean" applications immediately benefit

Virtual Memory

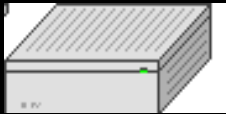
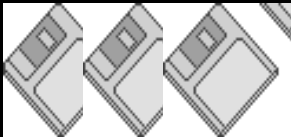
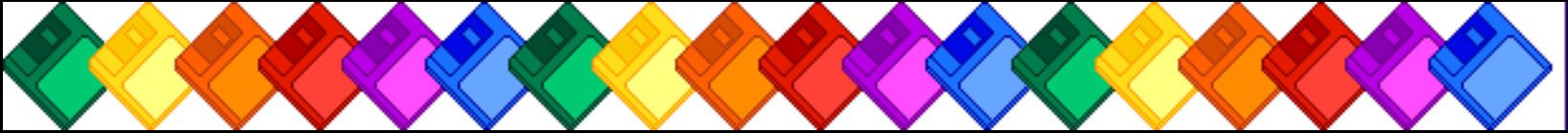


- † Backward compatible
- † One large MultiFinder address space
- † True demand paged (4Kb) model
- † Available on 020/PMMU or 030 based systems



*Benefits: More and larger MultiFinder applications
Your applications get to use more
Save RAM \$'s*

File System Enhancements



- † Desktop Manager with application access
- † File System Manager
- † File references, fast catalog search, B-tree package

Benefits: *Better support for large volumes*
Increased speed *Foreign file system*
integration

Inter Application Communications Architecture

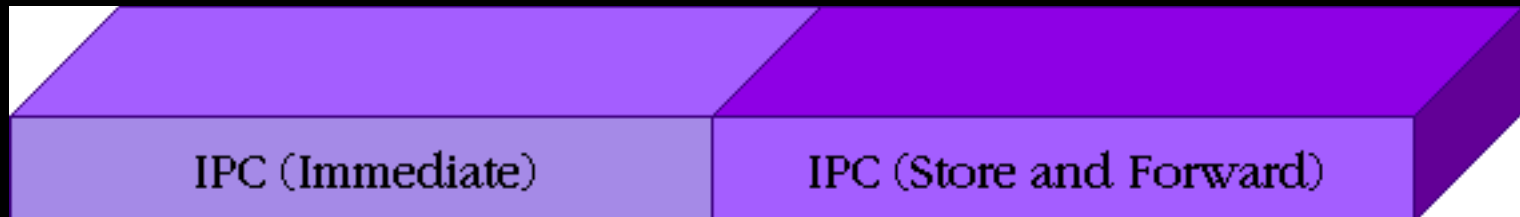


- † Data exchange between applications
- † Linked documents
- † Leverage specialization of applications
- † Applications can control other applications
- † User scripting

Inter Application Communications Architecture



‡ Data and command exchange among applications,
locally or over networks



Inter Application Communications Architecture



‡ Data and command exchange among applications,
locally or over networks



Inter Application Communications Architecture



‡ Data and command exchange among applications,
locally or over networks



Inter Application Communications Architecture



‡ Data and command exchange among applications,
locally or over networks



Inter Application Communications Architecture



‡ Data and command exchange among applications, locally or over networks



Imaging System Evolution/Strategy



QuickDraw



Imaging System Evolution/Strategy

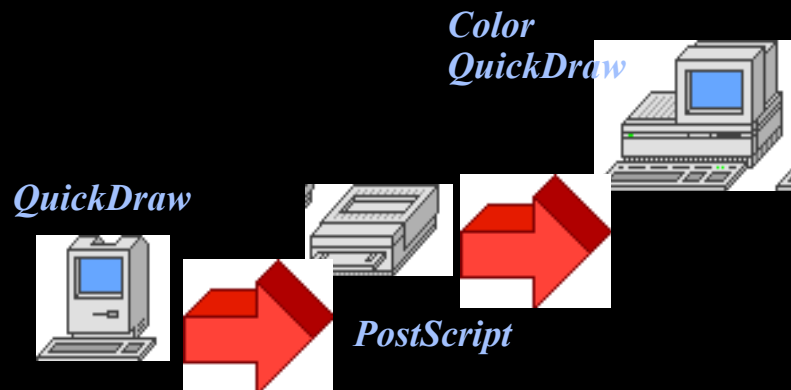
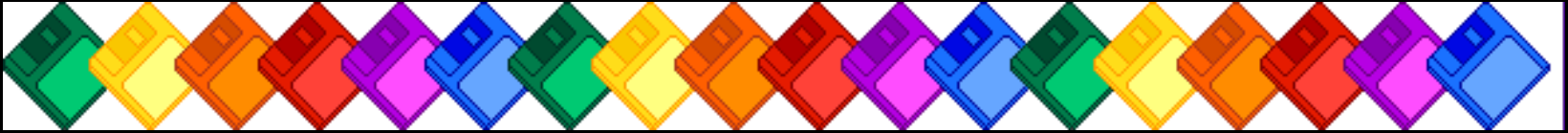


QuickDraw



PostScript

Imaging System Evolution/Strategy



Imaging System Evolution/Strategy



System 7.0
32-bit QuickDraw
LaserWriter 6.0
Outline Fonts
Layout Manager
New Print Arch

*Color
QuickDraw*

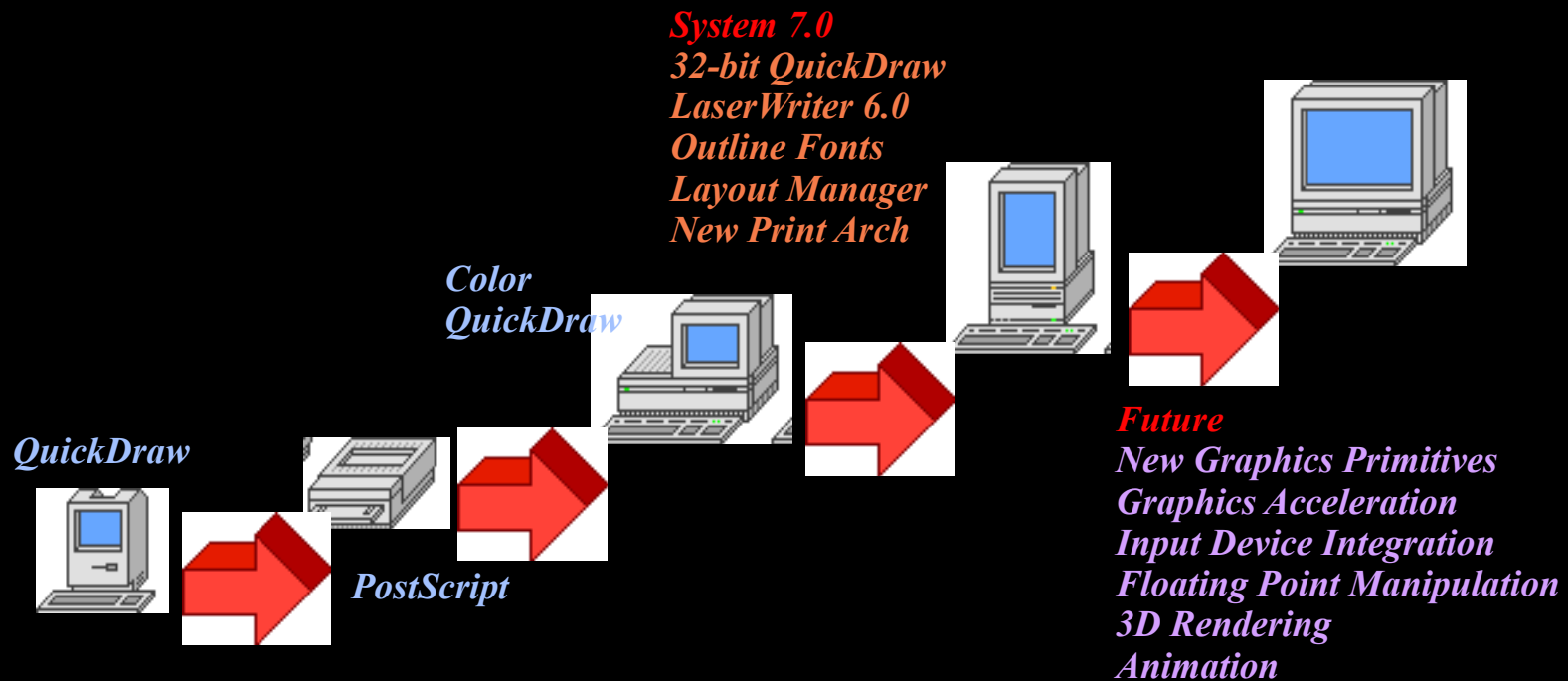
QuickDraw



PostScript



Imaging System Evolution/Strategy



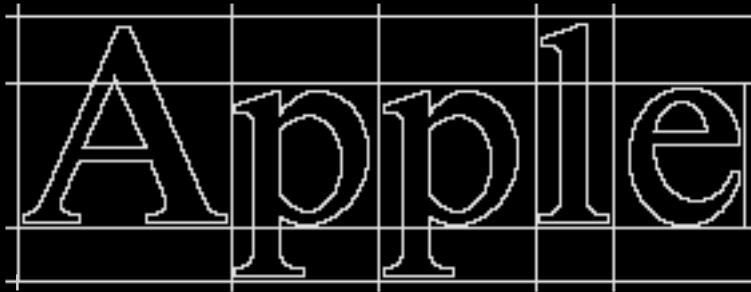
32 - Bit QuickDraw (Available Now)



- † true Color
- † 24/16 bit color support; 8 bits of additional data
- † Dithering for lower resolution displays
- † Useable with System 6.0.3 and greater
- † Requires 16 or 24 bit capable video adapter

*Benefits: Unlimited color use
 Standard interface to cards*

Outline Fonts



- † Sharp text at any size, on any device
- † Removes font size limitations
- † Backward compatible
- † Open, published font format
- † Supported by world's great type vendors

*Benefits: Improved WYSIWYG
of typefaces to be available*

1000's

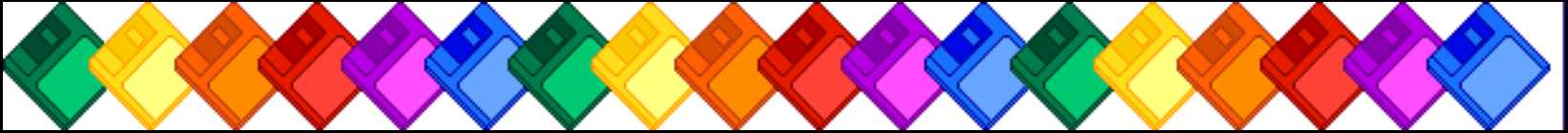
Layout Manager



- † Typographical quality text layout
- † Micro positioning of text
- † Fast, fast, fast
- † Automatic kerning, ligatures and contextual forms

Benefits: Raises the text display standard
Consistent display across devices *Better*
internationalized applications

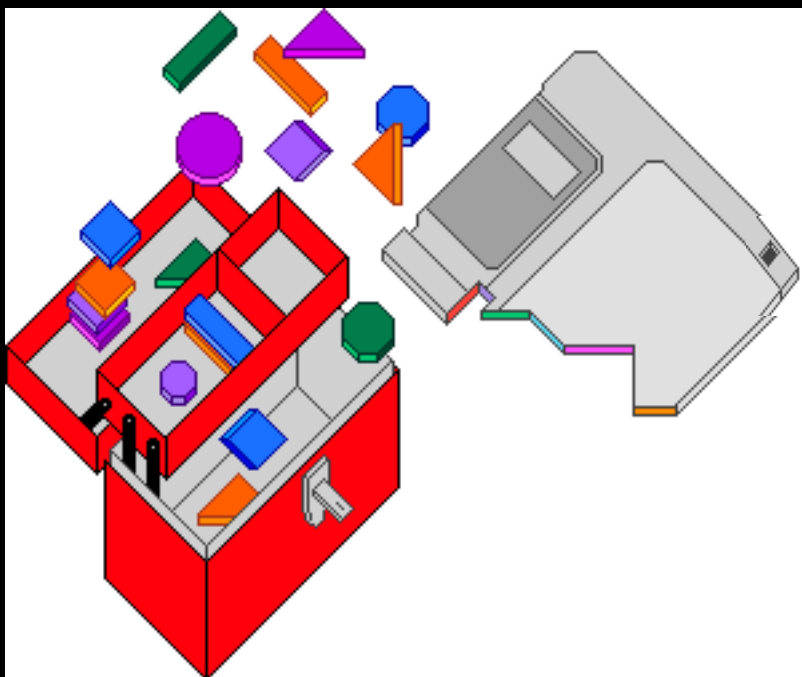
New Print Architecture



- † Easy to write drivers ("Trust me...", Joe Isuzu)
- † Background printing for all
- † Expanded application and user power
- † Documents independent of output device
- † Backward compatible application interface

*Benefits: More output devices for Macintosh
 More control for applications and users*

Toolbox: Raising The Common Denominator



⋈ Communications Toolbox
⋈ Database Access
⋈ Sound Utilities
⋈ International Support
Services

Communications Toolbox (Q3 Ship)



- † Standard, high-level tools for communications
- † Integrated terminal emulation and file transfer
- † Uniform hardware interface
- † Flexible connections (>2 serial ports)

*Benefits: Easy support for remote connections
 Hardware device independence*

System 7.0 Database Access



- † Standard API for access to host databases
- † Supports CI/1 for database independence
- † Support for SQL and other database languages
- † IAC also supports standard database access

Benefits: Users can now integrate host data
Ubiquitous applications interface
Database/host independence

CL/1: The Short Story



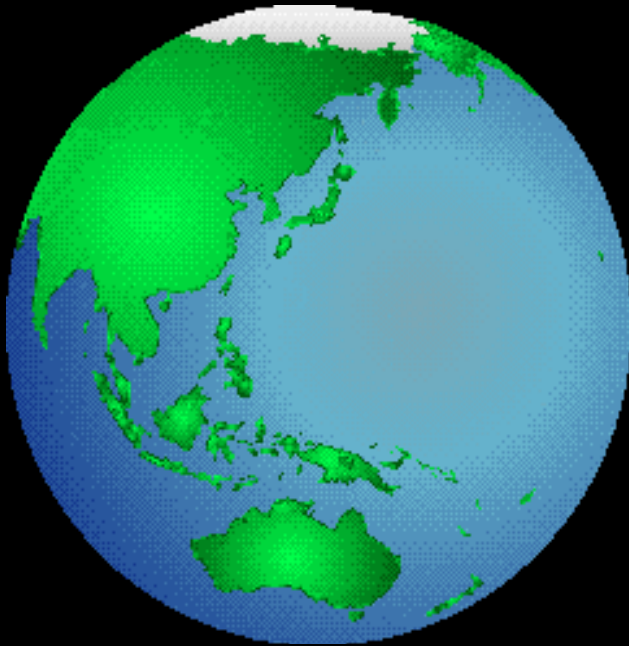
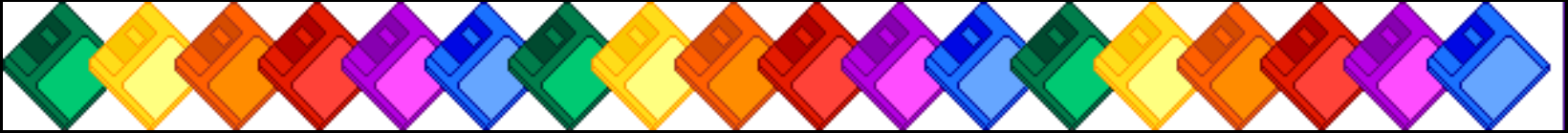
- † Full ANSI SQL support
- † Database vendor independent
- † Client/server architecture
- † Access to DB vendor specific features, if required
- † Developed by Network Innovations, an Apple subsidiary

Sound Utilities



- † Sound manager enhancements
- † MIDI management tools
- † Macintosh Audio Compression and Expansion (MACE)

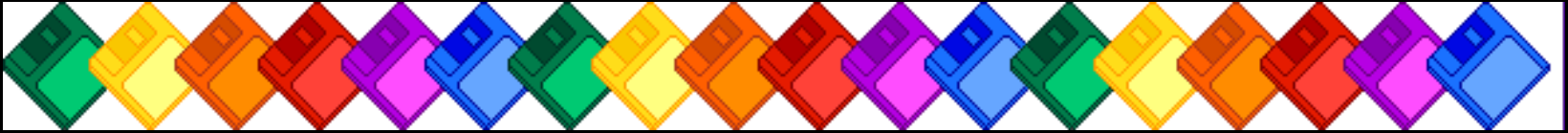
Improved International Services



- ⌘ TextEdit 3.0 w/Script Manager support
- ⌘ Script Manager 3.0 displays mixed Roman and non-Roman fonts

*Benefits: International support throughout system
Better international appeal/products
Macintosh is leader in international support*

New Finder



- † More intuitive and powerful system management
- † Increased consistency and predictability
- † User configurable, no Font/DA Mover required
- † Unified system functions
- † Extensible architecture

System 7.0 One Button Installer



- † One button system software installation
- † Determines appropriate resources automatically
- † Custom install option for those who need it

*Benefits: Simpler installation for most users More
power for experienced users*

System 7.0 Platform Strategy



- † Hardware requirements
- † Transition plans
- † Code size implications

System 7.0 Hardware Requirements



- † Will Require 2Mb of RAM
- † Runs on Macintosh Plus, SE, Portable, SE/30, II, IIfx, IIfx, IIfx and future Macintosh CPUs
- † 68030 or 020 w/PMMU required for virtual memory support

System 7.0 Transition Strategy



- † Entire product line will move to System 7.0
- † Transition rather than immediate switch
- † During transition, offer 6.0.X and 7.0 systems
- † Networks of 6.0.X and 7.0 will operate without "LaserWars"

System 7.0 Code Footprint: Stay Small



- † Entry level hardware platform remains important
- † Make no assumptions about RAM configuration
- † All applications share the same memory
- † IAC: Think small and well connected
- † New Finder: Smaller applications more common

System 7.0 Software Compatibility



- ‡ Inside Macintosh API maintained
- ‡ "Law abiding" applications run unmodified
- ‡ MacApp applications run unmodified
- ‡ Areas to watch:
 - 32-Bit clean - Don't delay, do it today
 - Direct use of print record
 - Physical memory assumptions

System 7.0 Development Tool Support



† MPW libraries and interfaces w/first
seed

† Libraries to 3rd party tool developers
ASAP

† MacApp and A/UX support will be
multi-phased

System 7.0 Seeding & Developer Support Plans



- † Developer & VAR seeding begins in the fall
- † Updated and expanded documentation will be provided w/seed software
- † Evangelism will communicate additional information as it becomes available



File Edit View

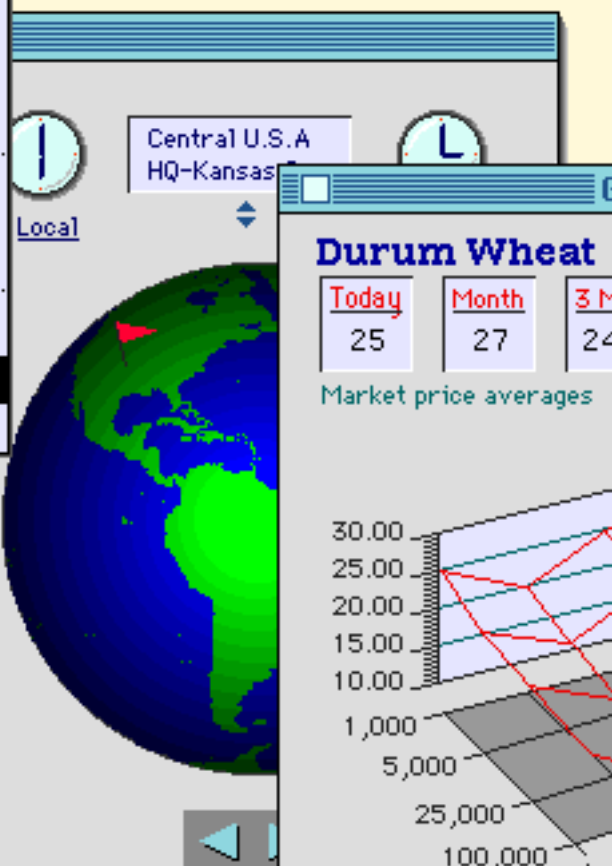
New Folder ⌘N
Open ⌘O
Print ⌘P
Close ⌘W

Audio...
Video...

Macro ⌘
Link ⌘L
Quit ⌘

Next update on
commodity prices :
09:00
Next weather
status update :
14:30

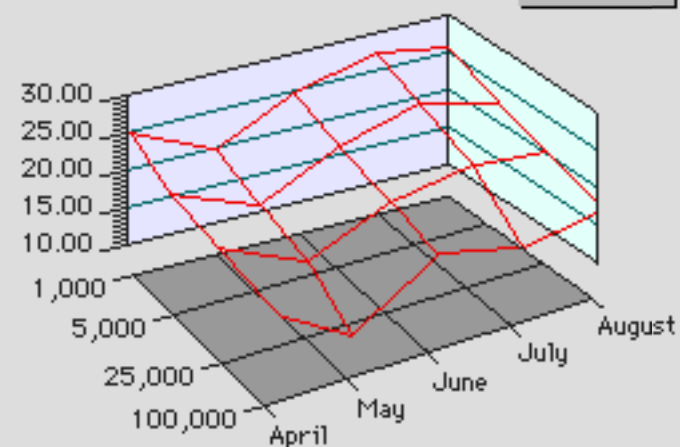
Metals ▶ Grains ▶
Local ▶ Global ▶
Finance ▶ Other ▶



Durum Wheat

Today	Month	3 M
25	27	24

Market price averages



CCI



