

Memphis Plans

Carl Stork

Sept 19, 1996



MS6 6009544
CONFIDENTIAL

3/26/97

MS7 003374
CONFIDENTIAL

Objectives for Memphis Release

- Advance Ease of Use and SIPC framework
- Support 1997 Hardware advances
 - OnNow, ACPI, USB, AGP, DVD, Updated drivers
- Provide retail WDM delivery vehicle
 - initial device classes: input, image, stream, audio, comm
- Provide ship vehicle for strategic internet components

Objectives for Memphis Release

- Synchronize OEM & Retail products
 - corporate customers are frustrated by lack of standard Windows 95 base w/ new feature set
 - pushes OEMs to ship latest release
 - synched w/ OEM ship cycles
- Implement Win95 quality improvements
- Provide compelling end user upgrade
- Modest increase in Win95 OEM royalty
 - new retail identity, increased value

Memphis Focus Group Results

- 12 groups, 3 cities, Win95 home & SOHO customers
- Generally satisfied with Win95, upgrade not as easy as would have liked
- Top stack-ranked features:
 - Code download manager
 - Hard disk space manager/cleanup
 - Quality improvements
 - Updated drivers & system components
 - Convenient, low-risk way to get current Internet
 - Did not want applets
- Would people buy it?
 - If Memphis = Quality improvements + OSR features + Internet + 1 or 2 additional features + LOW RISK
 - Nearly every participant would buy

Memphis Assumptions/Risks

- Only upgrades Win95 gold & OSRs (not Win 3.x)
 - Simplifies setup, testing & beta
 - Only way to make retail release in June '97
 - Dramatically increases success rate and customer satisfaction
 - Most Win 3.1 machines will be >2 year old
 - Does not address 42 million Win95-capable Win3.1 systems
 - Issue: Tool for corporate customers to enable Win 3.1 upgrade?
- Must ship to OEMs in June timeframe
 - OEM customers & Intel have dependencies for Xmas 97
- NT5 ships after Memphis

Memphis Product Overview

- Win32 Driver Model Core & Classes
 - Digital Audio
 - OnNow & ACPI
 - DVD
 - Latest Internet
 - Performance
 - New Utilities
 - Windows 95 Quality & Supportability
 - New/updated device drivers
 - All the OSR2 features
- e.g. FAT32, PC Card 32, etc.

3/26/95

MS6 6/09/94

CONFIDENTIAL

MS7 003379
CONFIDENTIAL

Win32 Driver Model (WDM)

- Core architecture evolution
- Binary-compatible drivers across Windows and Windows NT on x86
- Based on Windows NT I/O subsystem
- Driver structure simplifies development
 - Class/minidriver model
 - Reusable driver modules
 - Higher quality drivers
- Extensible to support new buses and device classes, e.g., USB, IEEE 1394

WDM Components in Memphis

- **WDM Core**
 - NT kernel services, power management, WDM PnP, preemptable kernel mode threads
- **USB Bus & Core**
 - USB bus class, UHCI & OHCI host controller, hub driver, support for USB boot devices, composite devices support
- **Human Input Device Class**
 - HID class plus legacy support for joystick, mouse, keyboard, HID USB driver, HID parser, new accessibility devices
- **Stream Class & Kernel Streaming (motion camera, MPEG)**
- **Still Image Class (Still camera & scanner)**
- **USB Communications Class**
- **WDM Audio**

OnNow

- Comprehensive architecture for power management
 - Addresses system hardware, add-in devices, drivers, operating system & applications
 - Move from proprietary implementations to open architecture
 - One solution for Memphis & NT5
- Applications become smarter about power management
- Power management policy in operating system
- OnNow built in to WDM; legacy compatibility
- ACPI for new hardware

OnNow Components in Memphis

- Kernel CPU power management
- System policy
- Bus driver PM support for most buses
- Device class PM support for most device classes
- ACPI core driver
- ACPI p-code interpreter
- VxD interface
- SMB protocol & battery drivers
- Power policy UI

3/26/97

MS7 003383
CONFIDENTIAL

MS6 6009553
CONFIDENTIAL

10

System Utilities

- **Code download manager**
 - Objective: Update system software by analyzing user system, querying Internet database, installing new drivers & system components
 - Design:
 - HTML-based pages, OCX to inventory, query
 - MS database
 - IE connection/download
 - Signed code
- **Disk space manager**
 - Utility to help manage and free up space on hard disk by identifying files that can be deleted/backedup, caches to be flushed, etc.

3/26/97

11

Memphis Components

- Performance
 - Gang page loading (Office), discard cache blocks, CPU cache-aligned move, scatter gather read-ahead, unlock TCP/IP, swap tuning
 - Expect significant Win32 app load time improvements
 - Overall Winstone improvements dependent on IE4 impact
- Win95 Quality & Supportability
 - Registry bug fixes, Registry backup, rollback
 - Online bug reports & fault data collection
 - System file audit & rollback
 - Dr. Watson

3/26/97

MS6 6009555
CONFIDENTIAL

12

MS7 003385
CONFIDENTIAL

Code Sharing: Deliverables to NT

- USB Bus class, hub, USB core
- NTPNP.DLL
- HID class driver
- Stream class driver & motion video class driver
- Still Image class driver
- WDM digital audio subsystem
- USB Communications class driver
- Code download manager harness
- ACPI P-code interpreter
- FAT32 -> NTFS Converter

3/26/97

MS7 003386
CONFIDENTIAL

MS6 600956
CONFIDENTIAL

13

Code Sharing: Deliverables from NT Dev

- WDM CSA - kernel data streaming
- WDM DDK
- HID parser
- USB OHCI minidriver
- API for scanner & still camera
- SMB protocol & battery drivers
- Power configuration and policy applet for OnNow
- UI enhancements: drag/drop menus, etc.
- TCP/IP updates, DHCP enhancements
- Winsock 2.0
- OLE: DCOM/RPC
- FE Postscript
- Accessibility
- Unimodem Update

Deliverables from IPTD

- IE4/Shell
 - Incl. Athena, NetMeeting, etc.
- DirectX 5
 - DirectDraw support for AGP
- ActiveMovie Filters for DVD
- DVD Player Applet
- OnNow power policy in display drivers and legacy audio drivers

Timeline for June

Sep 25 '96	Detroit Final Beta (incl. WDM & USB)
Oct 29 '96	Detroit RTM
Dec 1 '96	Memphis Beta 1
Dec 31 '96	Memphis Code Complete
Feb 1 '97	Memphis Beta 2
April 1 '97	Memphis Beta 3
May 1 '97	Memphis RC1
June '97	Memphis RTM

MS7 003389
CONFIDENTIAL

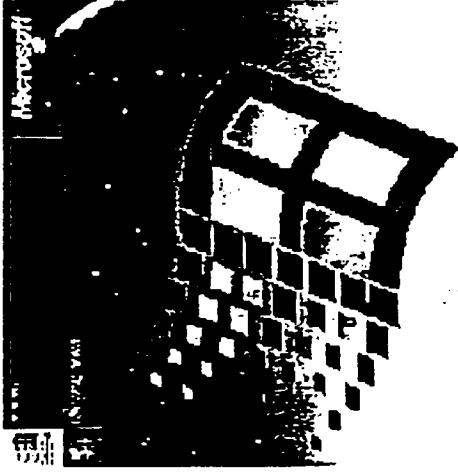
MS6 6009559
CONFIDENTIAL

3/26/97

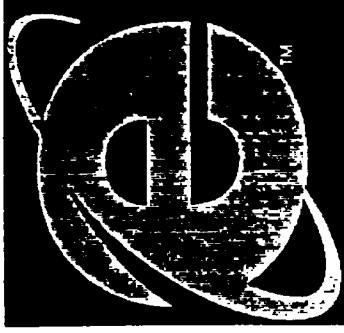
Risks/Issues:

- Code complete 12/31
- Beta cycle is tight
- ACPI hardware availability
- IE4 schedule
- DirectX 5 schedule
- Feature creep, requests to ship additional unplanned components, requests for additional unplanned “releases” (eg. Service packs, WDM for Win95 gold, HID class, etc.)
- Prioritizing home/consumer over corporate customer

Microsoft Desktop
Operating System &
Internet Strategy



Windows NT
Workstation



Windows
Upgrade



Brad Chase
Vice President,
Microsoft Corporation

MS6 6009993
CONFIDENTIAL

MS7 003391
CONFIDENTIAL