Windows 95 OSR and Memphis Alternatives

1/24/97

Priorities & Assumptions

Priorities:

- #1 is to build IE4 share via OEM distribution
  - By shipping IE4 with OEM machines
  - Or by providing an easy way to update to IE4
- #2 is timely Memphis Retail & OEM Release

Assumptions:

- OEM OS preinstall requires June release
- Auto-update IE complete April 1
- Memphis always includes IE4
- Low confidence that IE4 can be ready for Memphis release in June-August

GOVERNMENT EXHIBIT 412
PENGAD-Bayonne, N.J.

Major Alternatives

0. Create IE4 OEM install kit and provide to OEMs to preinstall IE4 with OSR2
1. Bundle IE4 CD with OEM systems
2. OSR 2.01 release with IE3 auto-update version
3. OSR 2.2 release with IE3 auto-update version
4. OSR 2.5 with *low-risk* hardware advances & IE3 auto-update
   - 4a. OSR 2.5 with corporate customer service pack
5. OSR 3 with *comprehensive* new hardware support & IE3 auto-update
   - 5a. OSR 3 with corporate customer service pack

Potential Schedule Overview

Alt	0/1	2	~~3~~	~~4~~	~~5~~	Best Case
	OPK/CD	OSR2.01	OSR2.2	OSR2.5	OSR3	Memphis
Beta 1	n/a	n/a	n/a	2/21	3/3	3/15
Beta 2	n/a	n/a	n/a	4/18	5/2	5/30
RC1	n/a	n/a	4/21	5/9	6/6	8/31
RTM	IE	4/21	5/23	6/6	7/3	9/30
Confidence	IE	95%	95%	95%	70%	?
Memphis	9/30	9/30	Oct	Dec	Jan	9/30

0. IE4 OEM Install Kit

Summary:

- Create IE4 OEM install kit & incent OEMs to preinstall this with Win95 OSR2 - like an app install add-on
- Memphis dev team focuses on integrated Memphis release

Pros:

- Actually gets IE4 (rather than an offer) onto machines
- OEMs can treat & test IE4 as an app, not an OS
- Earliest integrated IE4/Memphis release (RTM 9/30)
- Customers avoid hassle of downloading IE4

Cons:

- Schedule confidence for June
- ~$24 million incentive payment to OEMs (@ $1/system)
- Does not service OEM/hardware needs timely - driver fragmentation

1. Bundle IE4 CDs

Summary:

- Bundle IE4 ISK CDs with OEM systems
  - option: allow OEMs to bundle Memphis CDs when available
- Memphis dev team focuses on integrated Memphis release

Pros:

- No test cycle required by OEMs
- Can add CDs to the system box later in cycle
- Earliest integrated IE4/Memphis release (RTM 9/30)
- Customers avoid hassle of downloading IE4

Cons:

- Depending on release date, may miss some systems
- User action to install
- ~$48 million cost (@ $2/system for CD & incentive)
- Does not service OEM/hardware needs timely - driver fragmentation

2. OSR 2.01

Summary:

- Identical to OSR2 release, including IE 3.0a bits, with mods for auto-update outside the cabs
  - Option: Take IE 3.01 outside the cabs
- No external test cycle

Pros:

- Minimum work for dev team
- Minimum impact on Memphis schedule

Cons:

- IE team recommends IE 3.01 / 3.02
- QFEs and OLS changes desired
- ~$24 million cost @ $1 royalty reduction
- No external test cycle is risky
- No corp customer update ("just OSR2")
- Does not service OEM/hardware needs timely - driver fragmentation

3. OSR 2.2

Summary:

- OSR2 plus IE 3.02, selected QFE's, and OLS updates
- Rebuild CABs, SETUP INFs, etc.
- One external RC test cycle

Pros:

- May release
- Small impact on dev team

Cons:

- Hard to contain the changes ("Just one more drink ...")
- Must turn down almost all bugs found in RC test cycle
- ~$24 million cost @ $1 royalty reduction
- Delay Memphis 1 month to Oct.
- External test cycle & setup impacts on test, beta, release mgmt, localization, setup
- No corp customer update ("just OSR2")
- Does not service OEM/hardware needs - hw/driver fragmentation - viewed as self-serving

4. OSR 2.5

Summary:

- IE 3.02 plus low risk hardware & quality advances (WDM 1.0, USB, HID, registry - details on spreadsheet)
- Two betas & RC cycles

Pros:

- 95% confidence in June release
- Partially service OEM/hardware needs (USB, HID based on WDM 1.0)
- Ship WDM 1.0
- Beta testing of Memphis components
- No royalty reduction needed

Cons:

- Delays Memphis to December
- Only partially service OEM/hardware needs (misses ACPI, AGP, DVD - hw/driver fragmentation)
- No retail upgrade

4a. OSR 2.5 with Corp Service Pack

Summary:

- OSR 2.5 plan with corporate service pack release
- Potentially with improved corp customer install tools

Pros:

- Current dev & test plan assumes Win95 upgrade
- Address corp customer requests for OSR2
- Provides testing of Memphis upgrade & compatibility
- Not on critical path for June OSR 2.5 OEM delivery

Cons:

- May delay Memphis to January
- Increases Memphis schedule risk
- Corps receive two releases in 6 months

5. OSR 3

Summary:

- IE 3.02 plus comprehensive hardware support & PBS advances
  - Basically Memphis developer release minus risky components - see spreadsheet

Pros:

- Aggressively service OEM/hardware needs with MS solution - minimize hw/driver fragmentation
- Ship WDM 1.0
- Beta testing of Memphis components
- Features justify royalty increase

Cons:

- June date is achievable but risky
- No retail upgrade
- Delay Memphis to January
- Increases Memphis schedule risk

5a. OSR 3 with Corp Service Pack

Summary:

- OSR 3 plan with corporate service pack release
- Potentially with improved corp customer install tools

Pros:

- Current dev & test plan assumes Win95 upgrade
- Address corp customer requests for OSR2
- Provides testing of Memphis upgrade & compatibility
- Not on critical path for June OSR 3 OEM delivery

Cons:

- May delay Memphis to February
- Corps receive two releases in 6 months

Chart of Features

- See next page

Backup Slides

	OSR 2.01	OSR 2.2	OSR 2.5	OSR 3	Memphis
Memphis Date	30-Sep	Oct	Dec	Jan	30-Sep
Corp Service Pack	No	No	Option	Option	Yes
Base Features					
OSR-2	Yes	Yes	Yes	Yes	Yes
USB	No	USBSupp	Yes	Yes	Yes
Hot QFEs	No	Yes	Yes	Yes	Yes
Remove WOW	No	Yes	Yes	Yes	Yes
IE 3.02 (Auto update)	IE 3.0a	Yes	Yes	Yes	IE 4
MailNews 1160	No	Yes	Yes	Yes	IE 4
AOL, CIS Updates	No	Yes	Yes	Yes	Yes
Add Prodigy, Infovia	No	Yes	Yes	Yes	Yes
Add MSN 2.0 on CD	No	TBD	Yes	Yes	Yes
WDM 1.0			Yes	Yes	Yes
HID			Yes	Yes	Yes
Performance			~Win95	~Win95	Improved
Setup Detect/enum fixes			Yes	Yes	Yes
New registry code			Yes	Yes	Yes
MultiMon			Yes	Yes	Yes
FAT32 Converter			Yes	Yes	Yes
Dr. Watson32			Yes	Yes	Yes
Win32 User & GDI improvements			Yes	Yes	Yes
Native Zoom: Mouse suppt			Yes	Yes	Yes
TCP/IP Enhancements			Yes	Yes	Yes
Opportunistic/highly desirable for OSR3					
ACPI/On/Now				Yes	Yes
Winsock2				Yes	Yes
WDM Streaming & AM2				Yes	Yes
DVD/UDF				Yes	Yes
DX5				Yes	Yes
BugUpload				Yes	Yes
AGP				Yes	Yes
CDM				Yes	Yes
PPTP				Yes	Yes
Opportunistic/remove if schedule or compat problems					
System file verify				Yes	Yes
DCOM				Yes	Yes
IEEE 1394				Yes	Yes
Still Image				Yes	Yes
Video Capture				Yes	Yes
Driver Updates				Yes	Yes
MMX optimization				Yes	Yes
Windows Script Hosting				Yes	Yes
Darwin Tools				Yes	Yes
CPL UI Enhancements				Yes	Yes
Disk Space Manager				Yes	Yes
Delay to Memphis					
Digital Audio					Yes
TAPI 2					Yes
QOS					Yes
DFS					Yes
NDIS5					Yes
New Setup Billboards, etc.					Yes
WEBM/WMI					Yes
ATM networking					Yes
Plus Components (full window drag, etc.)					Yes
New Backup Utility					Yes
ZAW: Login, Policy, Profiles					Yes
New Memphis Opportunities (if Dec. Release)					
ZAW: Remote Boot, CSC					TBD
NT5 Sync					TBD
DS					TBD
Utilities/Games for Value					TBD
Win3.1 Upgrade					TBD

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IE 3 AutoUpdate Concerns

- Design and schedule incomplete
- 28.8 Kbaud download user experience is poor
- Corporate customers will require policy to disable autoupdate and/or wipe disks
  - May not impact corporate IE4 adoption
- Potential $24 million cost & dev cost
  - Is this the best way to spend the $?
  - Will customers choose the download?
- Is distributing CDs a better customer experience?

Hard Tradeoffs

- For OSR 2.2:
  - USB & HID
  - WDM 1.0
- For OSR 2.2 and 2.5
  - ACPI
  - Code Download Manager, Bug Upload
  - Winsock2
  - AGP
  - DVD (UDF, WDM Streaming)
  - DX5

Memphis September vs. December Tradeoffs

- 9/30 is latest RTM for retail
- September disruptive for OEMs
- May be first rollout of our hardware support
- December is next retail & OEM window
- December RTM may allow for additional features & NT5 Synch
  - ZAW: TCP/IP remote boot, CSC (?)
  - WMI/WBEM
  - DS & other NT5 Synch features
  - Utilities, games, themes to boost upgrade value proposition
  - Investigate Win 3.1 upgrade

Comparison of Alternatives

Alternative	0	1	2	3	4	4a	5	5a
	IE 4 OPK	IE 4 CD	OSR 2.01	OSR 2.2	OSR 2.5	OSR 2.5 SP	OSR 3	OSR 3 SP
Memphis Date	30-Sep	30-Sep	30-Sep	31-Oct	Dec	Jan	Jan	Feb
IE4 onto systems	Best	Good	Poor	Poor	Poor	Poor	Poor	Poor
June OEM Schedule Risk	Good	Good	Good	Good	OK	OK	Poor	Poor
Early Memphis Availability	Good	Good	Good	OK	Poor	Poor	Poor	Poor
Hardware Support	OK	OK	OK	Poor	Good	Good	Best	Best
Corp Cust Needs	Good	Good	OK	Poor	Poor	Good	Poor	Good
Cost	$24 mil	$48 mil	$24 mil	$24 mil	$0	$0	$0	$0

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OSR 2.01 Plan Details

- Build: Start with OSR 2.0 Binaries
  - Add IE 3.0 auto-update files outside of cabs (not done yet)
  - Leave WOW
  - Do not update/add Online Services Clients
    - MSN 2.0, AOL, CIS, Prodigy, Infovia
  - No rebuild of CABs
- Test Pass
  - Simplified Setup Matrix
  - Basic testing of overall product, no component testing
  - Top 20 app compat test pass
  - No beta test
    - Not even to OEMs - they would want other bugs fixed

OSR 2.01 Plan Details - 2

- SKUs
  - Rebuild OPK tools & kit
  - Master 5 SKUs for 25 languages
    - OEM Full CD, OEM Recovery Companion CD, OEM Combo/Plus! CD, OEM DMF Diskettes, OPK CD
  - Signoff Verification
- Schedule:
  - Assume IE 3 auto-update done by 4/1
  - 4/1 - 4/4 Build / BVT kits (1 week)
  - 4/7 - 4/18 Internal Testing (2 weeks)
  - 4/24 Media Verification, Signoff, RTM

OSR 2.2 Plan Details

- Build: Start with OSR 2.0 Binaries
  - Add IE 3.02 (not done yet)
  - Add hot OEM QFEs
  - Remove WOW
  - May need to update/add Online Services Clients
    - MSN 2.0, AOL, CIS, Prodigy, Infovia
  - Rebuild CABs
- Test Pass
  - Setup Matrix, CAB verification
  - Basic testing of updated components
    - Online Services Testing an Open Issue
  - Top 100 App Compat
  - Limited Beta test
    - 100 sites for 4 weeks, including top OEMs

OSR 2.2 Plan Details - 2

- SKUs
  - Rebuild OPK tools & kit
  - Master 5 SKUs for 25 languages
    - OEM Full CD, OEM Recovery Companion CD, OEM Combo/Plus! CD, OEM DMF Diskettes, OPK CD
  - Signoff Verification
- Schedule:
  - Assume IE 3.02 done by 4/1
  - 4/1 - 4/4 Build / BVT kits (1 week)
  - 4/7 - 4/18 Internal Testing to RC1 (2 weeks)
  - 4/21 - 5/16 Beta Test RC1 (4 weeks)
  - 5/19 - 5/23 Media Verification, Signoff, RTM

Overview of IE 3.01 Changes

- Significant changes to all key components
  - 27 files with "1215" version
  - Shdocvw, mshtml, urlmon, wininet, etc.
- Fixes significant security & compatibility problems
- Critical for corporate deployment of IE 3
- Updated Java VM
- Requires significant updated INF work
  - Two infs instead of 1
  - Needs special Java update/reinstall detection code

Test Assessment: OSR 2.2

- Medium level hardware regression pass
- Top 100 apps compatibility pass
- 1 month RC1 beta cycle with OEM's and test sites

OSR 2.5 Plan Details

- Build: Start with existing Memphis
  - Continue existing daily builds
  - Fall back to OSR-2 for removed features
  - Release two daily builds - Full Memphis and OSR 2.5
- Test
  - Continue ongoing testing
  - Focus on OSR 2.5 features
  - Top 250 App Compat
  - Full H/W matrix
  - 2 Beta Cycles + RC

OSR 2.5 Plan Details

- SKUs
  - Same SKU builds & verification as OSR 2.2
- Schedule
  - Feb 21 - Beta 1
  - Apr 18 - Beta 2
  - May 9 - RC1
  - June 6 - RTM

Test Assessment: OSR 2.5

- Full hardware regression pass
- Full apps compatibility regression pass
- Testing focus:
  - HID class devices
  - Currently supported USB devices
  - WDM kernel
  - Registry code
- 2 beta cycles and RC1 cycle
- Corp customer upgrade

Memphis Plan for Sept RTM

- Assumptions
  - No OSR, or only OSR 2.01
  - Externals (esp. DirectX, AM2, Net) maintain schedule
- Beta 1 - Mar 15 w/ IE 4 Beta 1
- Beta 2 - May 30
- Beta 3 - July 31
- RC 1 - August 31
- RTM - Sept 30

Memphis Plan post OSR 2.5

- Beta 1 - July 30
- Beta 2 - Sept 30
- RC 1 - Oct 30
- RTM - Dec 1