Alternatives to Microsoft - Do I have a choice?

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http://www.personal.psu.edu/alw/MSalternatives.pdf

Agenda

- Background Information
- Why MS Popularity Grew
- Some Choices We Have
- My Opinions
- Discussion

My Background

- 1968 PSU BS Computer Science - started work at Sikorsky Aircraft as Scientific Computing - CAD/CAM
- Switched to Systems Programming 1973
- 1979 came to Penn State to manage MVS conversion
- 1981 brought in time sharing - VM/CMS
  - from 100 users to 25,000 users by end of 80's

My Background

- 1989 switched to Distributed Computing (Labs & Classrooms)
  - Grew from 200 computers in 3 locations to 2500 computers in over 100 locations
  - Led initiatives to adopt Windows NT, 2000 and XP
  - Sustained Apple presence
- 2002 switched to Emerging Technologies
  - PSU Strategy for Windows
  - Projects to bring new services to teaching & learning

Microsoft Historical View

- 1973 Bill Gates enters Harvard (meets Steve Balmer)
- 1975 Bill Gates writes Altair Basic
- 1975 Bill Gates & Paul Allen found Microsoft
- 1976 Bill Gates Leaves Harvard to develop Microsoft
- 1981 IBM PC - MS DOS
- 1983 Microsoft introduces the mouse (and first version of Word (for DOS))
- Late 80's Windows becomes viable
- 1989 MS Office for Macintosh
- Mid 90's Windows 95, NT and Office take off
- 2000's Windows and Office dominate

PCs at PSU

- 1981-1985 tinkering with various PC
- 1986 adopt Apple Macintosh for English 101 project
  - about 10 to 1 Apple vs PC preference
- 1986 adopted Banyan Vines
- 1989 huge ascii terminal replacement program with IBM PCs
- 1990 Windows popularity growing
  - Windows 3.0
  - Word & Excel taking off

PCs at PSU

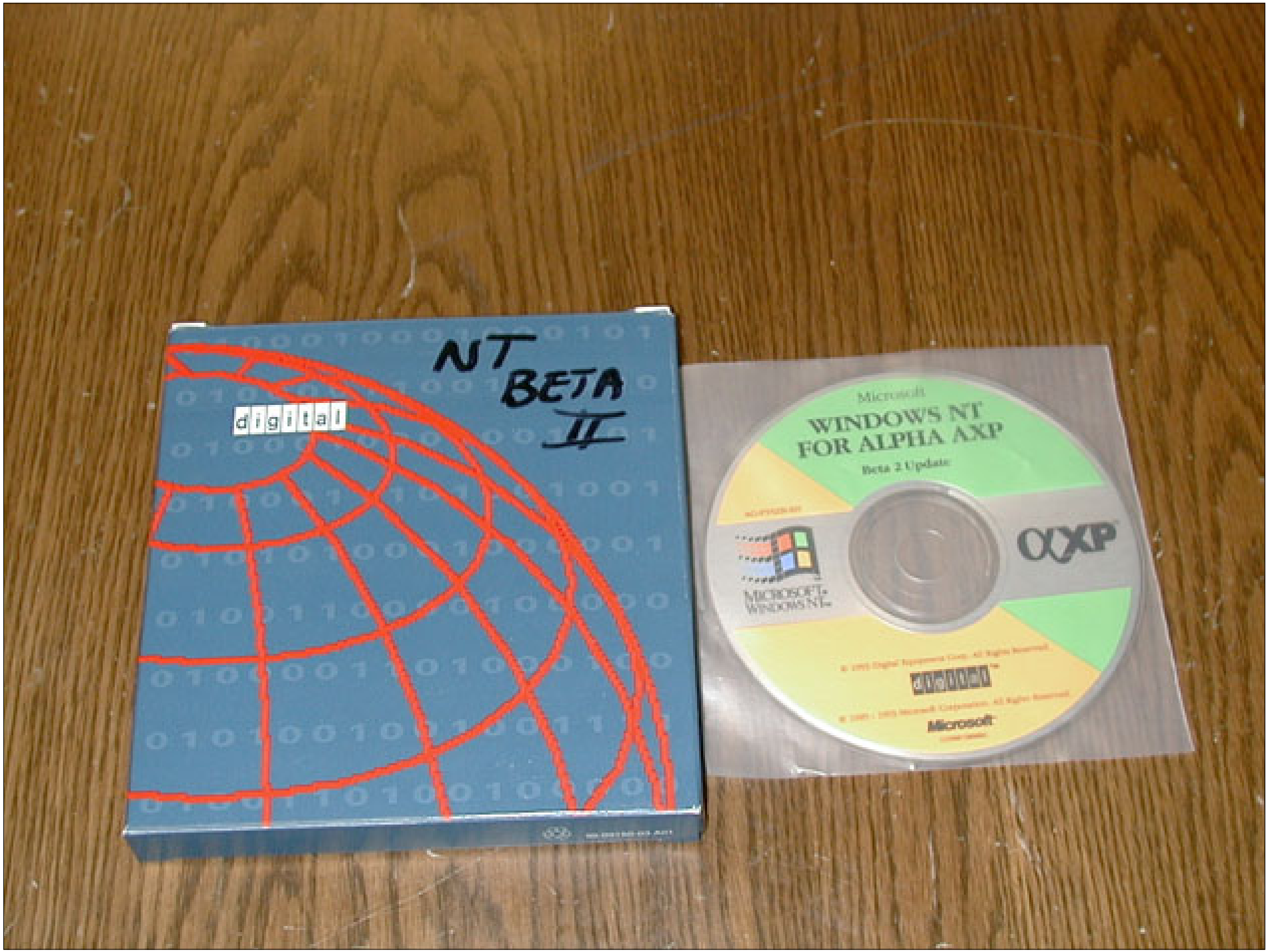
- Late 80's and Early 90's lots of choices
  - various UNIX desktops
  - OS2
  - Mac OS
  - Windows 3.x
  - Banyan Vines
  - Novell NetWare
- 1993
  - unhappy with cost of Banyan Vines
  - NT Beta on DEC Alpha PC

PC Issues in 1994

- Authentication
  - Need it for security
  - Need it for auditing/accounting
- BUDGET @*&^!!!!!
- Networked Printing
  - Impact printers are a pain
  - Laser printers are good and affordable
  - Must manage laser printers to prevent over-usage

Status in 1994

- Running Banyan Vines as our NOS for Windows
  - About $2K per server to license Banyan
  - About $1K per year in maintenance per Banyan server
  - Additional features (like TCP/IP or file service for Mac) cost $1K additional each
  - Had install base of 15 Banyan servers
- Running Windows 3.1
- Macs more popular than Windows (60:40)
- Bought DEC Alpha PC with Beta Windows NT 3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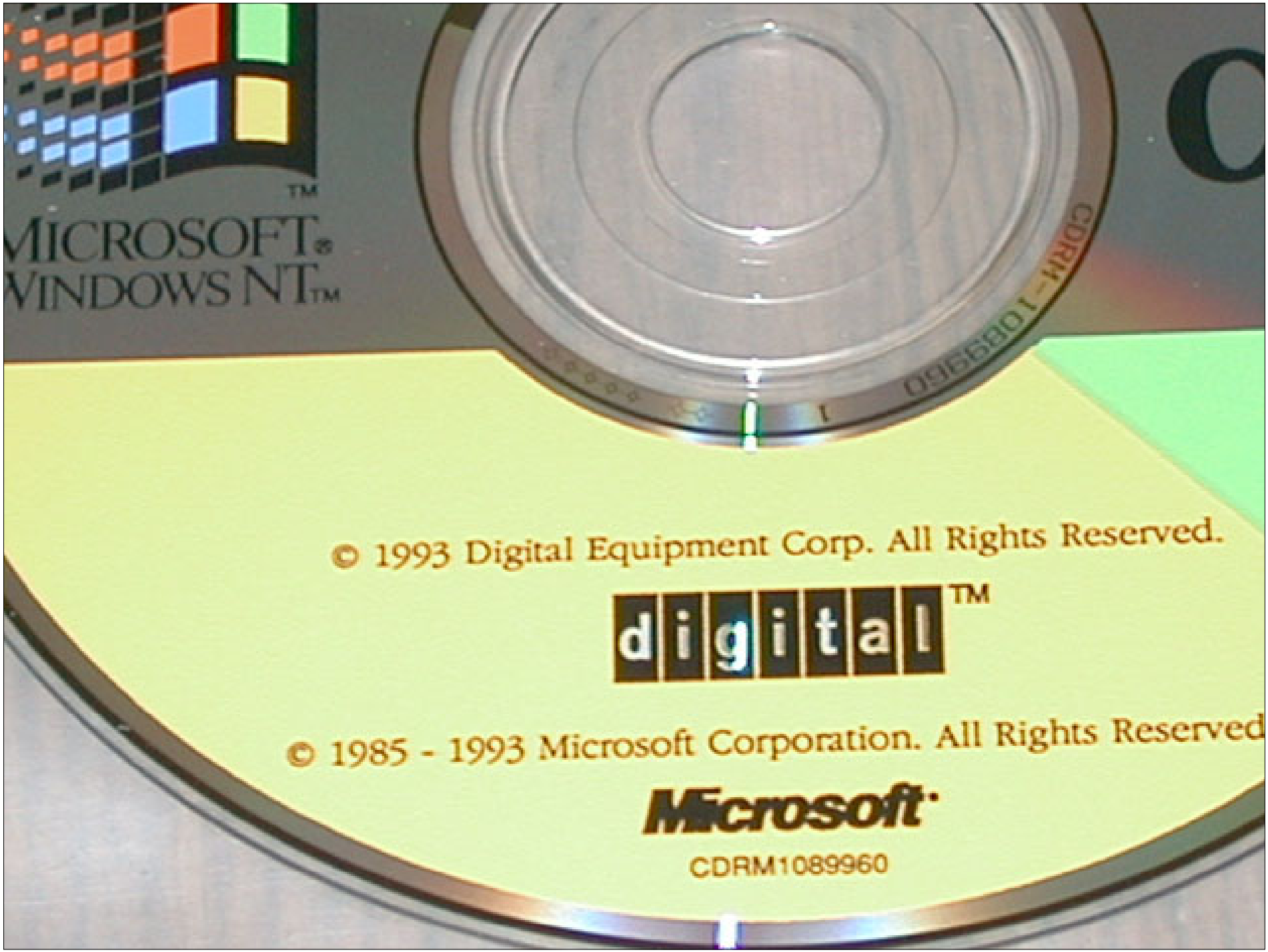
MICROSOFT®
WINDOWS NT™
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digital™
© 1985 - 1993 Microsoft Corporation. All Rights Reserved
Microsoft
CDRM1089960

Status in 1995

- Windows 95 didn't happen (in time for Fall deployment)
- Upgraded to Windows for Workgroups (3.11)
- Evaluated NT vs OS/2 & chose NT
- Replaced all Banyan servers with Windows NT Server 3.1
- Authentication added to all platforms
- Laser Printing introduced
- Accounting for laser printing added
- Tried to get rid of dot-matrix, but didn't

Key Factors in Choosing Windows NT

- All features we needed were bundled (TCP/IP support, Printing, Remote management, ...)
- Price - huge difference
  - about 1/4 purchase cost
  - $4K annual for NT support vs $2k per server
- NT more “Open” - supported open standards
- NT worked well and easily out of the box
  - Applications installed and worked cleanly

Status 1996

- Windows 95 Not Secure
- Windows NT 4.0 too late to implement for Fall
- Replaced all Windows for Workgroups with Windows NT 3.5
- Upgraded NT Servers to NT 3.5
- Used an authentication shell - authenticate to central Kerberos
- Start work on MSGINA
- Added service to automate software updates

Since Then

- Devised a simpler process for system build
- Use Kerberos Authentication
- Automate system and application updates
- Account and bill for printing
- Converted to Windows 2000 desktop & server
- Converted to Windows XP desktop

So Why Did Microsoft Dominate?

Windows Desktop OS

- Provided features we needed
- Worked well on TCP/IP network
- Easy to use
- Applications we liked available here
- Attractive cost

Windows Server

- Worked very well
- Easy to implement for lots of clients
- Included TCP/IP support
- Manageable (with some work on our part)
- Security (could authenticate, access controls)
- Support for applications we need
- Price was very attractive (about 1/4 cost of Banyan Vines)

MS Applications

- We liked Office (Word and Excel)
- Convinced users to use instead of Lotus 123 and WordPerfect
- Courses started to depend on these
- Negotiated very attractive prices (for applications and OS)

Favored Target by Developers

- Good business choice to develop for the most popular desktop environment

Why So Dominant?

- Aggressive marketing and sales
- Good products
- Ease of use
- Price / Performance
  - willing to negotiate volume discounts
- Bundled features
- Path of least resistance

End Result

- From PSU Surveys in 2002
  - 95% of students prefer Windows
  - 79% of faculty prefer Windows

Maket Share?

- Depends who you ask...
- All agree Microsoft has huge lead
- Depends on whether you are looking at server or desktop

IDC Statistics on Desktop 2002

- Based on Desktop Systems shipped -
- Windows grew from 93.2% to 93.8%
- OS X in second place, but stalled at 2.9%
- Linux grew to 2.3%

IDC Statistics on Server 2002

- Based on new servers shipped -
  - Windows grew to 55.1% (up from 50.5%)
  - Linux grew to 23.1%
  - All UNIX combined dropped 8.9%
  - Novell NetWare dropped 12.4%
- "Microsoft generates about the same amount of OS revenue in 3 days as the entire Linux industry generates in 1 year" (IDC)

Do We Still Have Choices?

Why Are We Concerned?

- Freedom of choice
  - Doesn't necessarily mean free
- Need to focus on business needs
  - Make technology decisions that support our business strategies
  - Control our own destiny
- Fear of results of monopoly

External Factors

- Windows 2003 licensing is baffling
- Microsoft still in litigation
  - Monopoly lawsuit in Europe not going well
  - States vs Microsoft still going on in US
  - Still growing anyhow (IDC thinks volume licensing programs are driving this)
- SCO lawsuit may be affecting new Linux decisions
  - impacting the idea that Linux is “free”
  - may be slowing Linux adoption

Are There Real Choices?

- Look at this case by case
  - Servers
  - Desktop OS
  - Office applications
  - Browser

Microsoft Server Products

- Windows Server 2000 & 2003 are basis
  - http://www.microsoft.com/windowsserversystem/default.mspx
- Mix and match solutions
  - Application Center
  - BizTalk
  - Exchange
  - SQL
  - SharePoint
  - Host Integration Server
  - Identity Integration Server
  - others...

MS Desktop Products

- Office Suite: Word, PowerPoint, Excel, Access, Outlook
- Internet Explorer
- Media Player
- Project
- Outlook Express
- others...

Server Choices

- Novell NetWare - still alive and kicking
- OS2 - still supported, but for how long
- Linux - very popular for web
- Apple OS X - coming on strong (IMHO)
- IBM AIX - gaining market share (at the expense of other UNIX vendors)
- Sun Solaris
- z/OS on Mainframe

Desktop OS Choices

- OS X
- Linux
- Proprietary Unix (Solaris, AIX, HP UX...)
- Free Unix (FreeBSD, OpenBSD, Darwin,...)

Office Suite Choices

- StarOffice / OpenOffice
- Corel WordPerfect
- Lotus Smartsuite
- AppleWorks
- GoBe Productive
- KOffice

Browser Alternatives

- Netscape / Mozilla
- Safari
- Opera
- Foxfire (from Mozilla)

Web Server Choices

- Apache - actually already more used than IIS
- Sun One
- Lotus Domino
- Netscape

Media Player Choices

- RealOne
- Apple QuickTime
- MPlayer
- XMMS
- ThrottleBox
- Blaze Media Pro

Email Client Choices

- Mozilla
- Ximian Evolution - looks and feels like Outlook
- OS X Mail
- Eudora
- many more...

Email Server Choices

- Sendmail
- POP/IMAP - lots of free ones - often bundled with OS (including Windows Server 2003)
- Suse Open Exchange
- Lotus Mail
- MailTraq

Is Open Source the Answer?

What is Open Source?

- Application, program, or utility where
  - The computer instructions (code, source) are provided with the program
  - Licensed in such a way that it can be improved, enhanced, or localized freely
  - Isn’t necessarily zero cost

Open Source

- Popular revolution - some good work being done
- Idea is to share development resources (Stone Soup model)
  - More eyes, i.e. more people to help with errors
  - Problems, security holes are quickly fixed
  - Improvements can be made freely for greater good
- Not necessarily free
  - Need to have programmers to support
  - Need to have infrastructure to participate
  - Can be resold by vendors who add value

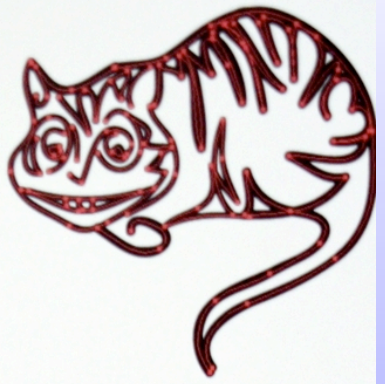
Who Uses Open Source

- You probably already do (without knowing it)
- PSU ITS does in many enterprise applications
- Software distributed on free student software CD-ROM
- Linux Labs for students and faculty

Examples of Open Source

- Sendmail and kPOP for email
- Apache for most web services
- Open Office and Mozilla
- Linux is back end server for
  - HPC Clusters (http://gears.aset.psu.edu/lionxlpress.shtml)
  - Shibboleth (http://et.aset.psu.edu/initiatives/shibboleth/)
  - Napster cache servers (http://live.psu.edu/story/4584)
  - WebEvent used for calendaring (http://www.sa.psu.edu/webevent/)
- PSU Open Source Mirror
  - http://carroll.aset.psu.edu

http://carroll.aset.psu.edu/



Linux Distributions

- Aurora SPARC Linux
- Debian GNU/Linux
- Fedora Project
- Gentoo Linux
- Knoppix
- Mandrake Linux
- RedHat Linux
- Slackware Linux
- Sorcerer
- SUSE Linux
- Yellow Dog Linux

BSD Distributions

- FreeBSD
- NetBSD
- OpenBSD

Software Projects

- Apache
- Cygwin
- Fink
- GNOME Project
- GNU Project
- KDE
- Mozilla
- OpenOffice
- XFree86

Software Archives

- CPAN - The Comprehensive Perl Archive Network
- CTAN - The Comprehensive TeX Archive Network
- SGIfreeware
- Sunfreeware

Open Standards?

- Meaning of this is often not clear
- Standards bodies are manned by vendors
  - Each striving to promote her company's technology as a standard
- Efforts by Universities to "standardize"
  - SAKAI (http://www.sakaiproject.org/)
  - OKI (http://web.mit.edu/oki/)
  - CIC (http://www.cic.uiuc.edu/)
  - IMS (http://www.imsglobal.org/)
  - Common Solutions Group (http://www.stonesoup.org/)
- What do we mean when we say "Open Standards"?

What Should We Do?

- Form University-Centric group development efforts?
- Adopt Open Source?
- Promote other vendor products?
- Insist on "Open Standards"?
- Define our own "standards"?

Vendor Partnerships?

- We've done this before
  - address our concerns at the source
  - try to influence product direction
  - try to influence interoperability
  - build "standards" we can live with
- Target key vendors, including Microsoft

My Opinions

- Not out to destroy Microsoft
  - Still some good products at good prices
- Want to make business decisions based on business needs
  - Want to have choices
  - Source managed solutions can be good
  - Some good open source products available
- Believe we could and should work together to influence our vendors to be responsive to our needs

Do We Have Choices

- Yes - but we may need to work together
  - Through joint initiatives
  - Through User Groups
    - SIGUCCS - http://www.acm.org/siguccs/
    - EDUCAUSE - http://www.educause.edu/
    - Internet 2 - http://www.internet2.org/
    - SHARE - http://www.share.org/

Discussion...
What do you think about

- Open Source?
- Enterprise licensing ?
- Threat of monopoly?
- Vendor Influence?
  - by us?
  - on us?
- Standards?
- University focused strategies?
- Other thoughts?

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