Open Source: Making A Business Case
Deciding to join the gentle revolution

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SHARE 103 / EITM
August 2004
Sessions 7019 / 9201
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Agenda

• Why Open Source?

• What About Bill?

• Understanding the Issues

• Making the Decision
Open Source Defined

The Open Source definition – OpenSource.org

- Free redistribution required
- Source code provided
- Derived works must be allowed
- Integrity of the author’s source code may be controlled
- No discrimination against persons, groups, fields of endeavor
- Distribution of license must transfer with the code
- License must not be product-specific or restrict other software

Open Source Software (OSS) Examples

- Linux
- Samba
- Apache
- Sendmail (some versions)
Required Reading

• The Cathedral and the Bazaar
  • Eric S. Raymond ISBN 0-596-00108-8

• “In The Beginning was the Command Line”
  • Neal Stephenson
    www.cryptonomicon.com/beginning.html

• The Mythical Man-Month
  • Fred Brooks ISBN 0-201-83595-9
Open Source Characteristics

• (Usually) platform independent
• UNIX application compatible
• Standards-based
  • Multi-vendor support
• Highly skilled, dedicated developers
• Source code provided
  • Open inspection of all functions possible
  • Extensible
Why Open Source?
The Short Answer

**Analgesia:**
- Management looking for ways to cut TCO
- Staff tired of waiting on hold for support
- Vendors cannot afford to build new applications from scratch
- Developers hate reinventing the wheel
The Shortest Answer

• Microsoft
• …or Sun Microsystems
• …or Oracle
• …or CA
• …or IBM
• …or whichever vendor you love to hate!
The Longer Answer

• Multiple, often wildly divergent perspectives:
  1) Customer staff
  2) Customer management
  3) Vendor staff
  4) Vendor management

• These are *not* the same constituencies!
  • Understanding this is essential to understanding (and countering) arguments
Customer Staff: Pro

- **Source provided**
  - Can understand and fix problems

- **Standards-based**
  - Proper behavior (at least somewhat) defined

- **Publicly supported**
  - Lots of others to give help with problems
  - “Community” development aspect is appealing

- **Exploits high-end skills**
Customer Staff: Con

- **Source provided**
  - “I don’t want to fix someone else’s problems!”

- **Standards-based**
  - RFCs can be hard to understand

- **Publicly supported**
  - Documentation often poor or nonexistent

- **May not have high-end skills to exploit**
  - “I like my Microsoft GUI tools”
Customer Management: Pro

- Low- or no-cost
  - Implies lower TCO

- Standards-based
  - Interoperability removes vendor lock-in

- Trendy—touted by trade rags and airline magazines

- Openness forces vendors toward interfaces etc. that customers actually want and use
Customer Management: Con

- Source provided
  - Hackers can read the code, find vulnerabilities
  - “I don’t pay staff to fix others’ problems”
  - “My business can’t be dependent on local mods”

- Not formally supported
  - “I can’t bet my job on some kid in Finland”

- Trendy
  - “Management by magazine” isn’t management

- Open protocols aren’t necessarily better
Vendor Staff: Pro

- **Source provided**
  - No dependency on someone else’s stuff
  - Can jump-start product development

- **Standards-based**
  - Appeals to anti-corporate sentiments

- **Publicly supported**
  - Even vendor engineers know they don’t know everything!
Vendor Staff: Con

• Source provided
  • I’m not giving away my code!

• Standards-based
  • Long-haired geeks writing RFCs aren’t businesspeople, don’t know what’s truly needed

• Publicly supported
  • There’s no formal specification
  • What will I do when development forks?
Vendor Management: Pro

- **Customer demand**
  - Customers are moving to Open Source

- **Rapid Application Development (RAD)**
  - Building on Open Source applications saves big development $$$ and time

- **Openness promotes exploitation**
  - Add-ons, ideas, enhancements (cf. id Software’s game Doom)

- **Facilitates partnering with other vendors**
  - Work from the same “playbook” (RFC)
Vendor Management: Con

• **We’re a business**
  • “How can we charge thousands of dollars for something that we give away?”

• **Intellectual property protection**
  • “GPL means we have to give it away”

• **“Proven” failure of model:**
  • VA Linux, Netscape, et al.
  • “They’re all gone”
What About Bill?
Microsoft vs. Open Source

- Many Open Source advocates openly hate Microsoft
  - But emotional arguments are not business cases!
  - Many fail to recognize their emotional involvement

- Bad for Open Source and the community
  - Focus on real needs, avoid histrionics and invective

- Desktop and server considerations differ
  - Many Open Source apps exist for both
  - Windows is by far the leading desktop platform, users want it
  - Telling them “You’re wrong” isn’t productive
Microsoft Is Not Evil

• Redmond is a business
  • Has provided excellent return to stockholders

• Products are carefully designed and developed
  • Tens of millions of users love them!

• Consumers’ willingness to put up with BSODs, etc. is not Bill’s fault

• Apparently the value of Windows is greater (for most) than the pain

A fatal exception OE has occurred at 0020-C0011E35 in UXD UMM(O1) + 00010E36. The current application will be terminated.

- Press any key to terminate the current application.
- Press CTRL+ALT+DEL again to restart your computer. You will lose any unsaved information in all applications.

Press any key to continue...
Microsoft Isn’t Perfect

• De facto monopoly position may reduce quality
  • Lack of competition means less corporate incentive toward truly excellent quality
  • This isn’t “evil”, it’s a business reality

• Internet service distribution (Windows Update) greatly reduces service costs
  • May further dampen initial product quality
The Reality

- Most folks think Windows is “good enough” (server or desktop!)
- Classic bell curve distribution:

  ![Graphic of bell curve with Windows, Linux, and Apple logos]

- We can argue about where the lines should be, but this essentially reflects the reality — *today*
Microsoft Has A Problem

- Microsoft’s business model depends on customers upgrading to newer versions
  - Open Source applications threaten its ability to cram upgrades down consumers’ throats

- PCs have passed the point where newest, fastest is necessary for reasonable use
  - Increasing consumer resistance to upgrades

- Anti-trust issues are a huge distraction
Microsoft Is Not Stupid

• “Embrace and conquer” works
  • Just ask Novell, WordPerfect, Netscape…

• Integration is the key
  • Love ’em or hate ’em, Microsoft applications work together better than a mishmash
  • MMC “Snap-ins”, (moderately) consistent interfaces beat out command lines with most folks

• They are not ignoring Linux, Open Source!
  • www.opensource.org/halloween/
    (old but still interesting)
  • Microsoft attends LinuxWorld et al. nowadays
Don’t Count Microsoft Out…

• They can react quickly—remember their 1995 turnaround on the Internet!
  • Consider their current “security focus” sparked by consumer confidence issues (and antitrust)

• Prediction: debugging tools on the horizon
  • First sign: Internet Explorer error reporting, which sends ABEND information to Microsoft
  • Now: Windows XP error reporting, extending to more applications
Understanding the Issues
Why Do We Have Computers?

• You don’t buy computers to run OSes
  • Applications provide value, ROI

• Operating Systems are a dead end without new applications
  • At some point you must upgrade

• But “it works well enough” is compelling!
  • DOS, Windows 3.1/95, old Macs in daily use
Return With Us Now…

• …to those thrilling days of yesteryear:
• Most applications written in-house
• Staff retention recognized as important to preserve “institutional knowledge”
• Staff ability to react to problems critical to survival!
• Vendors were partners, not adversaries
Why Was That Good?

- Detailed staff knowledge of internal applications was considered competitive advantage

- Small, controlled development followed Brooks’ Law (“Adding manpower to a late software project makes it later”, aka “Complexity and bugs rise with the square of the number of programmers involved”)

- Intangible but real: Staff “big picture” vision enabled avoiding some stupidity (cf. CRM disasters…)
How Is Open Source Different?

- “Closed” theology appears to conflict with Open Source
  - But self-destiny huge advantage, then and now

- Brooks’ Law seems not to apply:
  - “Given enough eyeballs, all bugs are shallow”

- “Hacker culture” fundamentally different from traditional development culture
  - “Gift culture” makes knowledge-sharing valuable
  - Contrast with “proprietary advantage” theology

- As technology matures, advantage is how it gets applied, not what you have
The Car–Linux Analogy

• Stephenson writes of:
  • Windows: Station wagons – ugly but popular
  • Apple: Euro-styled sedans – sexy but unpopular
  • Be: Batmobiles – very cool but hardly sellable
  • Linux: M1 Abrams tanks

• “I don’t know how to maintain a tank!”
  • “You don’t know how to maintain a station wagon, either!”
The Car–Linux Analogy

- Applicable to any Open Source vs. vendor application
- Speaks to Windows’ (apparent) simplicity and slickness vs. Linux’s historical lack thereof
- (Though Linux isn’t hard to get/install/use nowadays!)
- Vibrancy of Open Source community appeals to programmers and users
  - Many folks who will never use source appreciate when it’s available
  - Provides emotional connection lacking in “slick” Windows and Windows products
  - Consider shareware’s success and rabid fan base
Everyone Looks Spiffy With A Tux
from http://www.ubergeek.tv/switchlinux/
Making The Decision

Is Open Source right for my company?
When Open Source?

- Open Source proven effective when use is planned, defined, understood
  - E.g., distributed/infrastructure servers
  - Linux, Samba, Apache, Sendmail, etc.

- Clearly evolving
  - More applications, less infrastructure than a year ago
  - WebSphere, DB2 Connect, WebLogic, et al.
  - Good sign for Open Source: shows maturation
When Not Open Source?

• **Integration and customization issues**
  • Vendor apps typically better integrated (of course, “Integrated” may mean “We put it all on one CD”)
  • Some types of applications “always” require significant custom work (e.g., CRM systems)
  • OSS versions may require more local expertise
  • On the other hand, OSS means you can do the work yourself—avoid paying consulting fees
When Not Open Source?

- **Sunk costs:**
  Existing, paid for product licenses
  - Consider switching at next upgrade cycle

- **Training and conversion:**
  Costs can be surprisingly high
  - Some groups may rely on product features unknown to IT staff/upper management
Choosing Open Source

• **Is the Open Source app good enough?**
  (Is it even close?)
  • Can you wait for it to get there?
  • Is commercial alternative good enough?

• **Is Open Source direction rational?**
  • Not just a reaction to dislike of a vendor

• **Is self-destiny benefit/avoidance of risk worth potential internal support cost?**
Open Source vs. Vendor Apps

- **Open Source typically more secure than vendor code**
  - Reading source exposes weaknesses
  - Availability of fixes often measured in minutes

- **Traditional vendors provide support “guarantees”**
  - Can they live up to them?
  - If they don’t, what remedies do you have?

- **Mission-critical systems/applications require serious support—no question**
  - Serious support is available for OSS these days
  - And if that fails, you can still fix it yourself!
Open Source vs. Vendor Apps

- Depending on platform, commercial product fixes may be essentially unavailable anyway
  - IBM (mostly) still gets it right
  - Have you ever gotten Microsoft to write a Windows patch for you?
- Commercial, closed applications are rarely more than 80% “done”
  - Insufficient ROI from further development
Open Source Is Evolving

• Service and support available
  • RedHat, SuSE (United Linux), IBM, etc.

• Support, participation, and investment by major vendors
  • IBM, Sun, HP, Dell, etc.

• Open Source Development Lab (OSDL) projects targeting new, specific customer sets
  • Carrier Grade Linux, Data Center Linux
The Real OSS Motivator(s)

- Saving money
- Saving time (which is really money)
- Saving staff (which is really money)
- Improving RAS (which saves money)
- Improving functionality (which saves money)
How Do You Choose?

- Where are your real costs?
- Cost breakdown, biggest to smallest:
  - Labor: sysprogs, operators, et al.
  - Facilities
  - Hardware
  - Software (increasing mostly due to ISVs)

- How do you control TCO?
Controlling TCO

- Obvious answer: stabilize/reduce spiraling costs

- Open Source can often help:
  - Labor: Many Open Source apps are very mature
    - As applications/systems increase, the same number of people can continue to support them
  - Facilities: Server consolidation can save big
    - More stuff on fewer boxes
  - Hardware: Server consolidation again
    - Stop wasting hardware for theoretical peak load!
  - Software: The most obvious opportunity
    - Things are tough all over – ISVs aren’t cheap
Open Source Value

• Increased choice and power
  • True portability: hardware, operating system, apps
  • Increased competition
  • Increased heterogeneity
  • Platform substitution and commoditization

• Available skills
  • Highly skilled developers
  • Large skill pool of employees

• Low- or no-cost for the function

• Trendy and hyped
Summary

- Primary Open Source drivers should be financial
  - True cost/benefit of switching requires analysis
  - Emotional arguments need not apply

- But include intangibles
  - Staff retention and development
  - Freedom from vendor lock-in
  - Valuable business arguments, if difficult to measure

- Open Source is the future—embrace it!

Good function / Vendor independence / Lower cost
Questions?

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