Open Source: Making A Business Case

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Agenda

• Why Open Source?
• What About Bill?
• Understanding the Issues
• Making the Decision

Required Reading

• The Cathedral and the Bazaar
• “In The Beginning was the Command Line”
  – Neal Stephenson
    www.cryptonomicon.com/beginning.html
• The Mythical Man-Month

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 the ground up
  - Developers hate reinventing the wheel

The Shortest Answer

- ...or Microsoft
- ...or Oracle
- ...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
  - Correct behavior (at least somewhat) defined
- Publicly supported
  - Lots of others to give help with problems
  - “Community” development aspect is appealing
- Enables use of 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
<table>
<thead>
<tr>
<th>Customer Management: Con</th>
<th>Vendor Staff: Pro</th>
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<tbody>
<tr>
<td>• Source provided</td>
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<tr>
<td>– Hackers can read the code, find vulnerabilities</td>
<td>– Can jump-start product development</td>
</tr>
<tr>
<td>• Not formally supported</td>
<td>• Standards-based</td>
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<tr>
<td>– “I don’t pay people to fix others’ problems”</td>
<td>– Appeals to anti-corporate sentiments</td>
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<tr>
<td>• Trendy</td>
<td>• Publicly supported</td>
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<tr>
<td>– “I can’t bet my job on some kid in Finland”</td>
<td>– Even vendor engineers know they don’t know everything!</td>
</tr>
<tr>
<td>• Open protocols aren’t necessarily better</td>
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<th>Vendor Staff: Con</th>
<th>Vendor Management: Pro</th>
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<tr>
<td>• Source provided</td>
<td>• Customer demand</td>
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<tr>
<td>– I’m not giving away my code!</td>
<td>– Customers are moving to Open Source</td>
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<tr>
<td>• Standards-based</td>
<td>• RAD</td>
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<td>– Those long-haired geeks writing RFCs aren’t businessmen, don’t know what’s truly needed</td>
<td>– Building on an Open Source application saves big development $$$ and time</td>
</tr>
<tr>
<td>• Publicly supported</td>
<td>• Openness promotes exploitation</td>
</tr>
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<td>– There’s no formal specification</td>
<td>– Add-ons, ideas, enhancements (cf. id &amp; Doom)</td>
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<td>– What will I do when development forks?</td>
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<th>Vendor Management: Con</th>
<th>What About Bill?</th>
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<tr>
<td>• We’re a business</td>
<td>Microsoft</td>
</tr>
<tr>
<td>– “How can we charge thousands of dollars for something that we give away?”</td>
<td></td>
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<tr>
<td>• Intellectual property protection</td>
<td></td>
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<tr>
<td>– “GPL means we have to give our stuff away”</td>
<td></td>
</tr>
<tr>
<td>• “Proven” failure of model</td>
<td></td>
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<td>– VA Linux, Netscape, et al. – “They’re all dead”</td>
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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. are our fault, **not** Bill’s
- Apparently the value of Windows is greater (for most) than the pain

Microsoft Isn’t Perfect

- **De facto** monopoly position reduces quality
  - Little or no corporate incentive to produce products of truly excellent quality
- Internet service distribution (Windows Update) greatly reduces service costs
  - Alas, it may further dampen initial product quality

The Reality

- Windows is “good enough” for most folks
- A classic bell curve distribution:
  - We can argue about where the lines should be, but this essentially reflects the reality

Microsoft May Be Doomed

- Microsoft’s business model depends on customers upgrading to newer releases
  - Open Source applications threaten their ability to cram upgrades down consumers’ throats
- PCs have passed the point where newest, fastest 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 A. Hun, G. Khan, A. Hitler…
- 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!
  - See www.opensource.org/halloween/

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
  - You buy them to run applications
- Operating Systems are a dead end without new applications
  - At some point you’re forced to 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!

Why Was That Good?
- Detailed staff knowledge of internal applications was considered competitive advantage
  - Obviously not true of unmodified Open Source
  - But self-destiny (fixability) still big advantage
- Intangible but real:
  - Staff “big picture” vision enabled avoiding some stupidity (cf. CRM disasters…)

How Is Open Source Different?
- Brooks’ Law seems not to apply:
  - Complexity and bugs do not rise with the square of the number of programmers involved!
- “Hacker culture” fundamentally different from traditional development culture
  - “Gift culture” makes knowledge-sharing valuable
  - Contrast with “proprietary advantage” theology

The Car 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 Emotional Appeal

- Emotional arguments of “I hate Microsoft” (or Oracle, or…) are not business cases!
  - Many fail to recognize emotional involvement
- Consider the outrage over Microsoft “stealing” the GUI from Apple
  - Few are outraged that KDE and Gnome “stole” the GUI from Windows (or even Apple)

Cars Again…and Bourgeoisie

- Stephenson also compares the emotional allure of Linux to that of the MGB:
  - Difficult to maintain
  - Requires technical knowledge just to live with
  - “Separates the men from the boys”
  - Windows is “tacky”
  - Microsoft is evil simply because they are large
  - Enables “purity of essence” by avoiding Windows
- This is a fundamentally elitist attitude! (But is that bad?)

When Open Source?

- Raymond suggests that appropriateness depends on program use:
  - Most appropriate:
    Infrastructure (e.g., Samba, DNS)
  - Less appropriate:
    Middleware (e.g., databases)
  - Least appropriate:
    Applications (e.g., word processors)

The Distinction?

- Infrastructure:
  Commoditized, strong standards
- Middleware:
  Semi-commoditized, weaker standards
- Applications:
  Not commoditized, few or no standards
- As software evolves, it moves toward the “more appropriate” end of the spectrum

Something “Wants” to be Free?

- Stephenson further suggests that Operating Systems are “destined to be free”
- Remember why we have computers: applications!
- If sufficiently decent applications are available for free OSes, they will dominate
  - Microsoft will be forced to acknowledge this eventually
  - Netscape talked about commoditizing the OS, which is what caused Microsoft to take aim at them

When Not Open Source?

- Integration issues:
  Vendor apps typically better integrated
  - Although “Integration” often means “We put it all on one CD”
- Customization issues:
  Some types of applications “always” require significant custom work
  - E.g., CRM implementations
### When Not Open Source?

- **Standing investment:**
  - Existing, paid for product licenses
  - Consider switching at next upgrade cycle
- **Training and conversion:**
  - Costs can be surprisingly high
  - Business units 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 vendor application 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?
  - “Closed-source when Open Source choices exist will be…grounds for shareholder lawsuit”

### Some More Issues

- Open Source typically more secure
  - Reading source exposes weaknesses
  - Availability of fixes often measured in minutes
- Vendors can provide support “guarantees”
  - Can they live up to them?
  - If they don’t, what remedies do you have?
- Mission-critical applications require serious support—no question

### Still More Issues

- Depending on platform, bugfixes for OSes 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

### The Real Argument(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)
So 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: control spending on labor, facilities, hardware, software
- Open Source can (sometimes) help with all of these
  - Labor: many Open Source apps very mature
  - Facilities: server consolidation can save big
  - Hardware: server consolidation again
  - Software: the most obvious opportunity

Summary

- Primary Open Source drivers are 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 argument, if difficult to measure
  - Open Source is the future—get used to it

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