



# Managing Open Source

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# Agenda

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- Beyond the LAMP stack
- Where and when to consider open source
- Evaluating the real costs of open source
- Core skills required
- Managing open source licenses
- Updates, patches and other considerations
- Questions and answers



# Beyond the LAMP Stack

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- More to open source than Linux, Apache, MySQL, & perl/php/Python
- OpenOffice, OpenExchange
- PopTop (VPN)
- Joomla/Mambo & Zope (CMS, App Server)
- Usual suspects: GAIM, GIMP, browsers & e-mail
- Java
- Conversion/integration:
  - Cross-Over Office, REALBasic



# The Key Questions

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- Does it work in your organization?
  - If so, where?
- Server, desktop or both?
  - Is open source ready for prime time?
  - Is your organization ready for open source?
- What mistakes have others made that we can easily avoid?
- What are the risks, if any?
- What are the commonly held beliefs?
  - Can you debunk the myths?



# What Is Open Source?

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- Freeware means software with no cost, and might or might not include source code
- Shareware is “try before you buy”
- It’s about the license
  - ...and a community
  - ...and, for survivability, governance
- Open source is covered by a different license that **requires** source code be made available with executables
  - Easy to confuse "free" and "open"
  - Open (usually) has a commons to fix bugs



# Why Open Source?

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- Freedom of choice
- No vendor lock-in
- Leverage the commons
  - There is a symbiotic relationship between supporting open source and support costs.
  - It costs less to support the commons than it does to support the product.



# Open Source Is Free

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- The word "free" has multiple meanings!
  - Free doesn't mean without cost
  - It's a matter of choice
- FUD combines the concept of free (associated only with monetary value) with open source suggesting that without some proprietary software (not open source), that you will lose ground to competition.
- Leverage the intellectual property of commons
- Flexibility: again, matter of choice



# Open Source Facts 1

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- Not **required** to share changes
  - Provided it's for internal use
  - Open source licensing impacts companies in the software business, not "deployers"
- If you release open source under one license, you may not be able to change it to another license later.
  - Check the license.
- Applications written with open source tools don't have to be released as open source.



# Open Source Licensing

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- <http://www.opensource.org/licenses/>
- 3 Basic types (see Simon Phipps' 2005 presentation:  
<http://www.softwaresummit.com/2005/speakers/phipps.htm>)
  - No restrictions, file-based, & project-based
- Don't like the license, dynamically link to it.
  - For example: don't want your code to use GPL (project-based), create a separate project with your license and dynamically link to GPL code



# Proprietary Software vs...

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- Some suggest this is the only way to get innovation because of the cycle of money spent on R & D for proprietary software.
- Who is doing the copying, the proprietary companies or open source (Firefox)?
- Many Firefox extensions are platform independent.
- What about CollabNet?



# Open Source Facts 2

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- Open source doesn't mean no cost
  - You can sell service wrappers
- Commercial support is available
  - For example: <http://www.spikesource.com/>
- Produced by a talented pool of developers (many with company support)...
  - ...not 15-year olds in a basement
  - Client survey: developers committed have 10 to 12 years
- <http://www.collab.net/>
  - Software collaboration infrastructure as a managed service

# Where Does It Work?

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- Determine goals investigating open source
  - Cost: Majority 1<sup>st</sup> year cost savings == licensing
    - You need metrics/numbers for the rest
    - Don't need fastest hardware (preserve investment)
  - Licensing: Vendor neutral w/o forced upgrade or EOL
  - Security & Reliability
    - Microsoft products in more malware cross-hairs
  - Development
    - Will your organization contribute to commons?
  - Organizations with compliance issues



# Compliance Cost as Rationale

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- Disgruntled employee at a major university
  - Deliberately installed extra copies of software
  - More than the number of licenses purchased
  - Individual left the employ and reported piracy
- Software Publishing Association showed up unannounced with a warrant
- The original audit cost \$14M
  - Consent decree cost \$4M every year for 3 years
  - Today, 50+% installed base is open source



# Work Imperative as Rationale

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- "We're moving off (Microsoft) Office to Open Office because we are tired of unnecessary feature creep. I'm sure the ribbon and all the other new features in MSFT Office are neat. We just don't care about them. We have work to do and people we are tired of retraining, and PCs we're tired of upgrading."
- "Did I mention it's free? It's going to allow us to focus on our job, not licensing issues."
- (A Suburban Philadelphia, PA-based client)



# Server Migration

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- Easiest

- File & Print
- Internet/intranet infrastructure based on open standards
- E-mail servers
- Misc
  - Fax
  - Remote Access
  - VPN

- Harder

- Custom app servers
- Vendor supplied application servers without Linux support
- Internet/intranet infrastructure based on (or tied to) proprietary standards or servers



# Open Source Averse?

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- Open source software doesn't come with the same warranties as commercial software
  - Some open source support lacks quality
- Open source experts can be harder to find
- Don't pick open source, just because it's free
  - Pick something that delivers/contributes value
- Legal concerns
  - FireStar patent suit against Red Hat over Hibernate O/R mapping



# Keep the *status quo*?

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- Proprietary mission critical applications
- Custom applications
  - Investigate the complexity of conversion...
  - ...to Linux
  - ...Java
- Server-side versus desktop
  - System architecture plays a role, too.
- Attitudes: Is your organization the open source type?



# Cost Saving Opportunities

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- Download for free doesn't mean no cost
  - Don't have license fees
  - Do have support costs
    - Help desk
    - Upgrades and patches
- Worth considering paid support?
  - Depends upon the skills at your organization
  - Investigate paid stack support



# Managing Open Source

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- Initially requires understanding your organization to determine issues of risk
- Establish clear goals
  - Remember Open Source isn't just a LAMP issue
- Establish clear metrics
- Start with a clear pilot project
  - Internal project or software development?
  - Will your group contribute to the commons?
  - Is the development proprietary?



# Get a Handle on Costs

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- Establish clear contributors to your ROI
  - License costs
  - License monitoring/tracking costs
    - Be sure to include every software title
    - There may be hidden costs for the server
      - ✓ Number of connections, terminal services, *etc.*
  - Software upgrade costs (forced or otherwise)
  - Hardware upgrade costs
- Don't forget conversion costs
  - Training costs are about the same



# ROI Formula

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- Simple formula:  $ROI = (Saved - Cost) / Cost$
- `Cost` includes stack support and deployment
- `Saved` is the difference between what is actually spent to acquire open source software and the projected cost of proprietary software it replaces
  - Include all licenses fees, *etc.*
- Hardware and software on same invoice???
- Did you pay for Windows twice?



# ROI Considerations

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- Savings derived from licensing can be easier to identify than hardware associated costs
  - Don't forget to include license tracking costs
- Reuse of older hardware and migration from older expensive Unix hardware
  - Extend life of existing investment
- Staff savings
  - Linux admin cost more than Windows (demand)
  - Linux admin typically handle 3.5 to 4 times more servers which drops admin cost per server
  - Training costs about the same



# Current Real World Numbers

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- Average of 5 clients suggests install cost per seat on a Microsoft platform is just under \$2000 (\$1930).
  - Windows, Office, and other productivity tools
- Average cost at the same 5 clients pilot project (still underway) suggests costs will be about half (\$970) to equip user with Linux and comparable tools.
- Open source isn't a panacea
  - Nor is it the right choice for every organization



# More Real World Numbers

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- Absolute value of savings is dependant on company size.
  - TCO numbers from the previous slide translate to a range of savings
    - 1 to 2% for small companies (<\$100M)
    - 3 to 4% for large companies (<\$1B)
    - 4 to 5% for huge multinational companies
- 68% world-wide (83% US) use open source
  - Many don't know (and don't care) because the open source portion is buried or otherwise not directly exposed to the end user.
    - We'll get to SOX compliance



(Figures above averaged from Gartner and IDC, 2006)



# Management Considerations

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- Does the company work other organizations?
  - Is the company used to working collaboratively with other organizations?
  - Tend to gain more than companies that don't
- Companies that don't, or see open source purely as a costs savings don't have the same long-term return.
  
- Adherence to standards pays!



# Core Skills Required 1

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- Pure open source environment
  - Install, configure, administer and manage Linux servers and desktops
  - Distro/tools dependent
- Mixed environment
  - Depends on the subset
- Linux admin ???



## Core Skills Required 2

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- Windows admins with even limited \*nix background can be usually be converted
  - Provided Windows isn't a religion
- Highest rated non-open source skill according to 2 clients: "The ability to (use the Google search engine) efficiently. They don't have to know it, they have to be able to find it and apply (it) correctly and quickly."



## Core Skills Required 3

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- Patching open source operating systems takes practice and skill, particularly if a kernel rebuild is required.
- Patching applications is usually easier.
- One client picked a Linux distribution based on update research
- Ability to deal with OJT



## ...and the risks are...

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- Legal aspects...
  - Make sure you review the license if your object is source code modification or inclusion in internal development
  - <http://gpl-violations.org/index.html>
- Widespread use mitigated "not mainstream" risk.
  - Also increased the number of people who know something about the area
- Open source software is subject to attack, but community generates a fix quickly.
  - Usually faster than commercial vendors.
- Documentation is usually not as complete as commercial packages.
- "Free" doesn't automatically mean right choice.



# Open Source Risk Mitigation

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- Because of peer review it's harder for a programmer to insert malicious code into open source software
- Zero risk that the software vendor will sue you merely for open source application **use**
  - Same is also true for copyright or patent
  - No license management for application use
  - Possible for supported use of the application
- Reduced risk because of single source
- Worst case you can fix it your self
  - If you have the expertise



# SOX and Open Source

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- There might be SOX implications
  - Specifically with violations of GPL
  - Among other things, the Act requires disclosure of intellectual property and sworn statements from executives that certify veracity
- The Act provides criminal prosecution for executives if they knowingly allow the employees to violate license terms.
- Bottom line: don't do that!



# Summary

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- Open source doesn't work for every organization – but it DOES work
- The biggest risk management area is license
- Select areas for migration to open source that have the largest impact on your goals with the least effort and disruption
- Open source works on desktop and server



# Questions ? ? ?

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**If you  
don't ask,  
who will?**

**If not now,  
when?**



**There  
aren't any  
dumb  
questions.**

**The only dumb  
question is the  
one not asked!**



# Thank You

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# Related Sessions at CSS 2006

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- "Applying Lessons from Open Source Development"
  - Noel Bergman
- "Open Source Licensing for Developers"
  - Donald Smith
- "Join the Conversation – Being a Good Open Source Software Citizen and Fostering Communities"
  - Donald Smith