Selling Open Source with Business Metrics

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Objectives

- The Solvable Misunderstanding
- A Few Open Source Wins
- Influencing Management with Metrics
- Selling Open Source
The Solvable Misunderstanding
# Business vs. IT

<table>
<thead>
<tr>
<th>Business Confusion</th>
<th>IT Confusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>➔ Hard time understanding IT</td>
<td>➔ IT feel business doesn't understand them</td>
</tr>
<tr>
<td>➔ And the value it delivers</td>
<td>➔ And the true value we deliver</td>
</tr>
</tbody>
</table>
IT Needs to Improve

• We can be better at communicating the value we bring

• Communicating in the same terms at the business understands

• We can learn to understand more of the business needs
Business Needs to Improve

• Understanding of IT
• Business improvement opportunities of IT
• Competitive advantages
When we are no longer able to change a situation, we are challenged to change ourselves.

-Victor Frankl
Anyone remember: Microsoft Get the Facts Campaign?
Get the “Facts”

- 2004 Microsoft Ad Campaign
- Biased TCO Study of Windows vs. Linux
- Based on work with Accenture on migrating London Stock Exchange to .NET based trading platform.
- 99.999% uptime claim
Facts are..
Facts

- 2009 LSE dropped MS for Linux
- Better reliability & security
- Lower TCO
- Linux win
Open Source OWNS!
Super Computing

**TOP500 Statistics**

<table>
<thead>
<tr>
<th>TOP500 Release:</th>
<th>November 2011 ▼</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stats type:</td>
<td>Operating System ▼</td>
</tr>
</tbody>
</table>

$R_{\text{max}}$ and $R_{\text{peak}}$ values are in GFlops. For more details about other fields, check the TOP500 description.

**Operating System System Share**

- Linux: 414 (82.8%)
- AIX
- CNK/SLES 9
- SLES10 + SGI ProPack 5
- CNL
- CentOS
- Cray Linux Environment


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Webservers

Market Share for Top Servers Across All Domains
August 1995 - December 2011

<table>
<thead>
<tr>
<th>Developer</th>
<th>November 2011</th>
<th>Percent</th>
<th>December 2011</th>
<th>Percent</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apache</td>
<td>341,880,662</td>
<td>65.00%</td>
<td>362,267,922</td>
<td>65.22%</td>
<td>0.22</td>
</tr>
<tr>
<td>Microsoft</td>
<td>81,261,099</td>
<td>15.45%</td>
<td>82,521,809</td>
<td>14.86%</td>
<td>-0.59</td>
</tr>
<tr>
<td>nginx</td>
<td>44,731,780</td>
<td>8.50%</td>
<td>49,143,289</td>
<td>8.85%</td>
<td>0.34</td>
</tr>
<tr>
<td>Google</td>
<td>17,749,748</td>
<td>3.37%</td>
<td>18,464,148</td>
<td>3.32%</td>
<td>-0.05</td>
</tr>
</tbody>
</table>
Open Web

9 of the top 10 websites* are built on Open Source Tech

*According to Alexa.com
Mobile

Gartner 2011 Q2

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Mobile Predictions

Predictions for 2015: (Gartner): 1105 million units; **Android 49%** / Windows 20% / iOS 17% / BlackBerry 11% / Other 3%.[36] (IDC): 982 million units; Android 44% / Windows 20% / iOS 17% / BlackBerry 13% / Other 6%
Movies/Animation

• Dreamworks Animation, Pixar, Weta Digital, and Industrial Light & Magic all run Linux

• According to Linux Movies Group - 95% of the servers and desktops at large animation and visual effects companies use Linux
Why Don't We Own More Marketshare?
Why?

- Management doesn't understand Open Source
- Sometimes we go zealot
- Sometimes we go too technical
- Sometimes we miss the real value Open Source brings
What can we do to more effectively to elucidate the benefits of open source?
Metrics
Sayin' we are awesome with numbers
Benefits of Metrics

- Highlight key benefits
- Cost vs. Benefits
- Make us persuasive
- Quantitative angle helps
TCO
Total Cost of Ownership
TCO

• All of the costs over useful life of investment
• More expansive than initial purchase price or implementation
• Costs such as initial investment, cost of operation, maintenance, useful life span, training, networking, etc.
TCO Includes (Wikipedia)

**Computer Hardware & Applications**
- Network hardware and software
- Server hardware and software
- Workstation hardware and software
- Installation and integration of hardware and software
- Purchasing research
- Warranties and licenses
- License tracking - compliance
- Migration expenses
- Risks: susceptibility to vulnerabilities, availability of upgrades, patches and future licensing policies, etc.
- Risks: susceptibility to vulnerabilities, availability of upgrades, patches and future licensing policies, etc.

**Operation expenses**
- Infrastructure (floor space)
- Electricity (for related equipment, cooling, backup power)
- Testing costs
- Downtime, outage and failure expenses
- Diminished performance (i.e. users having to wait, diminished money-making ability)
- Security (including breaches, loss of reputation, recovery and prevention)
- Backup and recovery process
- Technology training
- Audit (internal and external)
- Insurance
- Information technology personnel
- Corporate management time

**Long Term Expenses**
- Replacement
- Future upgrade or scalability expenses
- Decommissioning

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TCO Analyzed

- Single minded focus on cost
- TCO misses benefits or returns
- Need to examine both
- Shouldn't be used alone
Example TCO Studies
Cybersource Pty. 2004 TCO Study

• Modeled an organization with 250 users over 3 years

• Workstations, servers, Internet connectivity, an e-business system, networking, desktop software, and salaries for IT professionals

• Compared new infrastructure vs. migration
# Linux TCO

## Red Hat Enterprise Linux Solution vs Microsoft Solution

<table>
<thead>
<tr>
<th></th>
<th>Microsoft Solution</th>
<th>Red Hat Enterprise Linux Solution</th>
<th>Savings Achieved by Using Open Source</th>
<th>Percentage Saved</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing hardware &amp; infrastructure is used</strong></td>
<td>$1,066,712</td>
<td>$781,279</td>
<td>$285,433</td>
<td>27%</td>
</tr>
<tr>
<td><strong>New hardware &amp; infrastructure is purchased</strong></td>
<td>$1,366,883</td>
<td>$1,111,450</td>
<td>$255,433</td>
<td>19%</td>
</tr>
</tbody>
</table>

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Nice!

Linux vs Windows TCO Comparison

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Soreon/Research & Markets TCO Study

- Soreon/Research & Markets TCO Comparison
- Data was collected from interviews conducted with 50 different enterprises
- Real-world not just another model
- Linux was shown to have a lower TCO by up to 30%
Calculating TCO

- Office Template
- http://goo.gl/hIQuH
- Libre Office Help
- http://goo.gl/UUjiL
ROI
Return on Investment
ROI

• Return on Investment - Calculates the financial performance of an investment
• Evaluates efficiency of an investment
• Includes cost elements but also the value of resulting benefits to enterprise arising from investment
ROI Analyzed

• Shows value not simply the cost (think TCO)
• No factoring of likelihood returns and costs will match predictions
• Should not be used alone
Redhat ROI Calculator

Moving to Linux? Make the most of your technology investment.
Let Red Hat Consulting develop your custom Core Build and watch your return on investment multiply.

Download the pdf.

Calculate your increased ROI using Red Hat Core Build Service, compared to doing the same Red Hat Enterprise Linux installations in-house. Here's how: Adjust the highlighted information fields below so they're accurate for your organization. Then compare the outputs in the bottom blue portion of the calculator. The left side indicates your costs doing the installation work in-house, while the right indicates costs using Red Hat Core Build Service. Take note of your savings per server, three-year savings, and three-year ROI (using Red Hat Core Build Service) denoted in red below.

**Red Hat Enterprise Linux Core Build Return On Investment (ROI) Calculator**

**Presumptions**

<table>
<thead>
<tr>
<th>Hardware purchase price</th>
<th>$5,000,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Administrator salary + benefits</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Annual hosting cost per server</td>
<td>$1,200,000</td>
</tr>
<tr>
<td>Number of servers supported per Systems Administrator</td>
<td>40</td>
</tr>
<tr>
<td>Number of Quality Assurance engineers working per build</td>
<td>2</td>
</tr>
<tr>
<td>Number of months of QA per build</td>
<td>3</td>
</tr>
<tr>
<td>Number of builds per year</td>
<td>12</td>
</tr>
<tr>
<td>Cost of Red Hat Enterprise Linux annual subscription</td>
<td>$2,499,000</td>
</tr>
<tr>
<td>Number of servers</td>
<td>1,000</td>
</tr>
<tr>
<td>Percent increase in System Administrator support ratio</td>
<td>50%</td>
</tr>
</tbody>
</table>

**Calculations**

<table>
<thead>
<tr>
<th>Base cost without Red Hat Consulting</th>
<th>ROI of the Red Hat Consulting Core Build Offering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware purchase price</td>
<td>$5,000,000</td>
</tr>
<tr>
<td>Annual subscription cost</td>
<td>$2,499,000</td>
</tr>
<tr>
<td>Annual system administration cost</td>
<td>$1,760,000</td>
</tr>
<tr>
<td>Annual cost of QA engineering</td>
<td>$240,000</td>
</tr>
<tr>
<td>Annual hosting cost for all servers</td>
<td>$12,000,000</td>
</tr>
<tr>
<td>Per server cost year 1</td>
<td>$22,599</td>
</tr>
<tr>
<td>Per server cost year 2+</td>
<td>$17,599</td>
</tr>
<tr>
<td>Per server cost 3 year total</td>
<td>$57,797</td>
</tr>
<tr>
<td>Three-year operating cost for all servers</td>
<td>$57,797,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analysis</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per server cost year 1</td>
<td>$21,439</td>
</tr>
<tr>
<td>Per server cost year 2+</td>
<td>$16,439</td>
</tr>
<tr>
<td>Per server cost 3 year total</td>
<td>$54,317</td>
</tr>
<tr>
<td>Three-year operating cost for all servers</td>
<td>$54,317,000</td>
</tr>
<tr>
<td>Savings Per Server</td>
<td>$3,480,000</td>
</tr>
<tr>
<td>Three-year savings</td>
<td>$3,480,000</td>
</tr>
<tr>
<td>Three-year ROI</td>
<td>1450.00%</td>
</tr>
</tbody>
</table>

http://www.redhat.com/promo/corebuild/

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Example ROI Study
RFG ROI Survey

• Robert Frances Group Survey 2004
• All of the enterprises surveyed reported positive ROI within one year
• Financial services firms with more aggressive implementations that included application servers and high-performance computing (HPC) applications - reported the highest returns
• Several projects returning over 500 percent of the initial implementation investment
Calculating ROI

- http://goo.gl/C3HJp
- http://goo.gl/dDYGL
- Libre Office Help
- http://goo.gl/UUjiL
NPV
Net Present Value
NPV

- Net Present Value – Help to decide which projects to invest in
- Helps **determine economic viability (profitability)** of an IT investment by looking at projected inflows and outflows
- Difference of present value of cash inflows vs the present value of cash outflows
  - $>0$ is good
  - $<0$ not so good
NPV Analyzed

• Top choice in analyzing capital expenditures

• Can take more time to explain or present to others

• Should not be used alone
Calculating NPV

- Open Office/Libre Office Template
  - http://goo.gl/grtncc
  - http://goo.gl/vVIXi
- Libre Office Help
  - http://goo.gl/UUjiL
IRR
Internal Rate of Return
IRR

• Internal Rate of Return
• AKA - Rate of Return (ROR) or Discounted cash flow rate of return (DCFROR)
• In capital budgeting is used to measure or compare profitability of an investment
• Higher the IRR the more valuable the project
IRR Analyzed

- Singular hurdle rate (rate of return required) for investment decision
- Not as easy to understand as other metrics
- Some debate in Finance community as to its validity
- Shouldn't be used alone
Calculating IRR

• Open Office IRR
  • http://goo.gl/OUCOE
  • http://goo.gl/ylkWQ
• Libre Office Help
  • http://goo.gl/UUjiL
Payback Period
Payback Period

- How long it will take for investment to pay for itself
- Easy to calculate
- Rough measure
- Initial investment/cash flow per year
PP Analyzed

• Doesn't consider time value of money*, risk, financing
• Generally we don't want to break even, we want to have a return
• Rough measure
• NPV and IRR are more relevant

*Time value of money is the value of money figuring in a given amount of interest earned over a given amount of time
Caveats & Other Issues With Metrics
Caveats

• These metrics are only one of many factors.

• Metrics are filled with assumptions, estimates and judgment calls, behind the numbers

• Not to be used alone

• Qualitative measures are important too
“Different investment have different outcome and require different kinds of justification.”

– Marianne Broadbent – Author
Metrics Value

• Help us sell decision makers on great software
• Show real value
• Articulate benefits
Use to Build Business Case

- Use to augment your case
- Build your financial case
- Be open to the fact that Open Source may not be a good fit for the solution
- No one solution fits all problems
Do Your Own Study

• You need to do your own study
• Get your own numbers valid for your organization/situation
• Use these others studies/metrics/success stories for reference is fine
• OSS isn't always the answer
Some Real World Studies of Where OSS is Headed
Forrester Study (2009)

• 87 percent realized cost saving by open source
• 92 percent had their quality expectations met or exceeded by open-source software.
• 72 percent knew that much of the proprietary software they license includes open-source components
• 39 percent regularly combine open source and proprietary software to solve business problems
Open is the Future

IDC now expects worldwide open-source revenue to grow at a 22.4 percent compound annual growth rate to top $8.1 billion by 2013.
We Cost Less

- 2004 SAP Study
- In 2004, open source software saved large companies (with annual revenue of over $1 billion) an average of $3.3 million.
- Medium-sized companies (between $50 million and $1 billion in annual revenue) saved an average $1.1 million.
- Firms with revenues under $50 million saved an average $520,000.
Cost isn't the only benefit of Open
Benefits of OS

- Access to Source
- Auditability
- Freedom
- Support
- No License Fee
- No License Compliance Headache
- No Forced Upgrades
- No Vendor Lock-in

- Open-ness
- Reliability
- Flexibility
- Stability
- Security
- Innovation
- Cost
- It ROCKS!
How NOT to Sell

- Freedom
- Zealotry
- Bigotry
- Unidimensional
What is this?
Open Source

• Based on quality alone sells itself
• We can help by using quantitative and or qualitative measures
• It is all about how we communicate the value it yields
Thank You

- BLU
- MIT (For the space & support)
- All of you!
Let's Connect

Find me on all social networks
http://network.evolutionaryit.com
Let's Connect

For more information visit our website:
http://www.evolutionaryit.com
Or email us at:
http://www.evolutionaryit.com/contact-us/