Realizing the Breakthrough Economics of Linux and Open Source through Hybrid Development

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Agenda

- Current Market Dynamics
- The Economics of Open Source
- Challenges of Adoption
- The New Pragmatism – Hybrid Application Development
- Customer Examples
- Summary

Tough Times Still Require Innovation

- Economic slowdown = budget cuts
  - Global IT spending is shrinking
  - Between 1/09 and 4/09 Gartner lowered their 2009 Global IT forecast by $270B
- Still need to innovate
  - Differentiation to respond to increased competition
  - Operational efficiencies to continue to execute
- Challenge: innovate more with less
  - How to lower the cost and risk of innovation, and accelerate time-to-solution?

The Future of Software is Open

- Software development has changed forever
  - Internet, community development & OSS licensing
  - Componentization and re-use
  - Agile methods
- OSS has gone mainstream
  - 85% of enterprises use OSS today
  - 45% of OSS use is Running Mission-critical applications
  - 70% of OSS contributors are corporate developers
  - Microsoft (CodePlex)
- Large pool of proven, reusable software
  - Over 200,000 OSS projects
  - 5+ billion lines of code

Breakthrough Economics of Open Source

The Macro-Economics:

- Large pool of proven, reusable software
  - Nearly $400B worth of “shovel ready” code
  - Representing 2M person-years of effort
- Annual savings possible via use of OSS - U.S.*
  - U.S. development savings: $22 billion annually
    - In perspective: would rank among top 20 projects in US Stimulus Package
- Global annual savings possible - $65B*

**** Assumes saving only 10% of Global IT software development spending***

Breakthrough Economics of Open Source

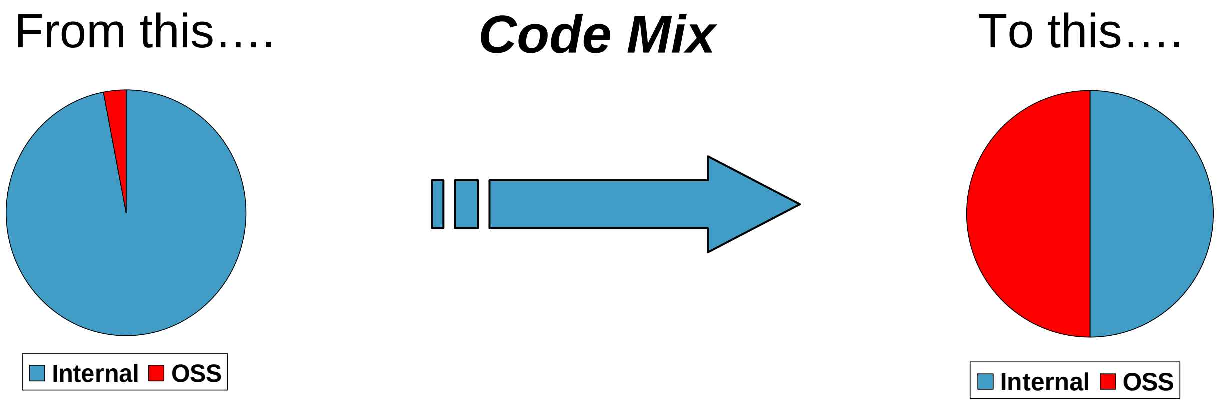
The Micro-Economics:

- Vendors:
  - Development leverage (technology, quality)
    - Linux: OSS community contribution: $1.4B
    - Red Hat R&D annually: $60M
  - Disruptive business model (Innovator's Dilemma)
- Customers:
  - Development costs & time to solution
    - 19K lines of new code, 140K lines of open source
    - Savings rule of thumb - $10-$20 per line of code
  - Proven quality, security
  - Choice…reduced vendor lock-in
  - Focus internal development on business value
  - Communities for engagement & self-support

"The fundamental economics of software development lead you to open-source software" - David Rivas, Nokia VP for S60 Software

Implications

- New software projects will utilize much more open source
  - Applications built using many more off-the-shelf components
  - Assembly & integration
- Adoption of open source, ‘at scale’



- Using open source at scale in multi-source projects, introduces new challenges for development teams:
  - Management & Automation
  - Compliance & Risk Management
  - Security

Challenges of Using Open Source At-Scale

Management

- Leverage the right software from many sources
- Increase productivity using component software
- Encourage standardization of components & versions
- Deliver cost-effective support

Compliance & Security

- Establish & comply with open source policies
- Manage licensing and associated obligations
- Comply with export regulations
- Track security vulnerabilities

Top Most Commonly Used Licenses in Open Source Projects

Rank	License
1	GNU General Public License (GPL) 2.0
2	GNU Lesser General Public License (LGPL) 2.1
3	Artistic License (Perl)
4	BSD License 2.0
5	GNU General Public License (GPL) 3.0
6	Apache License 2.0
7	Code Project Open 1.02 License
8	MIT License
9	Mozilla Public License (MPL) 1.1
10	Common Public License (CPL)
11	zlib/libpng License

- Top 11 licenses account for 94% of OS projects
- # of OSI-approved license types: 72
- # of license types in Black Duck KB*: >1500

Note: The table above illustrates the top 11 licenses that are used in open source projects, according to the Black Duck Software KnowledgeBase as of **March 2009**.
For current estimates, visit: http://www.blackducksoftware.com/gpl3

Know Your Code.™

Challenges of Using Open Source at Scale

- Manual management processes are inadequate
  - Version proliferation raises complexity and likelihood of errors

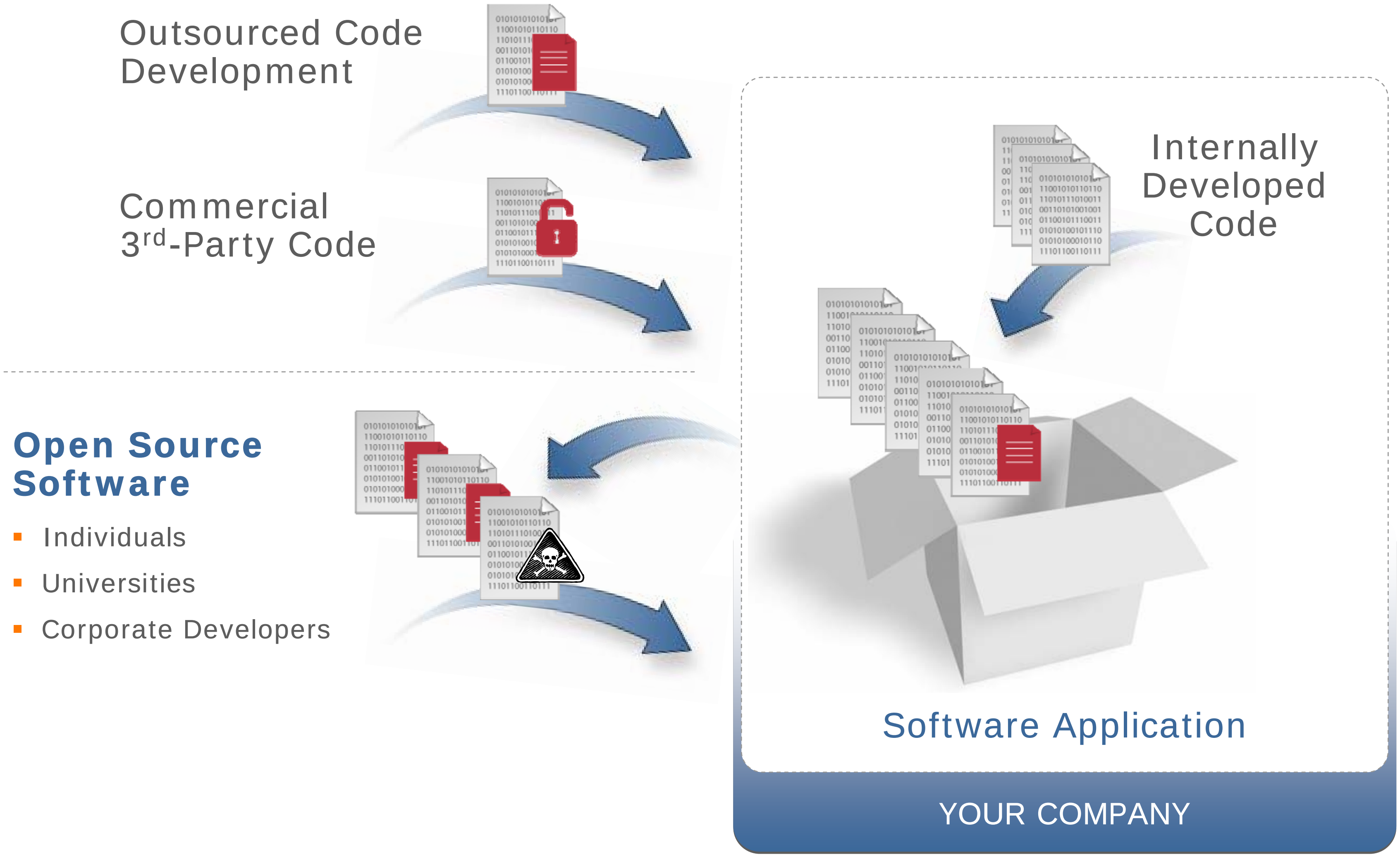
Applications	Components	Versions	Components to track
5	2	3	30
5	100	3	1500

- A manual process at-scale costs $1100/MB/year
- Knowing your code:
  - 100% of consulting customers have OSS they didn't know about
  - 46% of Development Managers using frameworks such as Spring, Hibernate claim they are not using OSS *(Forrester, Q307)*
  - 78% of Developers report their organizations lack OSS management policies *(SD West survey, 3/09)*

"It is becoming not only impractical, but virtually impossible, for mainstream IT organizations to ignore the growing presence of open-source software in major segments of the IT industry."

- Gartner, "Key Issues for Open-Source Software", 2008

New Pragmatism: Hybrid Development



Outsourced Code Development

Commercial 3rd-Party Code

Open Source Software

- Individuals
- Universities
- Corporate Developers

Internally Developed Code

Software Application

YOUR COMPANY

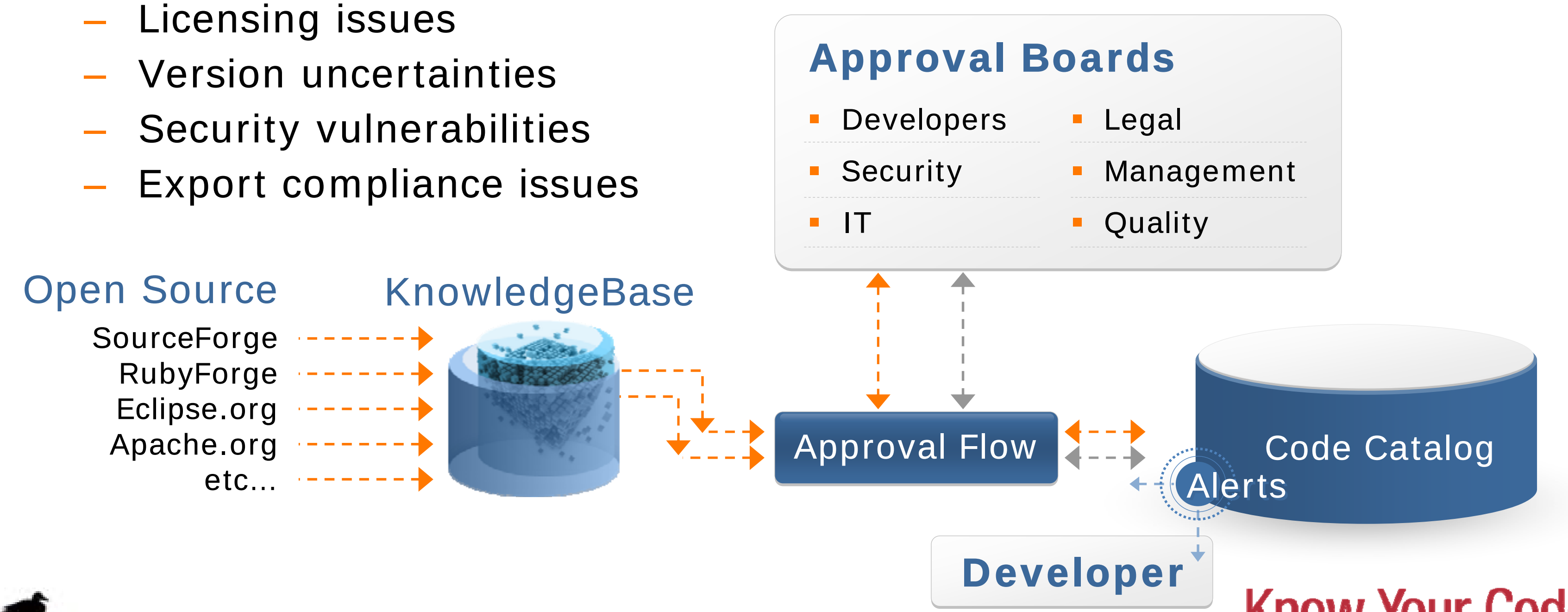
Know Your Code.™

The Enablers for Hybrid Development

1. Freedom of choice
   - Choose the best tool for the job: open, outsourced, proprietary
2. Support & automate making good selections
   - Developer - Find the best code
   - Cross-functional involvement (Development, Legal, Security, Management)
3. Mitigate/eliminate the challenges
   - Management and automation
   - Compliance – 200,000+ projects using 1500+ licenses
   - Security – new vulnerabilities appear daily
4. Integrate with existing development tools
5. Policy and process must be elemental to the solution

Management & Automation

- Make better choices on the front-end of development process (100X less costly than fixing a defect later)
- Increased reuse of good code – open source; licensed from 3rd parties; internally developed
- Authentication and access control for individual enterprise users
- Avoidance of...
  - Licensing issues
  - Version uncertainties
  - Security vulnerabilities
  - Export compliance issues



Approval Boards

- Developers
- Security
- IT
- Legal
- Management
- Quality

Know Your Code.™

Case Studies

RICOH | IBM
InfoPrint Solutions Company™

Problem:

- Identify OSS software
- Automate approvals
- Monitor security vulnerabilities

Solution Benefits:

- Manages legal risk
- Enables collaboration around OSS approvals
- Streamlines devel process

intel®

Problem:

- Identify OSS software
- Automate verification and compliance
- Improve collaboration between functions

Solution Benefits:

- Identifies software conflicts early
- Reduces rework
- Lowers risk of legal issues

Summary

- The economics of broader OSS use are compelling
- The new pragmatism: hybrid development using open & proprietary code

- Successful use of OSS at-scale requires policy, automation & management
- New solutions enable development organizations to realize the benefits & manage the challenges