



Application Development and Open Source Process Trends: Survey Analysis and Findings

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Executive Summary

IT and R&D software development organizations have always struggled to deliver better software at a faster pace and with tighter budgets and resources. More organizations are further challenged with effectively coordinating and collaborating geographically distributed development teams. Today, these organizations are adopting more than just Open Source technologies, they're putting into practice Open Source development principles to address these challenges.

Distributed development teams are prevalent within three-quarters of the organizations surveyed. And a collaborative environment was deemed vital by both practitioners and managers alike. Over one-half of organizations surveyed are using Open Source techniques and tools to improve software quality (57%), while 45% are increasing efficiency or productivity and 38% are making more efficient use of available resources.

Executives must educate themselves and strategize on how to best support the recent adoption of Open Source processes within their development organizations. Respondents of this survey agree that more adoption of Open Source processes in the enterprise supported by the right infrastructure built upon a centralized repository will lead to improved quality and efficiency across distributed teams. Although the benefits from Open Source processes are in the interest of improving IT and business alignment, the biggest barriers to adopting more is believed to be resistance from senior management and inadequate infrastructure or tools and a lack of implementation expertise.

Methodology

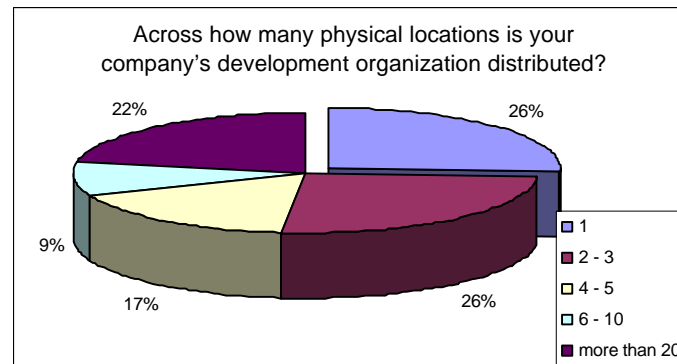
This "Application Development and Open Source Process Trends" survey was conducted by VA Software to assess the opinions of IT managers and their team members on distributed development challenges and use of Open Source tools and techniques in the enterprise.

The survey was conducted in October 2004 and a total of 176 completed responses were obtained. The respondents represented a cross-section of IT development (56%) and R&D (44%) organizations in North America employing a range of development professionals – from small group (<49, 53%), medium (50-499, 26%) to a large development organizations (>500, 21%). Nearly half of respondents were developers/engineers (44%) and the remaining respondents were comprised of business managers, project managers, development managers, directors, VPs and CIO/CTOs.

Invitations to participate in the web-based survey were sent to approximately 9,000 executives, development managers and engineers. The survey instrument included questions in four categories: distributed development, skills and organization, collaboration, reuse, Open Source tools and Open Source techniques.

Analysis of Survey Results

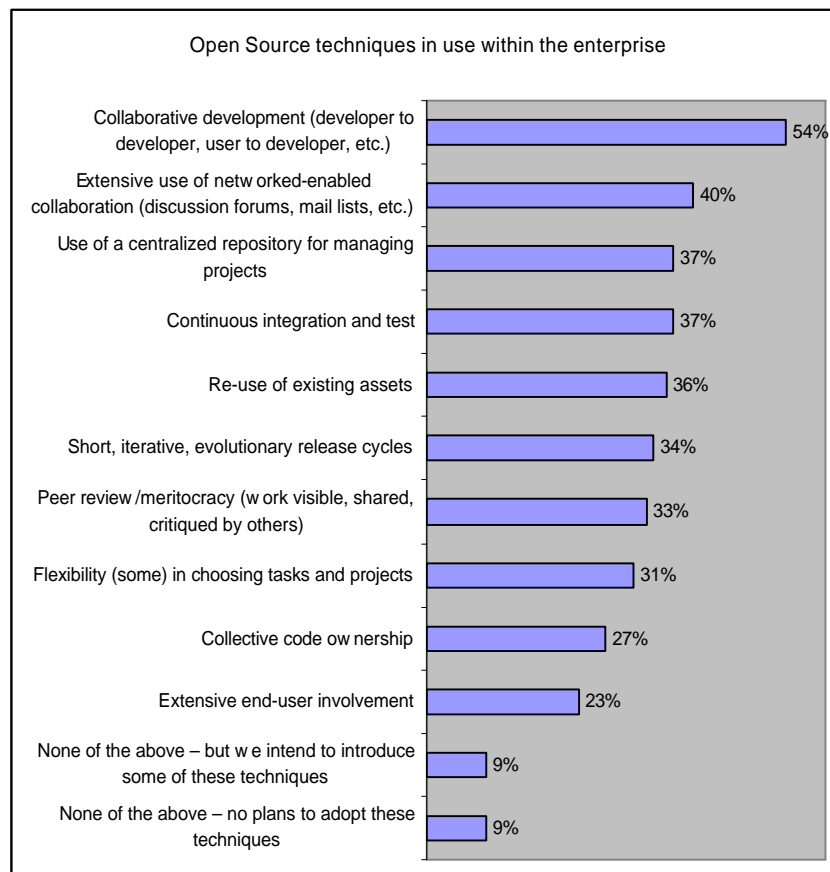
- **Distributed development introduces new development challenges.** Nearly three-quarters (74%) of respondents surveyed represented distributed development organizations, with 48% representing teams with at least four different locations.



- **A changing IT and R&D development working environment adds longer hours, more scrutiny and stress.** More than one-half of respondents say they work longer hours (56%), 47% are under more management scrutiny and 63% feel more stressed than a year ago. The reason is attributed to decreasing budgets and pressure to reduce costs (26%); increased market competition or a need to differentiate and innovate (24%); and growth and distribution of development organizations (20%). A lack of skilled resources (16%) and corporate governance (10%), such as Sarbanes-Oxley, HIPPA and other regulatory compliance standards, were other reasons for longer hours, more scrutiny and stress in the working environment.
- **An overwhelming need for a collaborative development culture.** A majority of respondents (87%) felt that a collaborative culture was important to their development organization. A collaborative culture within the enterprise ensures that all— development team members as well as stakeholders located in different geographies and time zones — are able to easily communicate and collaborate on all dispositions throughout all stages of the software development lifecycle. Over one-third of respondents said that among the top management challenges in the development organization is increasing developer productivity (39%), establishing the right infrastructure for growth (36%), and encouraging a cross-team collaborative culture (31%).
- **Increasing development efficiency and reuse, and positioning for long-term growth are within the top perceived management challenges while supporting existing applications and encouraging cross-team collaboration were also top-of-mind.** Intuitively one would think that managing offshore development and IT challenges resulting from M&A activities and meeting regulatory compliance requirements would be of greater concern, particularly for those organizations with distributed development locations. However, nearly two-thirds of respondents agreed that the most pressing management challenges faced today within the development organization were satisfying executive and business needs (40%); increasing productivity (39%);

improving reuse (37%); and establishing the right infrastructure and policies for long-term growth (36%); supporting existing legacy applications (34%); and encouraging a collaborative culture (31%).

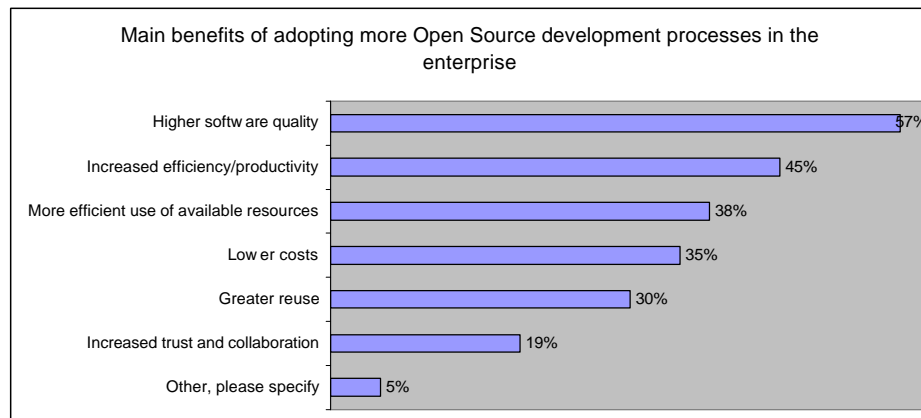
- **Mixed input as to what they would change about their development organization.** Respondents weren't in agreement as to the one thing they would change about their development organization, but there was almost equal number of responses saying they would want to increase developer productivity/efficiency (19%), increase available budget and resources (19%), increase consistency and quality (18%), and increase collaboration (17%).



- **Re-use barriers cite lack of centralized repository, best practices and cultural issues.** The top three reasons organizations believe they're not achieving optimum re-use are access/discovery issues resulting from a lack of centralized accessible repository (34%), a lack of best practices enabling reuse (e.g, correct categorization and identification of reusable assets) (33%), and cultural issues resulting from developers preferring to work from scratch (32%).
- **Open Source technologies, tools and processes are widely adopted within the enterprise.** Nearly three-quarters (73%) use Open Source technologies such as JBoss, Linux, etc. Almost two-thirds (65%) use Open Source tools, such as GNU compilers, Bugzilla issue tracker and other development tools. And

nearly one-half use Open Source development methodologies or techniques (48%), while only 13% don't use Open Source at all within their enterprise.

- **Up to one-half of organizations have introduced Open Source development principles in their organization.** The most common Open Source development methods practiced within the enterprise include collaborative development (54%), extensive use of discussion forums and mailing list (40%), continuous integration and test (37%), re-use of existing assets (36%), short iterative evolutionary release cycles (34%), peer review and meritocracy (33%), and the flexibility to choose tasks and projects (31%). One-tenth (9%) do not practice any of the aforementioned processes, however say they intend to introduce Open Source methodology into their enterprise, while one-tenth (9%) have no plans to adopt any Open Source techniques, at all.
- **Improved quality and efficiencies are believed to be the primary benefits of Open Source methods in the enterprise.** Respondents said that higher software quality (57%), increased efficiency or productivity (45%) and more efficient use of available resources (38%) would be the main benefits of adopting more Open Source development processes in the enterprise.



- **Open Source methods are met with some executive management resistance, lack of infrastructure and implementation expertise.** Although the benefits from Open Source software development processes are in the interest of improving IT and business alignment, the biggest barriers to adopting more Open Source is believed to be resistance from senior management (43%) and inadequate infrastructure or tools (36%) and a lack of implementation expertise (32%).

About the Company

VA Software (Nasdaq: LNUX) is at the center of today's technology revolution and incites innovation by empowering the IT and developer communities with information, community support and software. VA Software is the parent company of OSTG (Open Source Technology Group), formerly OSDN, and the creator of SourceForge. SourceForge.net is the global nexus for the Open Source community with 90,000+ Open Source projects and 985,000+ registered users. SourceForge Enterprise Edition optimizes distributed development for Fortune 500 companies.

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Open Source Experience and Expertise

SourceForge Enterprise Edition brings VA Software's extensive knowledge and experience of successful Open Source development principles to distributed enterprise development challenges. Just as SourceForge.net provides a centralized resource for the Open Source community, SourceForge Enterprise Edition provides organizations with a centralized, searchable and secure application that enables distributed teams to collaborate more efficiently while giving managers greater visibility and control.

SourceForge Enterprise Edition enables organizations to integrate disparate tools and processes, expand visibility and control, improve development efficiency, and empower greater collaboration and innovation.

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