



The Business Case for Perforce SCM

Software Configuration Management Delivers
A Competitive Advantage



Introduction

Efficient change management of source code and all digital assets—which can include documents, graphics, web pages, or any other type of electronic file—can deliver a competitive advantage to companies that do it well. For this reason, Software Configuration Management (SCM)—once considered a routine topic for lower-level IT operations staff—is now on the agendas of CIOs at multibillion-dollar companies.¹

The business benefits of improving a company's SCM practices, also referred to as change management or version control, include

- better visibility into the development process;
- efficient management of geographically distributed teams;
- improved concurrent development; and
- improved cross platform support.

These benefits combine to make developers more productive and the development process more efficient, reducing development costs and speeding time to market.

Although there's little argument today about the benefits of SCM, much debate still exists over the most effective methodology to determine the value of an SCM product.

For this reason, we chose a straightforward approach. We present reports from a variety of analyst firms to highlight the importance of SCM, and showcase two case studies to illustrate the value of Perforce to our customers.

What Is SCM?

Today's complex application development environments demand SCM to track and manage the development process. SCM provides a central repository where all software artifacts such as source code, documentation, and digital assets are stored to maintain and reproduce each iteration accurately.

Although the software industry has been using SCM for many years, other industries are finally recognizing its importance. From chip design to game development, and web design to filmmaking, any company that has digital content can track its evolution with SCM.

How SCM Reduces Cost and Manages Risk

Gartner, Forrester Research, and IDC—the major research firms that monitor the SCM market—all agree on the business demands fueling the need for improved change management.

“With the dot-com collapse, IT lost its magical aura,” says Jim Duggan, an analyst at Gartner. “Management is now interested in getting better at change control and governance.”²

1. Forrester Research, “Market Overview: Change and Configuration Management,” 2004.

2. Alan Radding, “Software Configuration Undergoes a Restoration,” Application Development Trends, October 2005.

According to META Group, key business benefits of SCM are better quality, faster delivery, and easier modification of enterprise systems, as well as more flexible management, and support of mixed on/offshore development teams.³ META Group's report states, "The complexity of service-oriented, highly distributed systems, combined with the need for greater project control to support regulatory compliance, demand the consistency of enterprise SCM systems to reduce costs and manage risks."⁴

Supporting geographically dispersed project teams of both internal and external developers is also an important factor, according to META. "This will become more essential as organizations continue to supplement external staff with offshore and other outsourced programming staff."⁵

IDC agrees that the demand for SCM tools will remain strong as organizations seek to improve their software development processes to meet business demands for higher productivity and improved time to market, in the face of ongoing IT budget constraints.⁵

SCM Aids Sarbanes-Oxley Compliance

The benefits of using an SCM system become particularly apparent in light of Sarbanes-Oxley requirements, because having the ability to answer whodunit-type questions applies not just to source code.

The Sarbanes-Oxley Act of 2002 promotes new standards for the financial reporting of public companies, and sets up a policing mechanism to ensure those standards are adhered to. Auditors who measure a company's effectiveness in meeting these standards have become more sophisticated in their understanding of the necessary controls IT departments need for compliance. Auditors need to know "Who changed what?", "When did they do it?", "Who approved the change?", and "Why?"

Prominent features that make Perforce particularly well suited to Sarbanes-Oxley compliance efforts⁶

- Configuration management.
- Access controls and the ability to assign promotion authority to groups of authorized users.
- Audit trails for various activities.
- Ability to rollback changes.
- Change management for runtime environments.
- Change review notification.
- Policy enforcement triggers.
- Integrated enhancement, bug, and issue tracking.
- Workflow process management support.

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Customers Discuss the Business Benefits of Using Perforce

More than 280,000 developers at 4,700 organizations worldwide use the Perforce SCM System to manage their digital assets. Notable U.S. customers include AMD, Electronic Arts, National Instruments, QUALCOMM, NVIDIA, Symantec, and Washington Mutual. International customers include BBC News Online, Deutsche Bank, and Symbian.

The business benefits of Perforce can best be illustrated by the success stories we've heard from our customers. We next showcase two case studies to illustrate the value of Perforce to our customers.

3. Gartner, Inc., acquired META Group on April 1, 2005.

4. META Group, Inc., "METAspectrum Market Summary: Enterprise Software Configuration Management Tools," 2004.

5. IDC, "Worldwide Software Configuration Management Tools 2004 Vendor Shares," 2005.

6. C. Thomas Tyler, "How Perforce Can Help with Sarbanes-Oxley Compliance, Perforce Software white papers, http://www.perforce.com/perforce/papers/perforce_sox_paper.pdf, July 2006.

Perforce Success Story: National Instruments

Featuring an Interview with Steve Lysohir, Perforce Administrator

The Challenge: The company was using a number of different SCM platforms, including Microsoft Visual SourceSafe (VSS), Rational ClearCase, and various open-source SCM solutions. As the company's development requirements grew, with six separate development facilities spread around the globe, the need to standardize on one cross-platform SCM system became evident.

The Solution: "We selected Perforce SCM based on four key factors: speed, ease of use, flexibility, and cost," explains National Instruments' Steve Lysohir. "At first, we used Perforce primarily for software development, but today we are using it as an enterprise-wide solution in a number of different departments. We are also starting to deploy the solution on the hardware side of our business."

National Instruments not only uses Perforce for software and hardware engineering activities, but also relies on the flexible SCM solution for a variety of applications in diverse departments, such as IT operations, web development, documentation, language localization, customer education, and the sales and marketing departments. National Instruments uses Perforce both to store source code and digital assets such as binary files and Word documents.

"We selected Perforce based on four key factors: speed, ease of use, flexibility, and cost."

"Perforce is one of the most important software applications in use at National Instruments today," emphasizes Lysohir.

Business Benefits: Flexibility and ease of use are important considerations for the company. "With so many different groups relying daily on Perforce, we really appreciate the flexibility of the system," continues Lysohir. "Each group typically has its own unique requirements and development methodologies. Because Perforce is flexible and easily customizable with scripts, it readily accommodates each group's development style. The system's open architecture has turned out to be a value for us."

Equally important to the company are the power and performance of the Perforce SCM solution. "We have been very impressed with how well Perforce has been able to handle our extensive distributed and concurrent development environment," continues Lysohir. "We calculate that we're averaging about 100,000 commands per 24-hour period on our main server."

National Instruments also has been impressed by the product's robust branching capabilities. "With Perforce's powerful branching features, we can manage multiple software releases," adds Lysohir.

And when it comes to service and support, Lysohir has this to say: "Perforce support has simply been excellent. They've been able to expertly handle anything and everything we've thrown at them."

The Bottom Line: Perforce has assisted National Instruments in increasing performance and throughput, boosting development productivity, and reducing administrative overhead to the point that the company requires just a single full-time SCM administrator. The net result has been the lowering of overall development costs, coupled with accelerated time to market for the company's virtual instrumentation solutions.

Perforce Success Story: Symantec

Featuring an Interview with Russell Jackson, Perforce Administrator

The Challenge: In 1998, Russell Jackson began to convert Symantec's SCM system from PVCS to Perforce. In addition, Jackson had to contend with numerous corporate acquisitions (approximately 25 from 1998 to 2006), phasing out other SCM systems that he inherited along the way. Today Symantec is the fourth largest software company in the world.

The Solution: "We chose Perforce because of its speed, ease of use, and ability to support remote development," says Jackson. "It took about two years to adopt Perforce company-wide."

In 2006, Symantec has more than 3,100 Perforce users at approximately 20 remote development sites around the world, including users in Russia, India, Taiwan, China, Japan, and Ireland.

"While developers don't like having to learn a new SCM system," explains Jackson, "once they found out how quick and easy it was to get up to speed on Perforce, the resistance quickly dissipated."

Business Benefits: In addition to software engineers, Perforce users include QA engineers, technical writers, web developers, and managers requiring a variety of files to be stored in Perforce.

"Now that we've grown so much, it is very important to us that our SCM system handles distributed development, and Perforce handles it well," Jackson says.

In addition, Jackson is the only person administering the system for the more than 3,100 users, which is a major cost savings compared to other labor-intensive systems.

"If you look at our Perforce server in Santa Monica—it doesn't matter what time of day it is or what day of the week it is—somebody is doing something. That server is literally active 24/7, and my metadata, the journal file, during the week is about 700 megs a day. It's very, very active," explains Jackson.

The Bottom Line: Perforce has proven itself to be a reliable platform for global development at Symantec. Development takes place around the clock and around the world.

"We have grown to become the fourth largest software company in the world with at least 20 remote sites and thousands of developers around the world. So, it is crucial that our SCM system handles distributed development well, and Perforce handles it seamlessly."

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The Perforce Approach to Business

Perforce Software was founded in 1995. Now, as then, their commitment to speed still drives the company in the development of its reliable Fast SCM System.

The Perforce SCM System features comprehensive SCM capabilities built around a scalable client/server architecture. Perforce can be deployed quickly and easily, and requires minimal administration even for large or distributed sites.

Perforce promises honest, straightforward dealing, and a product that meets both the technical needs of your staff and the business needs of your organization.

Ultimately, your team needs to evaluate our product. Perforce offers a free, fully functional version directly from our website. We encourage prospective customers to take advantage of our expert technical support.

Perforce SCM: Low Cost of Ownership

One of the barriers to adopting a new SCM system is the high cost of most systems, both in terms of the up-front purchase price as well as the ongoing maintenance and administration. Perforce is unique in that it combines an affordable up-front purchase price with low administrative and support costs.

All-Inclusive Purchase Price

Perforce is \$900 per user for the complete solution, which includes its distributed development technology. Pricing is all-inclusive; there are no add-on components that require licensing. The purchase price covers support and software upgrades for the first year.

Perforce offers cumulative pricing tiers. The per-user price is based on the cumulative number of users purchased by an organization, not just the number in any one order.

Minimal Administration

The Perforce Server is easy to install and administer. No third-party databases or application servers are required. User authentication is supported for external data sources such as LDAP and Active Directory. One part-time administrator can typically manage a Perforce installation of hundreds of users.

Expert Technical Support

Expert and responsive technical support is a hallmark of Perforce and a key component of the Perforce proposition. The support staff are highly knowledgeable—no outsourcing, no scripted responses—and take great pride in rapid response times. As a result, Perforce technical support receives enthusiastic praise from customers every day.

Executives, Editors, and Analysts Discuss Perforce SCM

We use Perforce for source control [management], and that works well.⁷

— **Wayne Rosing, VP of Engineering, Google**

All software under active development is maintained using the commercial Perforce version and configuration management system, a cross-platform proprietary software product.

Although we began development six years ago using the GPL-based Concurrent Versioning System (CVS), the challenges of source control and configuration management in the TiVo environment soon dictated the use of a more robust and externally supported solution.⁸

— **Jim Barton, Co-Founder, CTO, and Senior VP of Research and Development, TiVo**

Perforce is the cornerstone of Monster's software production lines. Over five years, our repository has grown to support the global development efforts of more than 500 users. It has more than 100GB of data, over a million changelists, and over 1.6 million archived files, all operating on Windows 2003 Advanced Server.

— **Mark Conway, CTO, Monster Worldwide**

A configuration management system should never make developers wait. Perforce's fast implementation and lightweight architecture ensure that using revision control is not only natural, but doesn't interfere with the development process . . . Its low price and administrative cost make this Alameda, Calif., company's product a top contender.⁹

— **Mik Kersten, *Software Development Magazine***

Not all offshoring projects require omnibus solutions. If the primary challenge is keeping track of software assets—such as source code, compiled binaries, documentation, and test results—a software-configuration management tool could fit the bill. One strong and inexpensive tool I've used is Perforce SCM, from Perforce Software. The client/server solution runs on Windows, Mac OS, and Linux workstations, making it very speedy for enterprise developers, and it can be accessed over the web by external developers. That makes it a strong package for a widely dispersed development team.¹⁰

— **Alan Zeichick, *InfoWorld***

Perforce was ranked as a market challenger in META Group's METASpectrum 2004 report for Enterprise Software Configuration Management. According to META, this group has innovative technology, offering creative solutions at lower prices.¹¹

— **META Group, *METASpectrumSM Enterprise Software Configuration Management* report**

Recent Awards

Software Development's Jolt Product Excellence Award

Software Development Times' SDTimes 100

Software Development's Productivity Award

Software Development's Readers Choice Award

Game Developer's Front Line Award

7. David J. Brown, "A Conversation with [Google's] Wayne Rosing: How the Web Changes the Way Developers Build and Release Software," *ACM Queue*, October 2003.

8. Jim Barton, "From Server Room to Living Room," *ACM Queue*, August 2003.

9. Mik Kersten, "Change and Configuration Management Tools," *Software Development*, June 2005.

10. Alan Zeichick, "Tools Foster Engagement with Offshore Developers," *InfoWorld*, March 2004.

11. META Group's METASpectrum report for Enterprise Software Configuration Management, September 2004.

www.perforce.com



North America

Perforce Software Inc.
2320 Blanding Ave
Alameda, CA 94501
USA
Phone: +1 510.864.7400
info@perforce.com

Europe

Perforce Software UK Ltd.
West Forest Gate
Wellington Road
Wokingham
Berkshire RG40 2AQ
UK
Phone: +44 (0) 845 345 0116
uk@perforce.com

Australia

Perforce Software Pty. Ltd.
Level 10, 100 Walker Street
North Sydney
NSW 2060
AUSTRALIA
Phone: +61 (0)2 8912-4600
au@perforce.com