

Case Study: Open Source vs Commercial SCCM

Challenge

When Brigham Young University contacted Codice Software they were facing difficult challenges managing their software development with an open source tool. Their challenges with the SCCM tool they chose were:

- Complex and difficult to support researchers and programmers with the open source tool
- Difficult to train administrators how to install, operate and maintain the open source tool
- Budget cuts due to the economy required the IT department to do more with less

Solution

The BYU Computer Science Department's Helpdesk selected PlasticSCM because it is an easy-to-use yet feature-rich software configuration and control system—for Windows, Linux and Macintosh developers and PlasticSCM saved them precious budget dollars.

- Simple for student administrators to setup/manage
- Cost-effective, no need to pay higher wages required for skilled GIT administrators
- Saves time via Windows integration
- Allows the BYU "Helpdesk" group to operate independently – no drain on valuable IT resources like system programmers or skilled Linux students working in the research labs
- Fast, reliable technical support from Codice Software addresses questions quickly

The Situation

Loren Harshbarger, Systems & Network Architect /Manager, oversees IT functions for computer labs within the university's Computer Science department that are used by approximately 150 people—including students, professors, staff and helpdesk workers. Programmers develop software as part of larger research projects such as computer hardware innovations, human interaction with computers, and remote control airplanes for search and rescue.

Several years ago, the department began adoption of Linux, an open source version of the UNIX operating system. The Computer Science department now relies heavily on Linux, with a lot of CVS [Concurrent Versions System] and SVN [Subversion] repositories for software configuration management. They now use both SVN

Brigham Young University (BYU) seeks to develop students of faith, intellect, and character who have the skills and the desire to continue learning and to serve others throughout their lives. Established in 1875, the university provides an excellent education in an atmosphere consistent with the ideals and principles of its sponsor, The Church of Jesus Christ of Latter Day Saints. BYU is well known for its academically minded and internationally experienced student body, world-class teaching, and beautiful mountain location. BYU is also recognized for its extensive language programs, talented performing arts ensembles, outstanding sports programs, and devotion to combining solid scholarship with the principles of the restored gospel of Jesus Christ.

"With university budgets always tight and with recent budget cuts due to the economic downturn, we are forced to do more with less. I don't have the luxury of paying a premium to hire Linux experts."

-Loren Harshbarger, Systems & Network Architect / Manager, Computer Science Department, Brigham Young University

and GIT, another open source version control system. "It became increasingly complex and difficult to support researchers and programmers with these open source systems," explains Harshbarger.

Case Study: Open Source vs Commercial SCCM



Harshbarger notes that open source is certainly usable, but it can become complex due to so many SVN add-ons available. He explained that when 5 to 10 people create custom SVN solutions—each with different add-ons—the end result is many different implementations of SVN, making it very difficult to support.

According to Harshbarger, GIT is difficult to learn and requires a deep skill set for installing, operating and supporting it.

“When GIT came along, it was a complete redesign. It got rid of a lot of underlying problems in SVN, but it was harder to learn than SVN.” Other areas in the Computer Science department do run GIT, but they have to hire students with greater skills.

Harshbarger’s staff use Windows as their primary operating system which is not ideal for SVN and GIT. “When some of our main repositories migrated from SVN to GIT, our Windows users were left out in the cold to some degree because they could not find a Windows client for GIT. We tried to teach them GIT but in the end we decided it was time to look at other options,” says Harshbarger.

A Configuration Management Solution for Linux and Windows

Harshbarger determined that they needed a robust, multi-platform client system for software configuration and control management, which he found in Plastic SCM. “Plastic SCM gave us a highly sophisticated yet end-user intuitive solution that supports Linux, Windows and even Macintosh clients,” he says. Plastic SCM helps our development teams work faster and better control the deliverables. It accurately tracks and maps the critical history details for every component within projects, provides powerful merge and configuration capabilities, secures valuable source code, and includes an interactive 3D graphical version tree—the “DNA map” of the code and merges.

“Plastic SCM has excellent Windows integration and allows developers to check files in or out within Word or Excel applications. This flexibility saves time and allows developers to work more efficiently.” Plastic SCM also has active directory authentication and “it’s easy to setup restrictions.”

Throughout the evaluation process, Harshbarger posed many questions to Codice Software and he found the

company representatives were extremely knowledgeable and responsive. “I was really impressed,” he says. “I wanted something that would

be simple for our student administrators to setup and use, and found what I was looking for in Plastic SCM. We used it right out of the box.”

The Computer Science department now has three Plastic SCM repositories, including a Cisco repository and one for Wiki configurations. With about 50, differently configured, Cisco switches, Harshbarger

maintains configuration files within Plastic SCM. Student administrators can check-out a switch configuration and make a change. If a switch malfunctions, they can also open Plastic SCM to view detailed revision history, compare the changes to find the problem, and easily revert to a working configuration or modify the faulty code change for a new configuration. Wiki configurations are also stored in Plastic SCM. “When a professor says, ‘I want Google Calendar added to my Wiki,’ that change is recorded in Plastic SCM,” he says.

Saving Time and Money with Plastic SCM

With Plastic SCM, Harshbarger saves the university money because he employs students to run the system. “Before we had Plastic SCM, if I asked a student to setup GIT, they would not be able to do it. Now, if I give students a server and ask them to put Windows on it and get Plastic SCM up and running, they can easily do it. Plastic SCM is simple for student administrators to setup and manage,” he says. “It’s a win-win because the helpdesk can operate independently without using Linux workers from other departments, ultimately saving precious time and money.

“I wanted something that would be easy for our student administrators to setup and use, and we found what we needed in Plastic SCM. We used it right out of the box.”

-Loren Harshbarger
Systems & Network Architect / Manager

“With open source, the argument is that ‘it is free.’ While it is true that there is no purchase price, there is definitely a cost to use it because you have to pay a premium for skilled open source administrators. If that talent leaves, you’re stuck. It also takes a lot of research to find answers to technical problems with open source systems and there is no support line you can call for help.”