

# PLASTIC SCM

## FEATURES AND BENEFITS

Plastic is an innovative Software Configuration Management System (SCM) based on a client/ server architecture design for implementing task based development on any sized-team. The user does not have to work on files in the repository but uses a client program to manage his "workspace" which is a local area containing a copy of a part of the repository.

Plastic SCM offers different new aspects both on its design as in the way the information can be handled, it supports parallel development providing team cooperation; full control over each developer's changes as well as over each integration and stunning visualization techniques offering high-end features to any- sized company, including of course, distributed teams.

### True Distributed SCM

Plastic offers the power of Configuration Management anywhere you are, it supports geographically distributed development environment through its TCP/IP based client/ server structure. It does not matter whether your colleague is in the same office as you are or in another country.

Plastic SCM distributed system is very easy to use and offers customizable options for each company, allowing them to decide among different working methods. As distributed environments are becoming a reality for software development, coordinating the efforts of development teams is one of the biggest challenges faced by today's companies. Depending on each organization needs and their structure, the most suitable SCM working pattern will be chosen. Plastic SCM supports the traditional distributed method, multisite and off-line.

### Fully Scalable

Plastic SCM is a fully scalable system that grows with your company, allowing you to choose having as many servers as needed and the database backend of your choice depending on your needs:

Multiserver Deployment improves even to a great extend your scalability and provides an increase on performance. Plastic SCM server manages two different concepts: repositories and workspaces. A repository is a database where all the versioned objects are stored. A workspace is an area in the developer's disk where a *copy* of a project stored in a repository is downloaded so that the developer can work with it locally.

In the default configuration a Plastic Server manages both repositories and workspaces, but the system is flexible enough to allow different layouts. Different repository and workspace servers can be configured to cooperate enhancing overall system performance, reducing network usage, distributing storage and balancing CPU load.

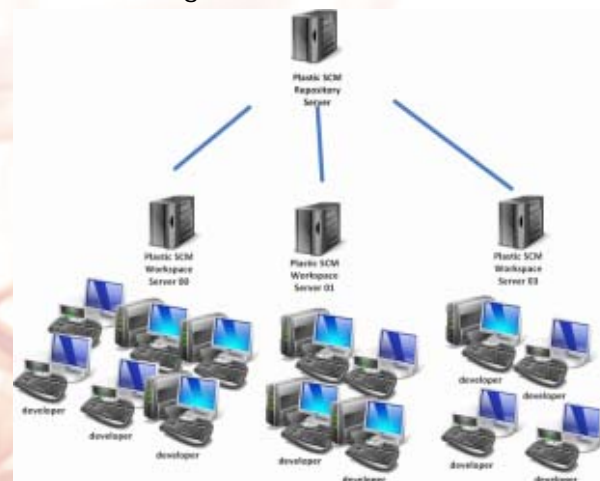


Figure 1: Multiserver Support

Another highly scalable feature that Plastic SCM includes is the customizable database backend: Plastic server transparently handles versioning. It manages both revision's data and metadata in a safe and efficient way. But a key point is storage of data. Many version control systems rely on their in-house data management implementation. Plastic SCM uses relational database management systems for that purpose. Relying on those systems has many benefits like having fully transacted operations (ensuring data integrity), performance or well defined backup and restore mechanism.

Plastic SCM can be configured to work with Firebird, SQL Server or MySQL database back ends, each of them providing with different features and benefits.

## ACL based security

Plastic SCM implements ACLs for each of the elements defined in the system and for each of the users or user groups. Through this method each company is free to decide which security policy they want to implement, not being restricted by tool limitations.

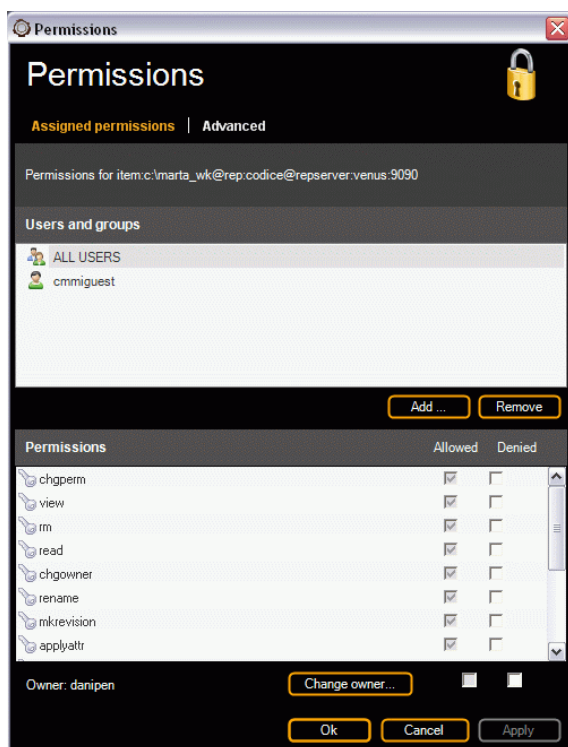


Figure 2: Sample permissions dialog

Furthermore, Plastic SCM security system integrates with most modern user directory technologies out of the box providing several authentication methods as well as its own mode:

- Active Directory integration
- LDAP integration
- Name authentication
- Name+ID authentication
- User/Password authentication

## Task Driven Development

Companies seeking to get the best out of their development team and increase their productivity will find that task based development is essential as it implies that

different developers are able to include changes at the same time on the same code base.

Plastic SCM does not handle branches as some sort of special directories as many other tools do; branching adds an extra dimension to the whole project. It provides easy and effective management of files throughout the development lifecycle.

It does not impose any restriction on the way a team wants to work: they can branch as much as they need and performance will not decrease, usage of branching will depend on each company's needs.

Furthermore, workspaces provide private branches for every developer, allowing the team to work independently on each task and in parallel on a common code base; it protects each developer's code base from changes made by other team members.

This method guarantees not only a higher stability on the project but also an improved coordination on the activities carried out.

## Powerful Query System

Plastic SCM Query System is the powerful mechanism which finds metadata inside Plastic SCM repositories. It allows users to create advanced reports to highlight system usage, project statistics, detect usage pattern or just monitor changes.

Queries can be done on one object type at a time, although it is possible to search on different repositories at the same time. The available object types are: attributes, attribute types, branches, changesets, links, link types, markers, merges, revisions, users, repositories and workspaces.

## Multiplatform Support

Plastic SCM is built on top of .NET technology so it works perfectly with any Windows version including W2K, W2003, XP and Vista, but it is also fully compatible with Mono so it can also be deployed on Linux, MacOS and Solaris.

It also offers the power of Configuration Management anywhere you are supporting geographically distributed development

environment through its TCP/IP based client/ server structure.

### Multiple view GUI

The interfaces provided by other tools are constrained to a *single-view* display. Users can visualize the workspace content on a pane, and then choose between displaying branches, or branch contents, or item's history or checkouts, or... Yes, the key here is the word *or*. With Plastic SCM users can display branch contents *and* branch lists, and checkouts *and*... Everything can be on-screen at the same time, what we consider an enhanced and more productive user experience.

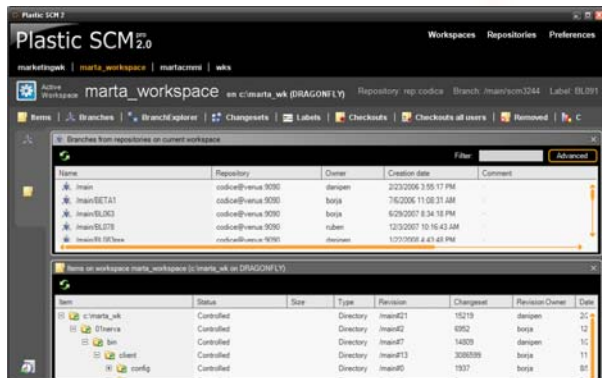


Figure 3: Multiplevue GUI

### Branch Explorer

Improving visualization and providing a clearer view of the project is one of Plastic SCM goals, and its branch explorer is a good example of it, as it shows a global view of the status of the project, including all branches and their relations: merge links, labels, parent links and changesets.

The view is customizable so users can choose to see either of these relations or all of them depending on their needs.

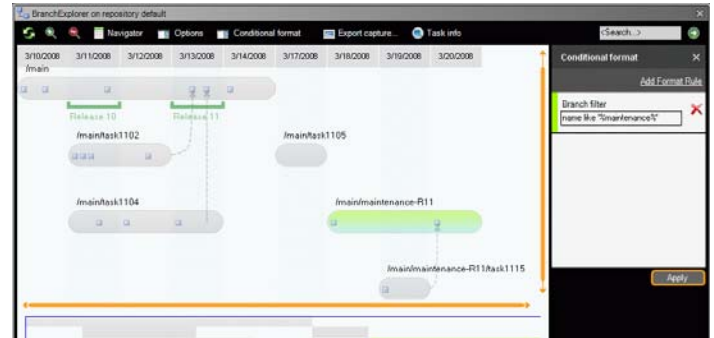


Figure 4: Branch explorer

### 3D version tree

Another innovative visualization tool provided by Plastic SCM is its 3D version tree, using a three dimensional environment the history of a file or directory can be easily accessed.

The tree also shows merge links, showing merge relationships between revisions and other information such as applied labels to a revision.

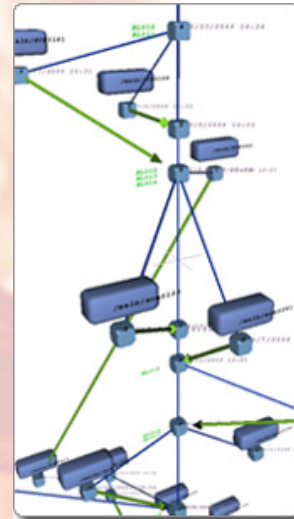


Figure 5: 3D Version Tree

### Statistics

Plastic SCM also includes a Statistics tool, which results the best way of showing the daily changes made by users on each item. The statistics can be retrieved either by user or by item, as shown on the following figure:



Figure 6: Statistics tool

## Code Review Tool

Needless to say how good code review is to keep software quality high! Plastic eases the task of reviewing your peers changes made on branches, changesets and labels introducing an integrated code review system, easy to use and transparent to the user.

## Difference and Merge Tools

PlasticSCM incorporates the required tools to visually display differences on several types of files, as well as directories, and is also able to perform graphical 3-way merge of code, image, files and directories:

- Code differences: Classical code file differences have been enhanced applying syntax highlight. This makes the code easier to read and follow
- Image differences: Supporting two modes, side by side or blended, where both images are blended together making it very easy to spot differences.
- Code merge: The 3-way merge is always a complicated process. We applied the same visualization technology previously used for differences, this time a step beyond. Our merge algorithms are highly optimized to resolve automatically as many conflicts as possible, and even for those not automatic, try to suggest the best possible solution before hand.

- Binary merge: When no text-file resolution is possible, conflictive merges are solved by the binary merge tool, able to display images and Microsoft Office contents so the user can choose the right version to merge.
- Directory diff and merge: As directories are fully versioned in PlasticSCM, there are also specific graphic interfaces for them.

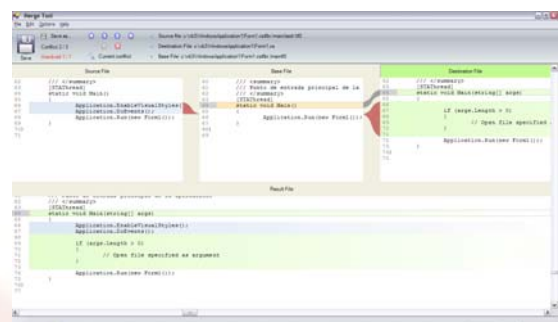


Figure 7: Three-way merge tool

## Integrations:

### Development Environments:

Plastic offers integrations with the most popular IDEs such as Eclipse, JDeveloper and Visual Studio, so developers can always make their changes without leaving their IDE.

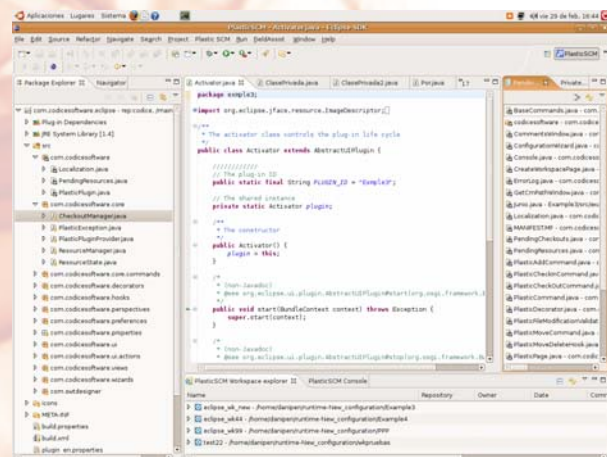


Figure 8: Integration with Eclipse

### Build Management:

Plastic SCM also provides integration with CruiseControl and CruiseControl.Net, providing a complete solution for companies using the Continuous Integration pattern for their

development as it allows users to automate build and release tasks.

#### Task/Defect Control:

A development process always involves a lot of different people in many different roles: developers, testers, managers...coordinating their work is a very complex task and many teams spend too much time in meetings to decide how they are going to comply with their work instead of just doing it!

The best solution for avoiding time loss and improving your team's productivity is integrating your Plastic SCM with a task tracking tool, providing that we offer a wide range of possibilities:

- JIRA
- DevTrack
- OnTime
- VersionOne
- Trac
- Bugzilla
- Mantis

#### Importers:

Using Plastic SCM importers you will only need a few minutes to upgrade from your obsolete and incomplete version control to a full-featured system!

Transitioning a development team from an outdated product like SourceSafe, CVS or Subversion to something new may seem more problematic than living with poor performance or code corruption... That's not the case with Plastic SCM importers, we offer a seamless migration! Our import tool lets users migrate an entire project with just a few clicks.

As a result the switch to Plastic SCM is painless; from day one your team will need less training time and will improve their productivity astonishingly!

#### **Technical Support**

Plastic SCM Professional license includes full support. Our technical support staff will be available to set up your tool and adapt your

process to improve your productivity and get the best out of Plastic SCM.



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