

AccuRev Moves SCM Technology and Process into the Future

By Mario Moreira - September 2005

Utilizing a Software Configuration Management (SCM) product that will allow software development teams to set up a SCM system (technology and process) quickly and effectively is more important than ever. For many, it is also important to have a SCM product that supports compliance in an effective way. And with the amount of distributed development occurring, SCM products must have an effective means for answering this challenge. Having heard that AccuRev has a string of award winning honors, including the 2004 Jolt Product Excellence Award as the best in SCM tools class and 2005 Jolt Productivity Award in recognition of the company's breakthrough SCM system, I got my hands on AccuRev 3.7 to see how it performs. I must admit, it was a pleasing and eye-opening experience.

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Having used numerous SCM technologies in past, I typically had to spend a bit of time in setting up the tool and much more time in defining and deploying the development process. With AccuRev, I found both steps pleasantly quick allowing me more time to investigate the product. Setting up the hierarchy of branches (known as the stream hierarchy in AccuRev) was an easy experience utilizing a graphic palette, much like an artist. Overall, AccuRev is a flexible client/server SCM solution that can scale from small to large local or distributed development projects. The features within AccuRev, while similar to some of the leading edge SCM products, include new technologies and approaches that have been previously unavailable in the market, makes this a well-rounded SCM product worth considering. Some key features include:

Stream-based Architecture – AccuRev uses a stream hierarchy to model the relationships within and across projects. Streams are a combination of classic branches and labels, but with additional self-knowledge of branch hierarchy so that each stream has a clear understanding (both current and in the past) of their position within the hierarchy. Classic branching has no such knowledge. Once a branch is moved to another position, all history is lost. With AccuRev, the stream retains the knowledge of where it comes from.

Built-in Issue/Defect Tracking (AccuRev Dispatch) – not integrated in the classic sense, but actually built into the AccuRev product (e.g., combined at the build-time level). The importance here is that the customer does not need to perform any laborious integration tasks between source control and issue tracking products, nor do two product bases need to be maintained. AccuRev seamlessly provides this key functionality within one product. Also, when you promote from workspace to backing stream (e.g., the integration stream), it will automatically ask for the associated issue number.

Support for Compliance and Security - the AccuRev process framework uses the advanced concept of atomic level transactions (a.k.a., TimeSafe®) for all operations. With atomic transactions, an action is either applied in its entirety or not at all. This eliminates the issue of unknown states of an action and reduces the possibility of checkin, promote, and therefore build issues. Also, at any time, you can review a transaction for its action (who, why, what, issue associated. etc.). This advances the ability to audit, particularly for those who have compliance needs (e.g., Sarbanes Oxley). Effectively, you can reproduce any build in the AccuRev depot at any time with assured data integrity. This eliminates the issues associated with removing & moving branches and labels since AccuRev always keeps track.

Product Review

Process Management - AccuRev uses streams, private workspaces, and change packages combined with issue tracking to help you easily establish the process you need (not the process imposed by many SCM tools). You can easily and visually see the process from the stream point of view. The following are features that support process within AccuRev:

Using the **StreamBrowser**, projects can establish the parallel development and promotion process and hierarchy within a graphical view with drag & drop capabilities. A designated person can control the changes to the hierarchy within the StreamBrowser. This provides flexibility of where changes need to go, but also provides security so that not anyone can change the hierarchy of streams. Below is an example of the graphical view within AccuRev.

Establishing **Private Development Workspaces**, developers can work independently from each other while still discretely having the ability to checkin their changes without public visibility. Each user starts with a stream known as a private workspace and every workspace inherits the backing stream.

AccuRev provides this feature out-of-the-box so it does not need to be setup like other SCM tools. Also, within the user's workspace, files are writable all the time. You do not need to checkout when editing (however, you can do exclusive locking if desired).

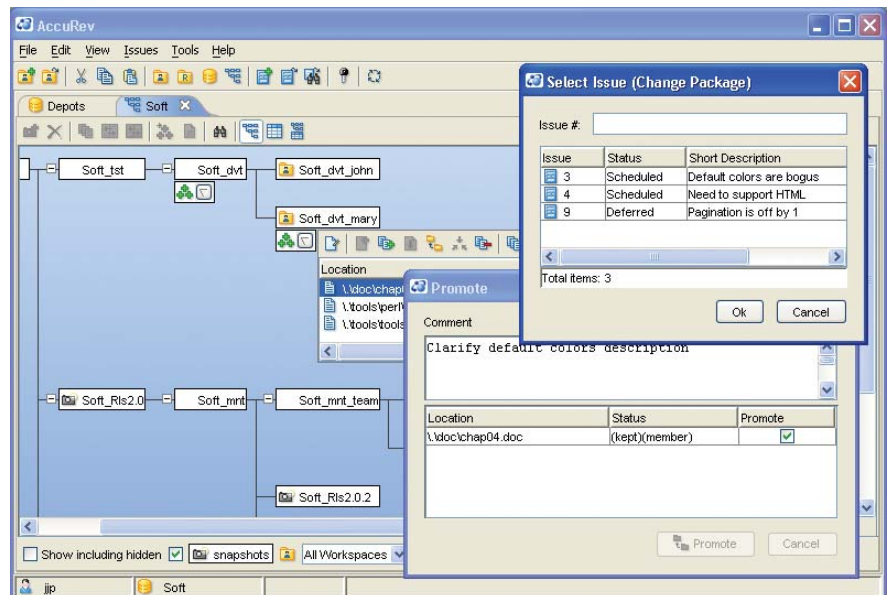
Includes a **Process History** where you can view the stream history within the StreamBrowser from inception through latest (and all increments in-between).

Development can work from **Change Packages** so that changes can be easily grouped together depending on the work. With the atomic-based transaction technology of AccuRev, change packages always remain together in that a check-in action is either applied in its entirety or not at all.

Distributed Development – AccuRev offers two Distributed Development options. The first is built into AccuRev and the second is the optional Replication Server. AccuRev comes with the Remote Client Snapshot option. This optional Replication Server is suited for low-bandwidth situations. Clients connect to the local replica of the server repository for all read operations and connect to the main server for all write operations. Read operations include history, diff, and getting new versions of files. Write operations include creating new versions of files and making changes within the StreamBrowser.

Conclusion

AccuRev provides an easy to use and well-designed product offering. It combines source control & issue/defect tracking which eliminates the integration challenge and maintenance of 2 product lines. This makes it an exceptional value for the price (two tools in one). It uses the StreamBrowser graphical interface for easy process modeling, quick user setup, and easy navigation. It uses the Timesafe® atomic level transaction that promotes compliance and security and ensures that past code structure can be recreated as needed. And it provides a built-in model and optional Replication Server for your distributed development needs. It is certainly a product that is worthy of strong consideration when you are selecting a SCM technology for your needs .



Cost:

AccuRev is licensed on a per-named-user basis. Licenses may be used across all installed platforms. Purchase price includes product updates and unlimited phone and email support for the first twelve (12) months.

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