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## See How AccuRev compares with SDTimes' SCM Best Practices

Recently SDTimes reported on SCM Best Practices (see link above). In this article, Carol Weiszmann and Susan Messenheimer interviewed analysts, SCM practitioners and tool vendors to explore the latest trends and challenges in SCM. The article provided readers with a comprehensive list of SCM Best Practices to assist software development organizations in choosing and implementing SCM Solutions. Below we reproduce this list and show how the AccuRev SCM system helps customers implement these practices.

**[SDTimes] View change management as an integrated approach to managing any change from any credible internal or external source.**

AccuRev enables development teams to capture change requests via its integrated AccuWork tracking system, or via the AccuBridge family of issue tracking integrations.

**[SDTimes] Carefully consider what your long-term SCCM strategy will be.** Are you a standalone SCM shop, do you want to implement a standardized SCCM solution, or would a heterogeneous SCM solution be the best course?

AccuRev serves the needs of software engineers on teams of all sizes, whether collocated or globally distributed. Whether AccuRev is your only SCM system or is your best-of-breed solution in a heterogeneous mix, your developers will benefit and your engineering team productivity will improve.

**[SDTimes] Implement a consistent SCM process across all teams.** This enables unified reporting, metrics capture, subsequent decision support and asset reuse.

AccuRev is the only SCM system that is architected from the ground up to support any development process. AccuRev doesn't require you to fit your process to the tool—you choose the process model and the AccuRev SCM system will implement it seamlessly, without the need for excessive scripting or administrative costs.

**[SDTimes] Integrate processes, supporting tools and automation to drive the change management process.** All project work—asset, change and project, and portfolio management processes—must be managed in an integrated fashion. This includes work that was part of the original plan and work that is the result of replanning due to change.

With AccuRev, changing requirements, as manifested for example in Agile development methodologies, are straightforward to model and implement. AccuRev's stream architecture naturally reflects the stages of your development process, and the AccuBridge integrations and SDKs provide powerful tools to link all your best-of-breed tools into a seamless whole.

**[SDTimes] Manage so that your development teams are always responsive to change.** Policies and practices should reflect this.

AccuRev gives team leads, engineering managers and executives a consistent view into the software development process, and enables change management at the process, project, team and individual developer levels.

**[SDTimes] First optimize your processes, then choose the tool/vendor that best fits your processes.** Automating suboptimal processes and institutionalizing poor practices is costly and counterproductive.

AccuRev works with customers to help understand and optimize their engineering business processes. AccuRev's Sales Engineers will perform a process analysis that keeps you in charge of the development process, and will show you how the AccuRev SCM system will help you implement and automate your best process and practices.

**[SDTimes] Make sure your tools are flexible enough to model your processes.** An enterprise should not be forced to modify the way it does business to fit its tools.

With AccuRev, the only process-centric SCM system on the market, you choose the development process that is best for you. AccuRev's stream architecture enables virtually any process to be implemented inside the tool.

**[SDTimes] Configure your workflow to how you need to work, not how some tool wants you to work.**

AccuWork and AccuWorkflow are smart, flexible tools that are fully integrated with the AccuRev SCM system. You define the workflow stages and required process, and AccuRev implements that process to optimize your requirements gathering, software development, quality management and release engineering activities.

**[SDTimes] Make sure your tools can be modified to adapt to your changing processes.** Tools must not inhibit the evolution of enterprise processes.

Whether you're changing your entire process or one small part of it, the AccuRev StreamBrowser makes it easy to adapt your process. AccuWork and AccuWorkflow let you define the how changes should flow through the system, rather than forcing you to accept the models and concepts imposed by inflexible legacy tools.

**[SDTimes] Don't forget about disaster recovery.** SCM/CM is mission-critical, and an abrupt halt would be damaging to the entire enterprise. Understand how your system works and have a DR plan in place that you actually test.

AccuRev SCM works all standard backup and recovery tools and platforms, and AccuRev's support and services team is always available to work with you to help plan your DR approach.

**[SDTimes] Get service-level agreements.** Whether it's an agreement within the IT group regarding server management of the build farm servers or with the QA group for release management, having such agreements helps to enforce processes and precisely define roles.

AccuRev helps you implement any development process. Whatever process flows and service agreements are best for your organization can be modeled in AccuRev's stream-based tool.

**[SDTimes] Track change packages.** Even though each file in a codeline has its revision history, each revision in its history is useful only in the context of a set of related files. Some questions about source file changes can't be answered unless you track change *packages*—sets of files related by a logical change. Change packages, not individual file changes, are the visible manifestation of software development. Some SCM systems track change packages for you; if yours doesn't, write an interface that does.

In AccuRev, change packages are first-class objects that represent the set of file versions associated with a given logical change (typically an issue in AccuWork or in an AccuBridge-enabled third-party ITS system). You can enforce policies that require all work to be associated with change packages. AccuRev makes it easy to determine the dependencies between changes packages and enables you to revert changes by file, by change package, or by issue.

**[SDTimes] Embrace branching, especially if the tool you are using is strong in supporting branching.** Snapshots, private workspaces and version-specific branches all allow your team to work in parallel and be fast and innovative. But branch only when necessary: Codeline should be branched when its users need different check-in policies.

In AccuRev, all developers work in private streams called workspaces. AccuRev workspaces are fully versioned on the AccuRev SCM server so that developers can keep their changes safe. The AccuRev stream architecture naturally enforces the isolation of developers, teams, continuous integration builds and release builds so that you can control the evolution of the codeline, from experimental to tested to ready-to-ship.

**[SDTimes] Use a common base folder structure for all projects.** Thus staff can easily find files, and engineers moving from one project to another know where to look for files without training and without hunting.

AccuRev's stream hierarchy enables teams to define the file and folder structure that makes sense for their projects. Creating a new project from an existing project is as easy as creating a new stream based on an existing stream. If a developer or a team needs to move to a new project, just drag and drop their workspaces to the new project stream in the StreamBrowser and let them get to work.

**[SDTimes] Don't be afraid to configure files—that is what these systems are designed for.** It's OK to have four versions of a file as opposed to two.

In AccuRev, the complete history of each file is maintained, even through complex branching and merging. The AccuRev "keep" operation makes it easy to create a new version based on an existing version. Different streams can hold the same or different versions of a given file— whatever makes sense for your environment.

**[SDTimes] To support distributed development teams, manage content in a central repository, keeping remote teams up to date in near real time via remote caching agents that serve the local team.** This avoids the server replication and artificial conflicts among end users caused by time latencies inherent in older, replication-based solutions.

AccuReplica remote servers are ideal for supporting globally distributed development (GDD). Since each replica stores only the specific data requested, latency is reduced compared to legacy replication systems. All write operations go to the primary server first, so conflicts are eliminated. AccuRev's TimeSafe architecture insures that all transactions, whether they originate from the primary or from a replica, are robustly stored, so that your data is safe.

**[SDTimes] To support agile development teams, embrace continuous integration.** This build model is a must for any agile SCM team, as the benefit of automation will greatly enhance the team's overall productivity.

Continuous integration is a natural fit for AccuRev's stream-based architecture. Agile project managers can set up an integration stream hierarchy to ensure that local developer builds, continuous integration builds and full-integration builds contain only known, good changes. This reduces rework and improves the speed and quality of your software releases.

**[SDTimes] To support agile development teams, commit to accurate iteration planning.** Plan only a limited number of projects that the team can realistically finish in an iteration.

**[SDTimes] To support agile development teams, maintain a good iteration schedule—the shorter the better (about two weeks to a month is a good range).**

The AccuWork and AccuWorkflow tools enable easy and fully customizable issue-based planning. AccuRev streams are full participants in workflow, so your iterations are self-contained and contain only the changes that you want.

**[SDTimes] To support agile development teams, conduct daily stand-up meetings.** These are meant to quickly and efficiently resolve obstacles any of the team members may be experiencing.

AccuWork provides reporting tools to let you easily determine the state of any iteration, in any stream, of any development team.

### What to Look Out For

**[SDTimes] The scope of what constitutes a change is too narrowly defined.**

AccuRev enables project managers to define change requests at the issue level in a flexible manner. When change requests result in code changes, AccuRev ensures that code changes are tightly associated with issues to improve traceability.

**[SDTimes] Control and visibility from an overall management perspective is lost** because changes to assets on the project level are not integrally linked to the activities and requests driving the change (whether on the project or the portfolio level).

AccuRev provides integrations with leading issue tracking systems to ensure that requirements changes are linked to developer activities.

**[SDTimes] Change management processes and project management processes are disconnected.** A considerable amount of the work done on projects, which often affects project assets, has little or no connection to the processes focused on maintaining project control and visibility. Thus the work (i.e., the activities) performed as a result of a change request is not visible and controlled as part of the project plan.

AccuRev provides visibility into all software engineering activities with integrated change packages and issue tracking.

**[SDTimes] Documentation is lacking.** Without proper and detail documentation, organizations open themselves up to potential problems down the road should the SCM team/person leave the company without giving it enough time to train or hire a replacement.

Unlike older legacy SCM systems, AccuRev is both powerful and easy to learn and use. AccuRev's support and services team can work with you to build an SCM best practices process that is durable and transferable, minimizing the risk of resource changes.

**[SDTimes] Resources quickly become inadequate.** SCM activities and services can expand rapidly, putting severe strain on both human and equipment resources. The human resources may

depart; the equipment resources will become overloaded, impeding essential business processes and operations.

With AccuRev, neither machine nor human resources are strained as your organization grows and SCM activities increase. AccuRev has proven scalability and a small memory footprint, and requires fewer administrators than other leading SCM systems.

**[SDTimes] Backup plans have been overlooked.** The ability to reproduce a specific build for audit or bug-fixing purposes is crucial.

AccuRev's TimeSafe architecture provides auditors with second-by-second data that details all activity in the system. When following Agile methodologies, all required tools and libraries for reproducing a build will be stored in AccuRev, making build reproduction safe and easy.

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