

Ascade

To succeed in an extremely competitive market, Ascade needed to overcome the software development challenges that its SCM tool presented. The telecom software company turned to AccuRev for an efficient, low-cost solution.



Overview

Ascade, one of Europe's fastest-growing telecom software companies according to Deloitte's Technology Fast 500 EMEA ranking, is the global market leader in Business Operations Systems for trading and exchanging voice traffic between telecom carriers.

Ascade's solution, Carrier Cockpit Suite, optimizes and automates all aspects of a carrier's wholesale and bilateral business while providing management with real-time business control capabilities.

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TOMAS LUNDSTRÖM

Configuration Manager
Ascade

Challenge

GROWTH, COMPETITION AND INCREASED COMPLEXITY

Ascade operates within a young, niche market with fierce competition to gain market share. Rapid expansion in the development team quickly outgrew its original file-based SCM tool, which provided poor traceability—made possible only through check-in comments and manual processes.

SOFTWARE DEVELOPMENT CHALLENGES

- Managing and maintaining large and complex systems
- Managing multiple product versions in parallel
- Customization of core product functionality, sometimes with short notice from customers
- Ability to minimize risk
- Cultivating a repeatable and predictable way of working that spans all aspects of the software development lifecycle
- Maintaining a disciplined yet flexible approach to software development while also maintaining a high level of quality

At a Glance

■ Industry

Telecommunications

■ Location

Europe

■ Challenge

Ascade needed to replace its original file-based SCM tool, which provided poor traceability.

■ Solution

Use AccuRev as an integrated, efficient, and low-cost SCM tool.

■ Results

- + Introduced task-based iterative development, which increases flexibility for Ascade
- + Enabled effective parallel development with the AccuRev Promote model
- + Introduced effective traceability through integrated change management

Solution

A DISCIPLINED SOFTWARE DEVELOPMENT PROCESS

Ascade, founded in 1997, initially adopted an extended variant of OMT. During the same period, OMT merged with the Booch and Objectory methods to become what is today called the Rational Unified Process, RUP. Most first-generation object-oriented methods focused on Analysis and Design for new development and had less to say about other aspects of the software development lifecycle, such as deployment, maintenance, test or configuration management. Thus, over the years, Ascade has enhanced and extended its original approach, adopting ideas from various sources, including RUP. Using RUP best practices as a foundation and emphasizing the parts that are also advocated by Agile approaches, such as Xtreme Programming (XP) and other sources, Ascade has developed its own software development best practice designed for iterative development and flexibility.

Utilizing this approach in AccuRev, Ascade's product life cycle "macro" iterations typically take four to six weeks. XP-ish "micro" iterations that take days or even hours are also utilized. Ascade relies heavily on automated tests in order to continuously verify quality—essential for iterative development to work. Ascade also prescribes to visual modeling (using UML) in certain key activities, along with component architectures.

TASK-BASED ITERATIVE DEVELOPMENT

This approach provides the flexibility for Ascade to insert new tasks or critical development efforts into the middle of an ongoing project without having to replan the entire project but also calls for control and discipline. Each task that is started must be allowed to finish, even

if higher-priority tasks are inserted in the list, or Ascade risks ending up with unusable, half-finished features. It also requires close follow-up on each task in order to predict the content of the release as early as possible—information that is crucial to sales and deployment departments. The task-based approach also allows Ascade to test each feature on a stable baseline of a working system—-independent of all other tasks being developed. This calls for a powerful SCM solution like AccuRev to support many tasks being developed in parallel and "released" to integration at different times.

PARALLEL DEVELOPMENT AND THE ACCUREV PROMOTE MODEL

"Parallel development is heavily used at Ascade, meaning not only that work on major releases of a product is being done in parallel, but also that subprojects and even individual efforts are all being done in parallel," explained Tomas Lundström, Configuration Manager at Ascade. "The latter essentially means that each developer works in their own 'private branch,' relatively isolated from the others. Working in parallel dramatically enhances productivity. To some, the potential merge conflicts in this approach seem like a restraining factor. However, they rarely occur in practice, and when they do, they are elegantly handled by AccuRev."

Ascade uses a Promote Model implemented by the concept of Streams. This means that the developers' work will pass through different stages of visibility. Developers can keep their work in private and still have all assets version controlled. In the next stage, developers can exchange their work through a Development Integration Stream. In the final stage, the release engineer can pick the desired changes from the Development Stream and stage a build

in the Build Integration Stream. The Promote Model is not strictly hierarchical, which allows Ascade developers to propagate changes between any two streams.

"Far from all legacy SCM solutions are even capable of handling the level of complexity managed at Ascade, and if they do, administration costs typically rise exponentially with complexity," said Lundström. "However, with Ascade's SCM approach, we are able to support a large number of projects, subprojects and end users with very little (and almost linearly increasing) administrative overhead."

INTEGRATED CHANGE MANAGEMENT

All issues (Change Requests, Defects and Requirements) are managed together with the code base. All physical changes in source code are linked to a corresponding issue. "This means we have excellent traceability between, e.g., defects and their actual resolution in the code base."

HIGH LEVEL OF ABSTRACTION

The Promote Model and the integrated Change Management allow a high level of abstraction in Ascade's SCM. Changes are managed at the issue level rather than on the file level. This makes it easy to ensure that changes are propagated to all relevant projects and minimizes the risk that defects once resolved will occur again in a later release.

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CHOOSING A SOLUTION

"We evaluated the leading SCM tools (and a couple of less well-known as well). We feel that AccuRev, right out-of-the-box, supports our desired way of working in an excellent way, greatly enhancing productivity and accuracy," recounted Lundström.

AccuRev was evaluated along with Telelogic/Synergy, Rational Clearcase/ClearQuest, Micro Focus® StarTeam® and Perforce. "Some of these

tools offered speed, low administrative footprint and reasonable cost, others provided enterprise-class power, but AccuRev gave us all that in a single package."

Mr. Lundström has more than 20 years of experience in software engineering, 11 of which were spent mostly practicing object-oriented technology. At Objectory AB, pioneers of OO development processes and the "Use-Case" concept, acquired by Rational Software in

1995, he worked with modeling tools and what is today known as RUP and UML. Prior to using AccuRev, Lundström gained valuable experience deploying and using application lifecycle management (ALM) solutions, such as the IBM Rational suite and Clearcase/UCM. To read Mr. Lundström's Software Development white paper, visit the AccuRev Resource Center at: www.borland.com/en-GB/Products/Change-Management/AccuRev

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