Accelerate Diagnostics Inc.

StarTeam supports aggressive go-to-market plans by providing full visibility and software release integrity.

Overview

Accelerate Diagnostics Inc. ("Accelerate Diagnostics") is an in vitro diagnostics company dedicated to providing solutions for the global challenge of antibiotic resistance and healthcare-associated infections. The cornerstone of its ability to provide breakthrough diagnostic solutions hinges on developing technologies that address the needs of clinicians. Accelerate Diagnostics works with healthcare partners around the world to ensure its innovations lead to critical answers that drive improved treatment options for patients.

Challenge

The Centers for Disease Control and Prevention estimate at least two million people each year are infected with antibiotic resistant bacteria across the USA. In addition, antibiotic resistance contributes to the mortality of healthcare-associated infections that kill an estimated 75,000 people annually. Early diagnosis of antibiotic resistant bacteria is critical to providing effective treatment. The only way to know which therapy will work is to test a range of antibiotics. Typical conventional antibiotic susceptibility testing requires time-consuming manual procedures, often exceeding 48 hours, leaving clinicians with incomplete information to provide definitive treatment during this critical time period.

The technology from Accelerate Diagnostics allows laboratories to substantially reduce the time to results by testing directly from positive blood culture samples, enabling clinicians to provide optimal antibiotic therapy up to 40 hours faster than conventional methods.

Paul Richards, Software Engineer for Accelerate Diagnostics, explains the role software plays in this process: "When we started Accelerate Diagnostics in 2012, we knew we had a potentially life-saving concept. The key was to bring it to market as soon as possible. Despite having a small engineering team, we accomplished in four years what many in the diagnostics industry take nearly a decade to do: move from technological concepts to an

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>
> **PAUL RICHARDS**
> Software Engineer
> Accelerate Diagnostics, Inc.

At a Glance

■ **Industry**
Manufacturing

■ **Location**
USA

■ **Challenge**
Delivering an FDA-cleared healthcare solution in the shortest time possible required more than a skilled engineering team. Accelerated Diagnostics, Inc. needed a software version control solution that was intuitive and provided full visibility throughout development to deliver a high quality product.

■ **Products and Services**
Micro Focus StarTeam

■ **Success Highlights**
+ Full visibility into each software release
+ Intuitive and easy-to-use solution
+ Complete version control
+ Compliance with FDA quality controls

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PAUL RICHARDS
Software Engineer
Accelerate Diagnostics, Inc.

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FDA-cleared and ready-to-use solution that offers value to our healthcare customers. Our software development process was critical to this progress and required a set of tools which were reliable and easy to work with."

Solution

Richards was familiar with Micro Focus StarTeam having used it in the past for software revision control. However, leaving nothing to chance, he did his research and looked at several alternative solutions.

"We prefer a set-and-forget solution and none of the options we evaluated felt right to us. People are more efficient when their tools work intuitively and in the end we decided to stick with StarTeam, which worked for us in the past."

Each diagnostic kit run using the Accelerate Diagnostics technology generates over 100 gigabytes of images and data. Processing needs to be done quickly and efficiently so the underlying software must be robust enough to manage this workload.

Software code is checked into the StarTeam solution; a build machine checks it out, executes the software build, and labels it accordingly before releasing it. StarTeam visually merges and reviews all changed assets to manage and control the updates for any release; a feature that is much appreciated by Richards: "With StarTeam, we can just hit 'refresh' and see exactly what mergers and changes have happened in the code. That's

the kind of visibility we need to have an at-a-glance view of what the other developers in our team have worked on."

Accelerated Diagnostics operates in a highly regulated industry and the company is subject to very strict quality controls. Version control is a critical part of this, as Richards explains: "It's imperative that we can easily investigate prior versions of software. In the event of a recurring issue, we need to be able to determine when bugs were introduced and which systems in the field may be affected. We archive our build machines and attach them to a "view" within StarTeam. This allows them to run indefinitely and for us to support customers with that version."

Results

StarTeam provides Accelerated Diagnostics with the visibility and single-source of truth they need to make their development process as efficient and fast as possible. Richards comments: "We like that StarTeam integrates with FinalBuilder (VSoft Technologies Pty Ltd) which we use in our development processes. The integration delivers an automated analysis of check-ins and reports which gives us confidence in the quality our software."

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