

Case study

Speeding application development and deployment



Delivering business value with the DevOps application development process

Industry

Information technology

Objective

Embrace a collaborative approach to the development of HP ALM. Accelerate the delivery through integrated processes and continuous delivery

Approach

Introduce a cultural change that moves away from siloed work streams while implementing the correct processes and technologies

IT matters

- Introduces continuous integration and continuous delivery, producing a highly efficient end-to-end development process, accelerating release times from 18 months to three months
- Integrated processes increase quality coverage to 85 per cent
- Reduces mean time to recovery from days to hours, speeding the development process

Business matters

- Creates a more collaborative working environment, increasing productivity and typically lowering the change failure rate from 30 to 14 per cent
- Offers regular product updates, satisfying customer expectations
- Accelerates release times from 18 months to three months, increasing agility and generating business value



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– Liran Levy, R&D Lifecycle DevOps manager, Hewlett Packard Enterprise

Revolutionising software development

More and more organisations employ DevOps to accelerate the application development process. Introducing a cultural change within the development and operations teams, a new agile delivery process and suitable technologies are major challenges. Liran Levy explains how HP used the methodology to change the application deployment process of HP Application Lifecycle Management (ALM) software.



Application release period falls by 83 per cent

Challenge

Resolving slow development times

Before the introduction of DevOps, the HP ALM deployment was too slow and developers frequently missed delivery deadlines, frustrating customers. A lack of continuous integration and continuous delivery processes forced developers to build a module with a specific change during the day and night-shift personnel would then integrate the change with other modules.

When things went to plan, a full build was ready and deployed in several environments the following morning. Developers then conducted manual tests for a couple of hours and, as the release deadline neared, developers and quality assurance staff performed manual regression tests. Any test failures at this point significantly delayed the release. Introducing a continuous integration process and automated testing streamlines the entire procedure.

“The earlier process was predominantly manual and not built for scale or speed,” explains Liran Levy, R&D Lifecycle DevOps Manager, Hewlett Packard Enterprise. “Automating the build, test and deployment processes for several development tracks simultaneously was therefore impossible.

“This situation had some serious consequences,” continues Levy. “The quality coverage rate was low and both the change lead and change feedback times were too long at 24 hours. Accordingly, the mean time to recover a failed build varied from several days to a week and the change failure rate stood at 30 per cent.”

Creating a collaborative relationship

Development managers also had other concerns. The relationship between the development and operations teams was virtually non-existent. Neither knew what the other was doing. In addition, market demands were changing.

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Solution

Appreciating different working environments

The HP ALM development and operations teams quickly adopted the DevOps approach.

To remedy the relationship predicament, the teams established a more collaborative style by letting each team experience the other team’s working environment. Today, the development team operates in a production laboratory type environment while the operations team takes part in application design, appreciates any dependencies and understands the associated architecture.

Customer solution at a glance

Software

- HP Application Lifecycle Management

What is DevOps

The DevOps software development approach emphasises communication, collaboration and integration between software developers and other siloed groups within an IT organisation.

This increasingly popular approach helps businesses build and deploy high-quality software rapidly and more frequently.

Comprehensive automation

Within the HP ALM development process, the introduction of a comprehensive automation capability, especially test automation, was the most important initiative. Establishing test automation eliminates laborious and time-consuming manual testing processes, speeding the build and delivery processes.

HP ALM incorporates a common platform, several important applications and a dashboard to manage the application lifecycle. The software includes unified functional testing tools and automated testing solutions, helping developers and testers to deliver quality software more rapidly.

“The new development process is completely contrary to the old process, which involved the developer coding the change and the tester manually testing the change much later. With the DevOps process and automated testing, we deploy an HP ALM release every three months. Previously we would have been lucky to deploy a release every 18 months.”

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Benefits

Application release period plummets

Nowadays, the software deployment uses continuous integration and continuous delivery processes together with fully automated test procedures. With the DevOps process, the developer, tester and DevOps engineer work together to deliver and deploy code changes in an automated manner. The developer codes the change and the tester writes the automated test while the DevOps engineer controls the continuous integration process to automate the test.

“The new development process is completely contrary to the old process, which involved the developer coding the change and the tester manually testing the change much later,” adds Levy. “With the DevOps process and automated testing, we deploy an HP ALM release every three months while previously we’d be lucky to deploy a release in 18 months. That’s an 83 per cent improvement.”

Better coverage, feedback and recovery rates

“After adopting DevOps, we typically aim for a quality coverage rate of 85 per cent and a maximum change feedback time of two hours. The average mean time to recover stands at 114 minutes while only 14 per cent of the developers’ committed changes fail,” concludes Levy.

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