



Novell uses Continuous APM to Elevate Test in Global Agile Development

Case Study - Test Center - Novell



Company

Novell, Inc. (NASD: NOVL)

Industry

Enterprise Software

Location

Global

Challenge

Elevate test center productivity by getting to root cause of performance issues faster and collaborating more effectively with a global, agile development organization

Application Environment

Distributed J2EE / LoadRunner

Requirements

Quickly diagnose problems found in test and collaborate with development to:

- Reduce MTTR by arming developers with root cause data
- Eliminate multiple test runs by having low-overhead 'always-on' diagnostics
- Automate labor-intensive processes to raise productivity

Solution

dynaTrace Test Center and Development Editions enable Novell to quickly identify, diagnose, and resolve performance issues arising in load tests to:

- Increase test throughput by 2-3x
- Deliver root-cause-diagnostic test results to development
- Raise test productivity by reducing test cycles
- Raise developer productivity by allowing them to view PurePath data offline at their convenience
- Improve lifecycle collaboration

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“With dynaTrace we’ve been able to increase our test throughput 2-3x”
Mike Demastrie, Engineering Mgr, Novell

Novell. As one of the best-known enterprise software companies on the planet, Novell delivers the best-engineered Linux and IT management software to help enterprises lower cost, complexity and risk on virtually every platform. The company has a well-earned reputation for building high-quality, mission-critical infrastructure software that is relied on by more than 50,000 companies world-wide.

Challenge: In the current difficult economy, Novell’s Engineering group has been asked to do more with less while maintaining the company’s standard for high-quality software. “We’ve always run a lean shop, but this economic environment has increased the pressure on our teams,” said Engineering Manager Mike Demastrie. Novell’s traditional approach for dealing with application performance issues was under increasing stress given the demands placed on Engineering. In the past, when QA uncovered application performance issues under load, they would have to find the relevant developers and bring them into the test environment to try to isolate the underlying causes. Lacking an integrated diagnostic solution, the geographically-dispersed teams were forced to endure a labor-intensive, inefficient approach that involved too many people and took too long to resolve problems, particularly given Novell’s distributed agile development process.

Solution: After thorough review, Novell selected dynaTrace **Test Center** and **Development Editions** to define a new standard in test center productivity and collaboration with development. dynaTrace’s continuous APM platform with **PurePath** gives Novell’s globally-dispersed engineering team a common framework for collaboration to quickly and efficiently identify, diagnose, and resolve application performance issues.

Results: “By isolating problems faster with dynaTrace we’re able to increase our performance test throughput by 2-3x without having to increase our staff. Before we might have had to run five or six test round-trips before we could isolate the issue, tying up not only the hardware, but tester’s and developer’s time. Now with dynaTrace’s diagnostic capabilities, we can often isolate root-cause the first time around, package up the PurePath and send that directly to the developer so they know exactly where to find the issue.”

These efficiency gains provided by dynaTrace are **leveraged** by both **development** and **QA**. “With dynaTrace, testers can run fewer, more productive tests during debugging;

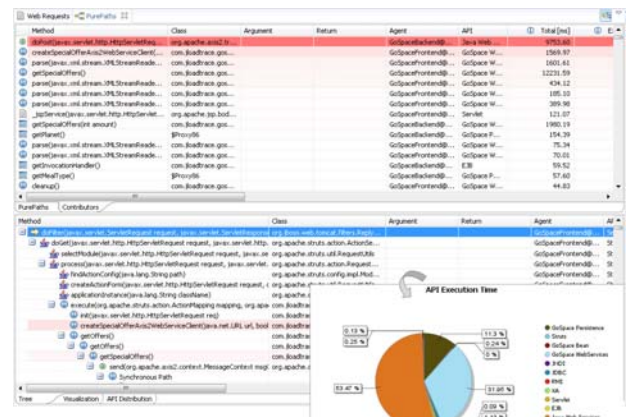


Figure 1: dynaTrace PurePath view

“With dynaTrace, testers can run fewer, more productive tests... those tests return better results to development, enabling them to focus more on what they enjoy – creating new features and functionality – rather than chasing bugs.”

“Since I can send them the PurePath of the specific transaction, they can view it immediately or later when they have time – I don’t have to interrupt them to show them what I had found. This way they can stay focused on writing great code, and know that the root-cause of the performance issue is waiting for them when they need it.”

“With dynaTrace enabling asynchronous review of the code via the PurePath, we eliminated this need where one team member was actually idle and waiting, instantly doubling productivity.”

“Because dynaTrace is on for the duration of a test, it eliminates the need to rerun certain tests to capture additional log and tracing information that developers put into the code. This helps to shorten test cycles and frees up resources, both in terms of testers and hardware, improving productivity.”

“From a tester’s perspective, dynaTrace is really empowering technology...”

“I can even send a PurePath to an application engineer in the field who doesn’t use dynaTrace, and they can analyze the debug data themselves. You have the root cause right there in the PurePath.”

running fewer tests during debugging means they have more time to run more productive tests during performance/regression testing and capacity planning phases,” said Novell QA Engineer Lucy Monahan. “And all those tests return better results to development, enabling them to focus more on what they enjoy – creating new features and functionality – rather than chasing bugs.”

“We’re a global company, with developers and technicians all over – in Europe, the East and West Coasts of the US, India, even Australia,” explains Demastrie. “With dynaTrace, we don’t have to worry about where people are located; we can easily communicate issues, even if they’re 5,000 miles and ten time-zones away.”

Raise Productivity: With dynaTrace’s PurePath technology [preserving individual transactions for later review](#), problems can be analyzed whenever the team member has time, rather than when they are discovered. “Since I can send them the PurePath of the specific transaction, they can view it immediately or later when they have time – I don’t have to interrupt them to show them what I had found,” said Monahan. “This way they can stay focused on writing great code, and know that the root-cause of the performance issue is waiting for them when they need it.”

Capturing and analyzing the data is now also split between Testers and Developers. Before using dynaTrace, Novell needed two people sitting in on every problem: the tester that drove the test to induce the problem, and the developer that then analyzed it, with both working on the same test machine. “With dynaTrace enabling asynchronous review of the code via the PurePath,” said Monahan “we eliminated this need where one team member was actually idle and waiting, instantly doubling productivity.”

dynaTrace’s ability to run under load with virtually no overhead also frees up resources for more productive uses by automating away labor-intensive manual tasks. “Because dynaTrace is on for the duration of a test, it eliminates the need to rerun certain tests to capture additional log and tracing information that developers put into the code,” said Monahan. “This helps to shorten test cycles and frees up resources, both in terms of testers and hardware, improving productivity.”

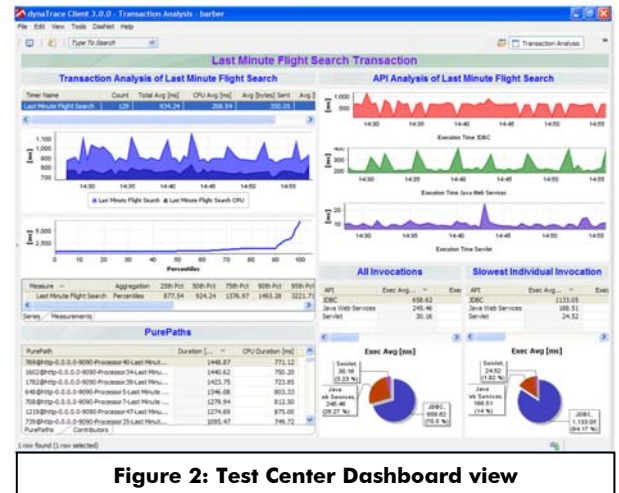


Figure 2: Test Center Dashboard view

Improve Lifecycle Collaboration: After issues have been diagnosed and resolved by development, Novell’s QA engineers use dynaTrace’s [charting and diffing](#) features to verify that code changes actually deliver the intended improvements. This feedback is valuable to developers for verification, strengthening their confidence in bug fixes. It also helps to ensure that bugs are killed as [early as possible in the lifecycle](#), further reducing costs.

“From a tester’s perspective, dynaTrace is really empowering technology,” said Monahan. “It’s been a real career-enhancer for me, since now I can provide developers with results that get them immediately to the root-cause of an issue.”

Case in point was a memory leak that caused the JVM to hit an OutOfMemory condition. It turned out that the memory leak was exposed as a result of switching to a RESTful service infrastructure. The QA Engineer was able to capture the necessary memory information and pass it on to the developers who were able to [fix the problem](#) right away – with only one round trip needed to complete the fix. In this way, dynaTrace helps simplify [memory analysis](#), particularly in finding memory leaks.

“What’s nice is that I can even send a PurePath to an application engineer in the field who doesn’t use dynaTrace, and with the free viewer they can analyze the debug data themselves,” said Monahan. “You have the root cause right there in the PurePath.”

“We always knew the software we shipped was high-quality,” concluded Demastrie, “but now we can prove it, line-by-line.”