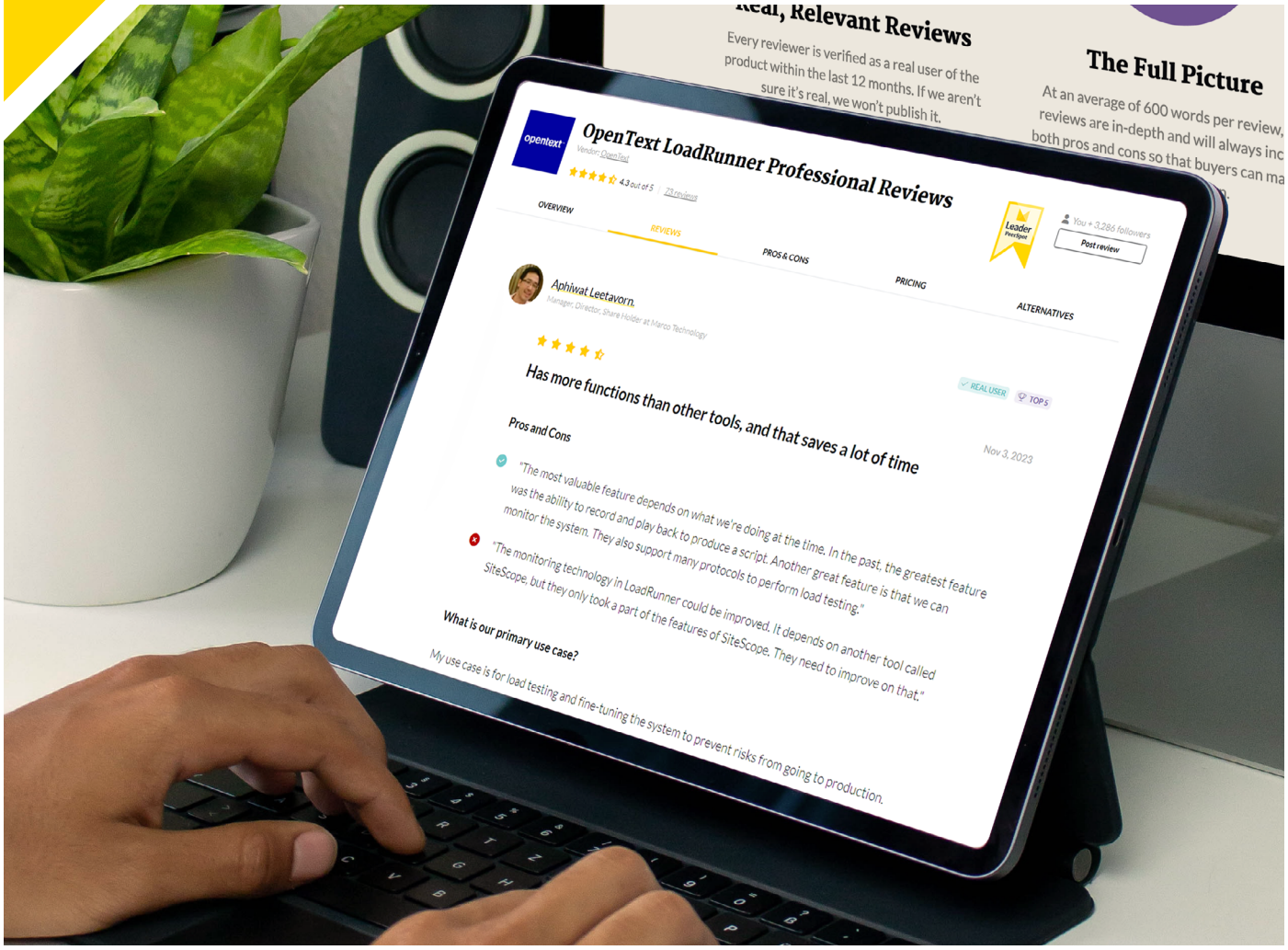
PeerPaper™ Report 2024

Based on real user reviews of the OpenText LoadRunner family

Achieving Success in End-to-End Performance Engineering



PeerSpot

Contents

Page 1. **Introduction**

Page 2. **End-to-End Performance Engineering and the LoadRunner Family**

Page 4. **What It Takes to Achieve Success in End-to-End Performance Engineering**

Sets Up and Scales Easily

Embodies Simplicity and Ease of Use

Saves Time and Money

Provides Flexibility, With Many Options

Enables Realism

Integrates Well With Other Systems

Works Well With Open Source and Multiple Protocols

Offers Comprehensive Analytics

Page 14. **Conclusion**

©2024, PeerSpot

Introduction

Software development, security and testing organizations are under pressure to "shift left" as the software development lifecycle (SDLC) continues to accelerate. In this atmosphere, performance testing can no longer be tacked onto the end of the development process. Instead, organizations are embracing end-to-end performance engineering. This new approach to performance testing integrates testing into the complete engineering workflow and SDLC.

This paper examines what it takes to achieve success with end-to-end performance engineering, based on real user experiences with the OpenText LoadRunner family of performance testing solutions. As the users discuss in their reviews on PeerSpot, effective performance testing in the current era is based on capabilities like flexibility, realism, integration and the ability to save time and money, along with support for open source and multiple protocols.

End-to-End Performance Engineering and the LoadRunner Family

To understand the meaning and impact of end-to-end performance engineering, it is useful to look at the origins of the practice. Previously, the SDLC included performance testing as part of the quality assurance (QA) phase. After finishing development, coding teams would hand the application off to a performance tester, who would check how well it performed with regard to speed, resource use, reliability, scalability, stability and response time.

Leaving performance testing as part of QA is not optimal for the style and pace of today's application development. With DevOps, agile methodologies and continuous integration/continuous deployment (CI/CD) now the norm, it's better to engineer performance right into the software at the start. Performance engineering is a continuous process, embedded in all phases of the SDLC.

Performance engineering is about designing an application with performance metrics in mind right at the outset. Then, as each code reaches each stage of development, the performance engineering process facilitates the discovery of issues that may affect the code's ability to handle load under different circumstances. Its goal is end-to-end optimization. Figure 1 depicts the difference between traditional performance testing and performance engineering.

Rapidly executes cloud performance testing while running multiple tests

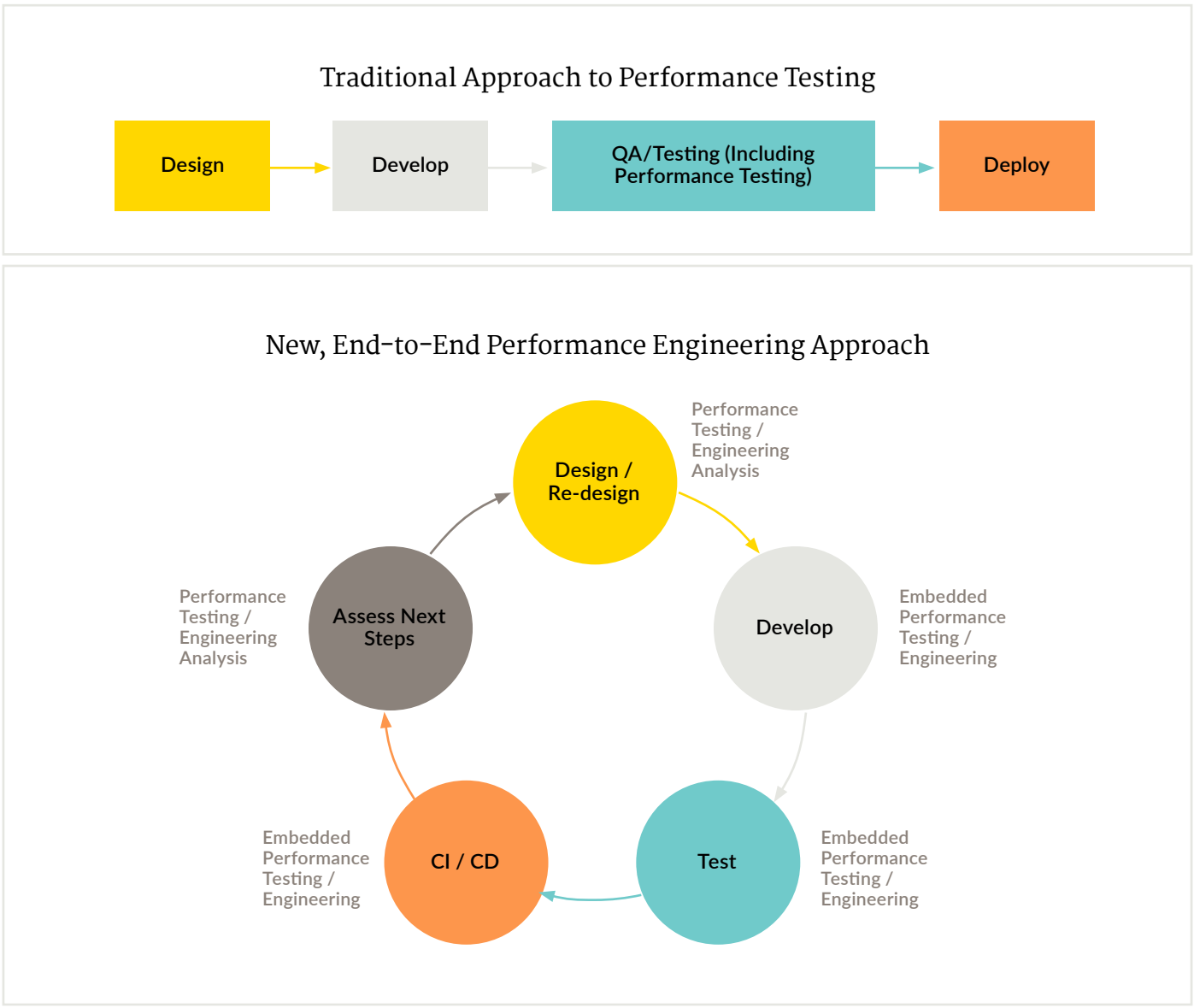


Figure 1 – Contrasting traditional QA approach to performance testing with the new concept of end-to-end performance engineering.

OpenText offers three products that support end-to-end performance engineering. LoadRunner Enterprise is a collaborative performance testing platform for globally distributed teams. LoadRunner Professional comprises a simplified, project-based performance testing solution for local teams. LoadRunner Cloud rapidly executes cloud performance testing, with the ability to run multiple tests at the same time with no test concurrency limits.

What It Takes to Achieve Success in End-to-End Performance Engineering

Success in end-to-end performance engineering comes from a synergy between people, processes and tooling. All three elements must be aligned and optimized for performance engineering to facilitate the creation of code that functions as envisioned under demanding load conditions. The load testing solution itself needs to deliver across a range of capabilities.

According to PeerSpot members, an effective solution for end-to-end performance engineering should offer ease of setup and use, along with the ability to save time and money. It needs to be flexible, integrate well with other systems and work well with open source and multiple protocols. Realism in testing, coupled with comprehensive analytics and reporting, are also viewed as essential to success.

A solution must help with business challenges, too. A Senior IT Process Analyst at an energy/utilities company with over 10,000 employees described the business-facing role of LoadRunner Enterprise, saying, "The cross-project reporting and business views are among the valuable features because a huge platform can have multiple projects that are being executed in parallel. In that scenario, the reporting provides a holistic view for the stakeholders."

1 platform with multiple projects executed in parallel

Sets Up and Scales Easily

Difficulties with setup and scaling a performance testing solution get in the way of realizing the goals of end-to-end performance engineering. For this reason, users value the LoadRunner solutions simple, fast setup. As a Lead Test Engineering who uses LoadRunner Professional at a financial services firm with over 10,000 employees put it, "The initial setup for the standalone version is very simple and very easy compared to a solution like Apache JMeter." In his case, it only took about 20 minutes to deploy. For a Regional Head of Customer Experience who uses LoadRunner Professional at a similar size financial services firm, the installation also took around 20 to 30 minutes.

A Consultant who uses LoadRunner Professional at a computer software company with more than 5,000 employees also found that the initial setup and installation of the software were very easy and straightforward. The Head of a Testing Centre of Excellence at NIIT Technologies Limited, a computer software company with more than 5,000 employees, concurred, stating that the initial setup of LoadRunner Professional was very straightforward. "It wasn't too complex," he said, adding, "The cloud has allowed for deployments to happen fairly fast. You need one URL and within 15-20 minutes you can have it installed on your local machine. We didn't need outside assistance."

Once deployed, a solution needs to scale with relative ease, as a Co-Founder who uses LoadRunner Enterprise at Nobius IT, a small tech services company, shared. He said, "You can create the test script and then simulate thousands of users very, very easily. Instead of having to have lots and lots of

> "You can create the test script and then simulate thousands of users very, very easily... the scalability is really valuable."
>
> Read review »

15-20
minutes
deployment

> "We can concentrate most of our time on creating scripts and configuring LoadRunner Cloud based on our objectives. It's very easy for us."
>
> Read review »

systems that would emulate users, you just needed a couple to emulate tens of thousands of users. So the scalability of LoadRunner while it was testing scalability is really valuable."

A Laboratory Director at a small consultancy similarly found, "Both the scalability and stability are strong points for LoadRunner Enterprise." A Senior Architect who uses LoadRunner Professional at a computer software company with more than 5,000 employees added, however, "It is easier to scale when you have the online, cloud option."

Embodies Simplicity and Ease of Use

Ease of use speeds the way for stakeholders to implement end-to-end performance engineering principles. These include collaboration, a core characteristic of the performance engineering process. A Managed Services Architect at a small computer software company spoke to this need when he described LoadRunner Enterprise as "a stable solution for enterprise-wide testing and collaboration." A software company Senior Architect simply stated, "LoadRunner Professional is easy to use."

"It's easy to use because it's script based, record and playback," said a Vice President of Derivatives Ops IT who uses LoadRunner Cloud at a financial services firm with over 10,000 employees. He then added, "I play certain tests. I record those tests, see how they pass through the entire environment, and see how many breaks I get. The record and playback feature is the most valuable feature. It's all driven by the script, so it's a script-based tool where the background tracing starts. Java's background process does

> "We used to have many load generators and they are no longer used. That is saving us about $30,000."
>
> Read review »

a lot of tracing. The process starts in the background. It sees what peaks in volume the process can handle."

Not having to worry about load generators is one way LoadRunner Cloud offers ease of use for a Sr. Technical Test Analyst at an educational organization with over 1,000 employees. Before his team adopted LoadRunner Cloud, they had 10 to 20 load generators, which they also had to configure, maintain and upgrade. "None of that is necessary anymore," he said. "We can concentrate most of our time on creating scripts and configuring LoadRunner Cloud based on our objectives. It's very easy for us. We don't need to worry about what happens in the backend or how the load is distributed."

Saves
a lot of time and money

Saves Time and Money

Slow, costly performance testing processes impede the progress of end-to-end performance engineering in an organization. The right solution will therefore be one that saves time and money, as the education Sr. Technical Test Analyst explained. He said, "From end-to-end, starting from creating the load scenarios, to running them, and then reporting, LoadRunner Cloud is the best tool. You save a lot of time and, with LoadRunner Cloud, you are saving a lot of money. Go for it."

A Performance Test Lead who uses LoadRunner Enterprise at a financial services firm with over 10,000 employees concurred, finding, "In terms of time, I find it pretty reasonable for test management. There are not too many things that we have to do before starting a load test. Once one

becomes good at scripting, it does not take long." To be precise, however, the length of time to run depends on how big and how complex the script is. In his case, some load tests have five scripts, whereas some have between 25 and 30 scripts. "On average," he revealed, "for a test with 10 scripts, the upper limit to set it up and run is a couple of hours."

Financially, LoadRunner Cloud is helping this education Sr. Technical Test Analyst realize a return on investment (ROI). He remarked, "We used to have many load generators and they are no longer used. That is saving us about $30,000. And LoadRunner costs 50 percent of what it used to cost us to run the same test. We don't need a Windows Server license anymore or networking capabilities specifically for testing. Those are the kinds of savings we have seen from moving to the cloud."

Complete end-to-end performance testing

Provides Flexibility, With Many Options

End-to-end performance engineering tends to be an unpredictable area of IT work. Any number of variables can affect the testing and engineering process for a given software project. PeerSpot members thus value flexibility in a performance testing solution.

"One of the most valuable features of this solution is recording and replaying, and the fact that there are multiple options available to do this," noted the financial services Performance Test Lead. He elaborated, saying, "For example, a normal web application can be recorded and replayed

again on many platforms. Moreover, it can be recorded in different ways. An application can be recorded based on your user experience, or just the backend code experience, or whether you want to record using a different technology, like a Java-specific recording, or a Siebel-specific recording. All of these different options and recording modes are available."

The education Sr. Technical Test Analyst similarly related, "LoadRunner Cloud gives you a lot of options, even for multi-browser or multi-device testing. It has been the main tool that can do everything; complete end-to-end performance testing." For the energy/utilities Senior IT Process Analyst, flexibility arose from LoadRunner Enterprise's licensing model. In his case, he can modify his licensing plan based on business demand.

> **"One of the most valuable features of this solution is recording and replaying, and the fact that there are multiple options available to do this..."**
>
> **Read review »**

Enables Realism

Load testing has to be realistic for it to further the practice of end-to-end performance engineering. Furthermore, realism in testing should reveal any performance implications on a company's current production business applications. That way, testers and IT ops people can be confident that what they are deploying will run without an issue. For the Laboratory Director, this means having the capability to easily generate virtual users. The Vice President of Derivatives Ops IT also described a realistic simulation where his team "pumped in 1 million trades, and got 5% of the failures." He then tried two million trades and observed a 7% failure. He said, "These scenarios are easy to do in the LoadRunner Cloud."

> "It's a tool that really helps you when you have a very varied landscape and you have technologies and platforms and infrastructure which include legacy and new ones, with a mix of SaaS"
>
> Read review »

Integrates Well With Other Systems

End-to-end performance engineering will invariably touch many different systems, so integration is valued as a feature in a performance testing solution. According to a BI Analyst at eVision Industry Software, a tech vendor with more than 500 employees, LoadRunner Professional meets this criterion. He found the solution to have good integration capabilities, including the ability to integrate with OpenText Quality Center.

A Technical Architect at a small tech services company was pleased with LoadRunner Cloud's usability and ability to integrate with other solutions. He remarked, "The solution has been quite good and integrates well with other products. It has all of the features we need and isn't really lacking anything that we've noticed. When I use it in on Azure, then Red Hat is the most likely solution I use. When I use AWS, then I tend to use Lambda functions. In either case, it works well, and you can use it either way."

Developer integration stood out as a critical feature to the education Sr. Technical Test Analyst. In his view, LoadRunner enables developers to script and run tests without leaving the developer ecosystem. The solution provides a complete Integrated Development Environment (IDE), where developers can write code and add their testing scripts. As he observed, "The LoadRunner Developer integration enables developers to add performance testing to their day-to-day tasks." Figure 2 shows some of the integrations a solution must support.

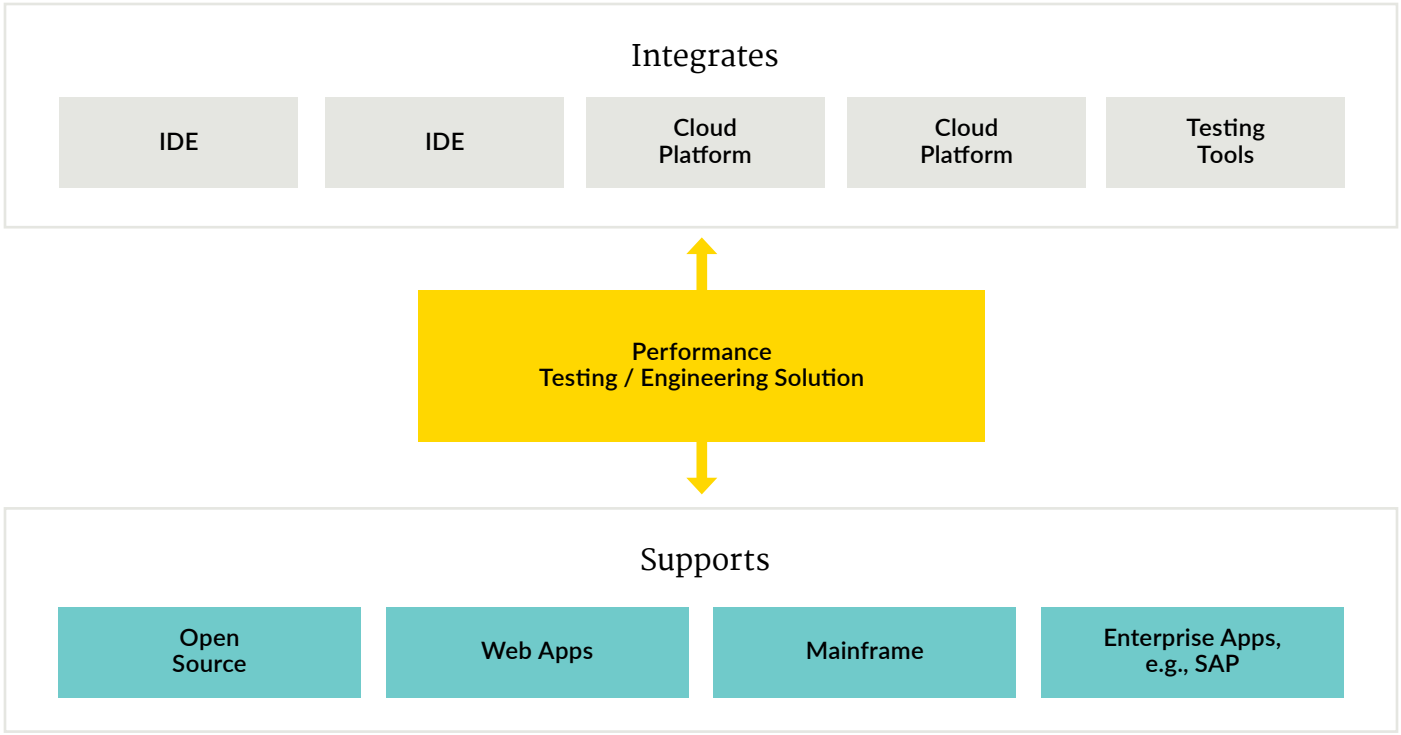


Figure 2 – Illustrating some of the integrations and protocols that a performance engineering solution needs to support.

Works Well With Open Source and Multiple Protocols

Support for multiple protocols and open source code is also necessary for success with end-to-end performance engineering. According to the energy/utilities Senior IT Process Analyst, "It's a tool that really helps you when you have a very varied landscape and you have technologies and platforms and infrastructure which include legacy and new ones, with a mix of SaaS. We have a centralized delivery team and we are able to meet enterprise requirements, which include different types of protocols that are involved, including scripting. The technology supports that, and enables us to have a wider range of testing." In particular, he valued how LoadRunner Enterprise supported open source, VuGen, TruWeb, TruClient and SAP.

Protocol support also extends to other types of applications categories like web applications, internal applications and desktop applications, according to the software company Consultant. A Lead Performance Test Engineer at bol.com BV, a retailer with over 1,000 employees, acknowledged the value of LoadRunner Cloud's support for JMeter open source, as well as other open-source performance testing tools like Gatling.

He said, "It's important to be able to embed those scripts as well into a LoadRunner-based performance test." In another situation, protocol support includes HTTP, FTP, mainframe, and others for a Test Automation, DevOps & Performance Engineer who uses LoadRunner Professional at a financial services firm with over 10,000 employees. This range of support meant, to him, "That it is very scalable."

> **"LoadRunner has very good analysis tools. You can analyze data and get the error data as well."**
>
> Read review »

Offers Comprehensive Analytics

The testing process that underpins end-to-end performance engineering relies on comprehensive analytics. Stakeholders need to know precise test results in order to realize the goals of the engineering process. Analytics helps them achieve this objective by identifying defects and bottlenecks that inhibit optimal performance. An Associate who uses LoadRunner Enterprise at a computer software company with over 10,000 employees spoke to this need when he said, "LoadRunner has very good analysis tools. You can analyze data and get the error data as well. You can merge them together and dig down into specific points of time. It's great for correlating drafts within the number of users,

between accounts, and with support. These functionalities are not there in BlazeMeter."

"We found that when we ran the load test, those issues were identified by using the analytic graphs that LoadRunner Enterprise provides," said the financial services Performance Test Lead. He then added, "It has multiple graphical and analytical representations that we can use, and it has helped us a lot of times in pinpointing issues that could have caused SEV1 or SEV2 defects in production. Based on this knowledge, we have been able to make the required corrections to our applications." LoadRunner Professional's Analysis feature then makes it easy to analyze cross-data, as a Manager/Director who uses at Marco Technology, a small tech services company, discovered.

Reporting is part of the analytics story, according to the education Sr. Technical Test Analyst. He shared, "When it comes to creating reports, LoadRunner is best. You will spend most of your time analyzing what's happened with the test, analyzing bottlenecks and pain points with the performance parameters." He contrasted this ability with JMeter, where one has to collect manually and collate the results in order to produce reports. He elaborated, saying that with JMeter, "You need to do a detailed analysis to find the bottlenecks and resource patterns. It is very difficult, but it's free. If you have the skill set and the time, you can use JMeter. But if you are time-constrained, and you want to actually concentrate on performance testing, use LoadRunner."

> **"... it has helped us a lot of times in pinpointing issues that could have caused SEV1 or SEV2 defects in production."**
>
> Read review »

Conclusion

Software performance needs to be a key consideration across the entire engineering process. Operationalizing this objective requires a practice known as end-to-end performance engineering. According to users of the OpenText LoadRunner family, success in this endeavor takes a testing solution that can emulate realistic performance scenarios. The solution needs to scale resources, along with users and locations. It has to offer ease of deployment and use. Integration with commonly used tools is essential as well, as are multi-protocol support, analytics and reporting. As these factors come together and synergize with effective processes and trained people, organizations can realize the goals of end-to-end performance engineering.

About PeerSpot

PeerSpot is the authority on enterprise technology buying intelligence. As the world's fastest growing review platform designed exclusively for enterprise technology, with over 3.5 million enterprise technology visitors, PeerSpot enables 97 of the Fortune 100 companies in making technology buying decisions. Technology vendors understand the importance of peer reviews and encourage their customers to be part of our community. PeerSpot helps vendors capture and leverage the authentic product feedback in the most comprehensive way, to help buyers when conducting research or making purchase decisions, as well as helping vendors use their voice of customer insights in other educational ways throughout their business.

www.peerspot.com

PeerSpot does not endorse or recommend any products or services. The views and opinions of reviewers quoted in this document, PeerSpot websites, and PeerSpot materials do not reflect the opinions of PeerSpot.

About OpenText

OpenText, The Information Company™, powers and protects information to elevate every person and every organization to gain the information advantage. A leader in Information Management, OpenText offers a comprehensive portfolio across content, business network, digital experience, security, application delivery, operations management and developer APIs. For more information about OpenText (NASDAQ/TSX: OTEX), visit www.opentext.com.