

On the Radar: Sauce Labs automates continuous testing

Extending the DevOps process to include software testing to deliver a practical CI/CD process

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Summary

Catalyst

The adoption of DevOps has seen the approach to software development and delivery in a continuous integration (CI) and continuous delivery (CD) process become a reality. However, DevOps does not always cover all aspects of the process, and some steps are often still not fully integrated in its area of coverage. Software testing is a prime example. Legacy manual approaches to software testing fail to streamline the overall process and provide the automation integral to DevOps. Sauce Labs has developed a cloud-based platform that supports leading open source frameworks and makes automated testing the glue that holds DevOps together.

Key messages

- Sauce Labs is built to support leading open source automated testing standards and integrates with major CI/CD platform servers.
- Sauce Labs uses universal protocols that enable organizations to write tests in any language that engineers prefer.
- Sauce Labs enables customers to test on more than 900 browser/operating system (OS) combinations, more than 200 mobile emulators and simulators, and more than 2,000 real devices.

Ovum view

The DevOps movement has changed the way organizations operate by introducing the concept of collaboration and adoption of automation and agile processes. While DevOps is a success, it does have some areas that are not fully integrated into the core process. Software testing is an example. It is a key part of the DevOps process but is often a collection of bespoke or proprietary tools that have been manually integrated into the process by the organization, or a via "fast waterfall" workflow where testing is done after a sprint and not throughout the development cycle. The ability to have the freedom to select the development environment, repository, and test scripting language of choice is an important requirement that is often overlooked. The different actors involved in the CI/CD process come from different backgrounds and typically have gained experience in tools they have become familiar with. To ensure these actors can remain effective and efficient requires that they have the ability to use the tools they believe are best suited for the job. Therefore, any testing solution must be automated and support a wide range of development platforms, software repositories, collaboration tools, and test scripting languages if it is going to add value to the DevOps process.

Recommendations for enterprises

Why put Sauce Labs on your radar?

The choice of an automated testing solution is critical to supporting the CI/CD process and ensuring an agile development process. The automated testing solution must be both easy to use and yet comprehensive enough to cover the ever-growing universe of browsers, operating systems, and real

devices. Sauce Labs has developed a comprehensive, cloud-based continuous testing solution that supports many of the associated technologies that developers and testers commonly use. This ability to integrate quickly with an existing environment is a key value of the Sauce Labs solution.

Highlights

Sauce Labs targets organizations intent on optimizing their digital brand, and focuses on different market segments, including large enterprise customers, mid-market customers, and small and medium-sized enterprises (SMEs). Its Continuous Testing Cloud enables organizations to deliver automated testing of both web and mobile applications, with capabilities that include cross-browser testing, mobile emulator and simulator testing, and real device testing, as well as a new headless testing offering due out in 2Q19. Sauce Labs supports leading open source automated testing standards, including Selenium, Appium, and Espresso, and integrates with major CI/CD platform servers, including Jenkins, Bamboo, and Microsoft VSTS.

Background

The company was founded in 2008 and is based in San Francisco, California, with offices in Vancouver and Berlin. Sauce Labs is a privately held company funded by Toba Capital, Salesforce Ventures, Centerview Capital Technology, IVP, and Adams Street Partners.

Current position

Sauce Labs address the challenges of automating the testing of both mobile and web applications through its Continuous Testing Cloud, which is powered by global data centers in both the US and EMEA (Germany). Sauce Labs supports a number of the leading open source testing frameworks, including Selenium and Appium, and provides advanced support for iOS and Android native test automation frameworks.

Sauce Labs Web Testing

One of the key capabilities needed in any web testing solution is the ability to support a wide combination of operating systems and browsers and, just as importantly, support those new combinations quickly. Sauce Labs currently supports over 900 OS and browser combinations, and does so via a cloud platform that frees organizations of the headaches of building and managing their own test infrastructure. Ovum particularly likes the fact that Sauce Labs creates a new virtual machine (VM) in its cloud each time a test is run. This may seem an additional overhead, but it is more secure and reliable as it ensures that no residual data is accessible from previous tests that could corrupt the test results. Ovum also likes Sauce Connect, which provides a secure proxy connection (supporting IPsec VPNs) to ensure the security, privacy, and control of an application (web or mobile) under test. Users have the same secure proxy connection technology for emulators, simulators, and real devices.

Another good feature of the Sauce Labs Cloud is that it is optimized so that parallel running of tests is supported, where applicable. One of the most underrated capabilities in an automated testing solution is the speed with which problems can be identified and fixed. Sauce Labs provides a simple video playback approach to watch any tests, and the results are kept for 30 days for further examination of complex issues. A particularly interesting innovation by Sauce Labs is its Sauce Headless capability,

which is currently in beta testing. Sauce Headless gives the developer a cost-effective way to spin up headless Chrome and Firefox browsers to get instant feedback on the quality of their code.

Sauce Labs Mobile App Testing

The company's most noteworthy differentiator in the mobile testing space is that it offers both real device testing via the Sauce Labs Real Device Cloud (RDC) and testing on emulators and simulators in a virtual environment. This gives developers the ability to run mobile tests faster and more affordably early in the testing process via mobile emulators and simulators, and then add real devices during later-stage tests, such as acceptance tests. The Sauce Labs RDC is either a public or private cloud where thousands of different Apple or Android devices, including all the latest versions, are available fully configured and ready to support testing of any mobile application – native, hybrid, or mobile web. The live application testing capability allows testers to alter the sensors in the mobile device, such as screen rotation or GPS location, and to see the results during the test.

Data sheet

Key facts

Table 1: Data sheet: Sauce Labs

Product name	Sauce Labs Continuous Testing Cloud	Product classification	Automated testing software
Version number	n/a	Release date	March 2018
Industries covered	All	Geographies covered	All
Relevant company sizes	Small, medium, and large	Licensing options	Contract and subscription
URL	www.saucelabs.com	Routes to market	Direct
Company headquarters	San Francisco, CA, US	Number of employees	260

Source: Ovum

Appendix

On the Radar

On the Radar is a series of research notes about vendors bringing innovative ideas, products, or business models to their markets. Although On the Radar vendors may not be ready for prime time, they bear watching for their potential impact on markets and could be suitable for certain enterprise and public sector IT organizations.

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