



## IDC MarketScape

# IDC MarketScape: Worldwide Cloud Testing and ASQ SaaS 2017-2018 Vendor Assessment – Enabling Quality in and on the Cloud

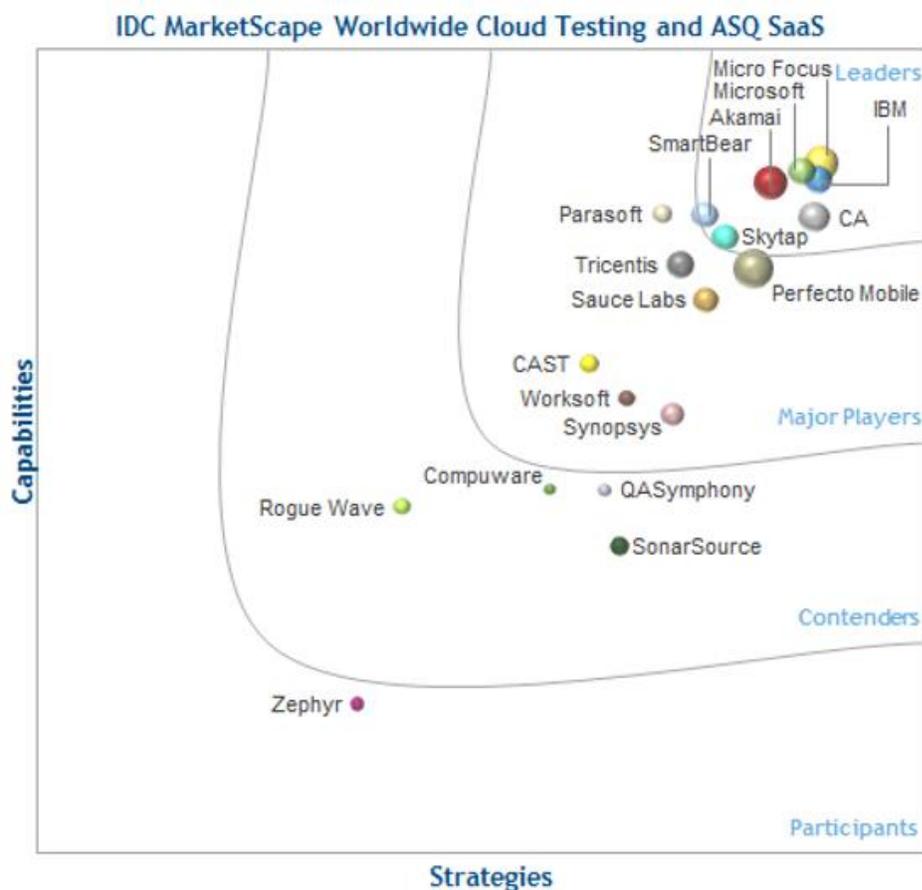
Melinda-Carol Ballou

THIS IDC MARKETSCAPE EXCERPT FEATURES AKAMAI

### IDC MARKETSCAPE FIGURE

FIGURE 1

## IDC MarketScape Worldwide Cloud Testing and ASQ SaaS Vendor Assessment



Source: IDC, 2017

Please see the Appendix for detailed methodology, market definition, and scoring criteria.

## IN THIS EXCERPT

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The content for this excerpt was taken directly from IDC MarketScape: Worldwide Cloud Testing and ASQ SaaS 2017-2018 Vendor Assessment – Enabling Quality in and on the Cloud (Doc #US41601017). All or parts of the following sections are included in this excerpt: IDC Opinion, IDC MarketScape Vendor Inclusion Criteria, Essential Guidance, Vendor Summary Profile, Appendix and Learn More. Also included is Figure 1.

## IDC OPINION

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Demand for solutions to test applications on the cloud and for the cloud is rising significantly as high-quality, well-performing software across platforms drives business innovation and competitive positioning. Companies investing in software in an economy that remains volatile with constrained resources and complex deployment challenges are benefitting from and committing to automated software quality (ASQ) software as a service (SaaS) and adaptive testing infrastructure support for and in the cloud. This dynamic market is continuing with strong demand and adoption, so this IDC MarketScape includes a separate, focused analysis to support users in their strategy and purchase decisions because of the importance of this key area for ASQ. (We see cloud testing as a "killer app" overall for the ALM arena – an obvious use case.) As organizations brand on mobile and other multimodal platforms and deploy for and in the cloud, IDC sees urgent need for approaches to software quality that extend to cloud testing and ASQ SaaS. User engagement is driving adoption and uptake in this area for automated software quality. Specifically, growth factors for cloud testing "in" the cloud and "of" cloud applications include the following:

- Cloud testing enables rapid access to both quality solutions and support infrastructure to sustain complex software sourcing and distributed development. SaaS and cloud testing require fewer resources and less capital expenditure compared with on-premises ASQ and enable faster adoption.
- Enterprises, small and medium-sized businesses (SMBs), and managed service providers leverage cloud testing to lower costs for testing where the investment demand for on-premises solutions is too exorbitant for these companies.
- Large service and solution providers see cloud testing as an opportunity to evolve and bundle new quality services together to target emerging markets for additional value-add and service offerings. This complements well the quality needs for mobile, ERP, security, and other areas (regulatory compliance, VoIP, etc.). Benefits of self-service infrastructure provisioning are key across areas (cost, adaptability, flexibility, and dynamism).
- Service virtualization as an enabler for continuous integration for DevOps and virtual test environments is another adoption driver in this arena and criteria for evaluation.
- We also see increasing demand for testing the quality of applications deployed to the cloud (as a delivery model) and analysis of the readiness of existing "noncloud" applications for migration to the cloud. Tools that enable analysis of the quality of cloud applications are also assessed in this IDC MarketScape.

## IDC MARKETSCOPE VENDOR INCLUSION CRITERIA

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IDC evaluated 19 vendors for inclusion in this IDC MarketScape for cloud testing and ASQ SaaS. Vendors needed to have sufficient cloud testing automated software quality capabilities available in key areas of concern for IDC clients (e.g., test infrastructure provisioning and configuration management, deep analytics for analysis of performance optimization, service virtualization, architectural and other analysis to enable visibility into the health of applications deployed in the cloud, readiness for software targeting the cloud, and/or delivery of their ASQ software solution in the cloud with partner integration for other capabilities). Vendors needed to appear in IDC discussions with end-user clients as part of RFP and other inquiry for ASQ during 2017 into 2018 and needed minimum overall revenue of \$20 million for CY16, with at least \$5 million of that revenue as ASQ. Smaller, targeted vendors with engaging functionality and focus were also included in this study to provide context for emerging areas of importance (even if they do not have a full portfolio of enterprise capabilities). Vendors evaluated are Akamai (which acquired SOASTA in 2Q17), CA Technologies (including its acquisitions of Veracode in 2Q17 and BlazeMeter in 4Q17 and earlier ASQ acquisitions and existing products), CAST, Compuware, Micro Focus (formerly HPE until the merger completed in September 2017), IBM, Microsoft, Parasoft, Perfecto Mobile, QASymphony, Rogue Wave, Sauce Labs, Skytap, SmartBear, SonarSource, Synopsys, Tricentis, Worksoft, and Zephyr.

IDC structured its approach to inclusion for vendors in the cloud testing category based on the strength of their products' ASQ cloud capabilities and strategy, revenue share in part (as indicators of adoption and staying power), and differentiated position and capabilities in emerging markets of concern. The focus for IDC for leaders has been on cloud testing breadth and depth, scalability, coordination with end-to-end life-cycle management, service virtualization, and strong data analytics as well as process support for systemic adoption and engagement, which have been key drivers for leadership.

## ADVICE FOR TECHNOLOGY BUYERS

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Cloud testing and ASQ SaaS facilitate the release and provisioning process through improved infrastructure availability and management for testing pre- and post-production. Service virtualization plays a role for both test labs and release management/provisioning. For this reason, IDC includes assessment of coordination for cloud testing solutions pre- and post-deployment as a criterion.

In addition, we increasingly see broader use of ASQ in coordination with application life-cycle management DevOps solutions. These products – which include requirements, testing, software change management, version control, release management and deployment, and in some instances, project portfolio and agile process management – can help provide granular metrics for the assessment of IT software quality project delivery and/or delays. These quantitative metrics can provide guidance both for cloud testing and ASQ SaaS success and failure and for the effectiveness of internal and external resources being used to execute on software quality initiatives. Those metrics then help enable qualitative choices about risk, compliance, and where additional resources may be needed to troubleshoot quality problem for challenging delayed software programs. Test data management plays a role here as well. (Typically, the projects with the greatest business value and dynamism involve greater risk for which quality needs to be monitored effectively.) These metrics can also help inform choices about internal resources and service providers where outsourcing is a key element for software portfolio execution.

These market factors and end-user demands informed IDC's choices about focus and weighting for this IDC MarketScape for cloud testing and ASQ SaaS assessment framework.

This study evaluates the principal vendors participating in cloud testing areas and applies that lens to the overall IDC MarketScape for ASQ series. At a time of economic disruption, businesses require the capability to be able to effectively test and optimize the software that drives business innovation, and augmenting test infrastructure with testing in cloud is an obvious benefit at a time of constrained resources with ongoing economic volatility. Companies have little leeway for poor software quality as they push forward competitively. Resources for both development and quality assurance and quality control remain highly constrained. Companies must make appropriate test automation strategy decisions for their businesses in response to both dramatically increased technology complexity and severe competitive and innovation pressures. IDC's cloud testing evaluation is based on a comprehensive framework and a set of parameters to assess vendors relative to one another and to those factors expected to be most conducive to user demand and to market and competitive success for the short term and the long term.

Overall, cloud testing excellence for this research must encompass strong capabilities for testing in the cloud and cloud test infrastructure management and dynamic provisioning, SaaS options for ASQ, and testing of target cloud applications. With a rise in complex sourcing, we increasingly see the need for metrics and service-level agreements (SLAs) that incorporate visibility into application performance in the cloud. This can facilitate evaluation of internal and external resources with testing metrics while improving assessment of consistent quality execution for successful software and effective software performance optimization with the use of adaptive cloud infrastructure.

The focus for this IDC MarketScape for cloud testing and ASQ SaaS (and for the companion IDC MarketScape for ASQ documents) was chosen based on IDC's assessment of evolving market demand and user input. Additional ASQ perspectives may be needed and are available on a custom basis. Context and analysis for these ASQ views are key; however, a single view (or narrow combination of views) by itself is inadequate for ASQ purchase decisions. These decisions must be made in the context of user organizational and process maturity, most pressing immediate and long-term demand and gap assessment, and dialogue with solution providers, analysts, and user references (and communities) with comparable needs.

Note: Those vendors rated most highly in this analysis have focused strategically on cloud testing both in the cloud and of cloud applications with examples of multithousand, cross-geographic, and multimodal quality cloud deployments. All vendors evaluated have evolved their offerings sufficiently to participate in this assessment, but we observe a range of execution across all three areas, from Leaders to Contenders, with one Participant. This is due, in part, to the more limited evolution of the market at this point. We expect ongoing evolution across this product category as well as acquisitions moving into the 2H18-2020 period.

## Leaders

The vendors in a leadership position for this cloud testing and ASQ SaaS research enable cloud infrastructure provisioning for testing and test artifacts, service virtualization (in some cases via partnership), and analysis of applications deployed in the cloud. The Leaders of this IDC MarketScape for cloud testing and ASQ SaaS are Micro Focus, IBM, Microsoft, Akamai, CA Technologies, Skytap, and SmatBear. Key capabilities for positioning as a Leader in this study include support for test provisioning in the cloud and decommissioning, management of cloud infrastructure, service virtualization, and assessment of quality for cloud applications. Even as we see organizations moving

to "modern" development environments with adaptive approaches, the capabilities of a combined suite as part of an end-to-end DevOps life-cycle approach is appropriate for some enterprises and plays a factor, along with strong cloud platform adoption by providers included in this category.

## Major Players

The vendors in the Major Player segment fall into categories of innovative providers with capabilities relevant for cloud testing both in the cloud and of cloud applications. For instance, CAST Software's Highlight enables a health assessment for application portfolio analysis of cloud readiness for existing applications, and Tricentis enables platform access in the cloud, API testing, service virtualization, exploratory testing and analytics. Perfecto Mobile enables broad and deep multimodal platform support in the cloud (with Wind Tunnel context for impact factors), and Sauce Labs offers a cloud testing platform (though not service virtualization or SOA testing), and both companies were Leaders in the IDC MarketScape for mobile testing digital quality. Worksoft has rearchitected its platform for the cloud and, with Execution Manager, enables scheduling across virtual machines in the cloud (or on-premises) and SOA testing (Analyze was already available in the cloud). Parasoft enables long-time SOA testing and service virtualization capabilities, and Synopsys offers a cloud portal service and emerging coordination across its code analytics products in the cloud. The vendors in the Major Players category are Perfecto Mobile, Parasoft, Sauce Labs, Tricentis, Worksoft, CAST, and Synopsys.

## Contenders

The vendors in the Contender segment include providers that have strong capabilities in a related area and offer product capability in the cloud. For instance, Compuware launched Topaz product support on AWS cloud in 4Q17 to enable its mainframe development, quality, and debugging capabilities in the cloud. The vendors in the Contenders category are Compuware, QASymphony, SonarSource, and Rogue Wave.

## Participants

Participant capabilities for cloud testing require less than those of Contenders. In this case, Zephyr is evolving its cloud strategy currently with initial capabilities and is a Participant for this study.

## VENDOR SUMMARY PROFILE

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This section briefly explains IDC's key observations resulting in a vendor's position in the IDC MarketScape. While every vendor is evaluated against each of the criteria outlined in the Appendix, the description here provides a summary of the vendor's strengths and challenges.

### Akamai

Akamai is a Leader in this IDC MarketScape for cloud testing and ASQ SaaS.

Akamai products include SOASTA CloudTest and MPulse.

Acquired by Cambridge, Massachusetts-based Akamai in 2Q17, SOASTA's Mountain View, California-based team has relocated to Akamai's Santa Clara, California, facility. At the time (1Q17) of the acquisition, SOASTA had about 150 employees, 300 customers, and about 1,000 users. Growth for SOASTA in 2016 was driven by its cloud-based quality solutions. SOASTA's offering marries partner cloud computing infrastructure to its automated, analytical global testing platform to help enable a robust, scalable alternative to high-end, enterprise, "traditional" performance testing services.

SOASTA has been disruptive not only for its value proposition to the enterprise but also for the potential validation support and operational guidance it can offer to companies moving to cloud-based or "as a service" models and that may be selling platform-as-a-service (PaaS) or software-as-a-service (SaaS) applications. Differentiators for SOASTA are its strength in cloud-based testing and evolving mobile support and a strong partner program and related third-party product support (examples of integrations in 1H17 include Jenkins for continuous integration; Micro Focus [formerly HPE], Dynatrace, Cisco-AppDynamics, CA Technologies-Wily, New Relic and Jmeter; and the ability to leverage CLI for additional third-party or open source integrations).

With Akamai's acquisition of SOASTA, we see significant opportunities given the announced strategies and emerging integration for strong execution in key emerging markets for ASQ such as mobile and digital quality. Complementary capabilities with the Akamai product portfolio include cross-web/mobile image management with Akamai's Image Manager and contextualized user experience analytics with the Akamai ION platform as well as media delivery and quality solutions. In addition, given an increased focus on application and data security, the Akamai portfolio includes cloud security solutions as well as a global professional services team that complements the SOASTA capabilities by providing insight into the intersection of cloud security, web performance, and user experience. (These kinds of capabilities are increasingly a key business need as user experience across multimodal platform deployment enables customer outreach, coordination, and execution moving forward.) Akamai is already executing on integration and moving forward on product portfolio coordination.

The SOASTA CloudTest product can enable users to run browsers and real mobile user interface testing simultaneously with protocol-level load testing. This functionality enables load testing that includes browsers and actual mobile devices for augmenting large-scale virtual load tests. The ability to combine browser-based users, mobile users, and virtual users in the same load test allows clients to measure broad performance and end-user experience. As SOASTA runs customer-defined web scenarios, it can measure browser-side metrics, mobile device performance like battery and memory, and the effects of high traffic on functional actions via its interactive dashboard.

Within SOASTA's visual test environment, drag-and-drop interfaces support geographically distributed test teams as they collaborate and reuse test scenarios. Its dashboard aggregates and captures resource usage from multiple sources (hardware, network, load balancer, firewall, web server, database, application server, content management system, etc.). In addition to its own monitors, performance metrics from leading application performance management (APM) solutions such as Dynatrace, New Relic, and Cisco-AppDynamics can be aggregated and correlated live into running tests. Testers have flexibility in how they handle data sets following the testing. Capabilities include comparing results across multiple test runs or mining test results to understand how specific message operations perform.

As part of its on-demand offering, customers can receive an hourly load testing service that includes the software, cross-cloud hardware and provisioning, testing support, and real-time analytic and summary reports. While customers can choose to run their own tests in a self-provisioning mode, they can also supply the designated URL to SOASTA, which in turn will run tests on their behalf with report output as requested at the completion of the tests. The on-demand offering has recently expanded into video performance testing, enabling customers to test OTT applications at multiterabit bandwidths. CloudTest On-Demand services start at \$2,500 per hour.

SOASTA's platform can support load generation from more than 500,000 cloud-based servers distributed across locations worldwide. The SOASTA platform enables cross-cloud testing on a number of vendor platforms such as Amazon EC2, IBM SmartCloud, Microsoft Azure, Rackspace, and Radix.

## **Strengths**

Strengths for Akamai lie in its technology solutions and services and the integration between the various aspects of the portfolio. The SOASTA platform offers a dynamically scalable testing solution to simulate web-based traffic loads. Powered by its own internally developed OLAP engine, the platform provides integrated test results and analytics that can enable fast problem identification and resolution. A browser-based user interface has access to an integrated test environment that supports functional test automation and regression testing (via the Selenium open source software [OSS] solution for web test automation and its own technology for capture/replay of iOS and Android apps), load testing, or web services testing. A number of protocols are supported including SOAP and RESTful web services, HTTPs, HTML, Ajax, and JSON. Within SOASTA's visual test environment, drag-and-drop interfaces support geographically distributed test teams as they collaborate and reuse test scenarios. Its dashboard aggregates and captures resource usage from multiple sources (hardware, network, load balancer, firewall, web server, database, application server, content management system, etc.).

Partner integrations also form a key part of its strategy. In addition to its own monitors, performance metrics from APM solutions such as Dynatrace, New Relic, and Cisco-AppDynamics can be aggregated and correlated live into running tests. Testers have flexibility in how they handle data sets following the testing. Capabilities include comparing results across multiple test runs or mining test results to understand how specific message operations perform. As part of its on-demand offering, customers can receive an hourly load testing service that includes the software, cross-cloud hardware and provisioning, testing support, and real-time analytic and summary reports. While customers can choose to run their own tests in a self-provisioning mode, they can also supply the designated URL to SOASTA, which in turn will run tests on their behalf with report output as requested at the completion of the tests.

Akamai/SOASTA customers can use production monitoring data from the company's mPulse product to create test plans (in addition to integrating with application performance management products from Dynatrace, New Relic, App Dynamics, and CA Wily to accept resource metrics captured by those platforms). Akamai/SOASTA is continuing to evolve user experience support for mobile.

## **Challenges**

With Akamai's acquisition of SOASTA, the company has sought to address questions about the ways in which the SOASTA's technology will be incorporated into the broader Akamai portfolio with recent announcements of product updates and integration. Those announcements include new integrations and plans to leverage Akamai's deep platform analytics as an additional perspective and context to complement existing performance analytics from SOASTA. That said, any acquisition brings organizational and business transition challenges, even though there is interest on the part of a portion of the customer base for both organizations to leverage cross-product integration. Existing strategic partnerships from SOASTA, pre-Akamai, must be retained. Process support for transitions to cloud testing are challenging, and process content to enable combined technology adoption and a transition to the cloud would be helpful. Also, even though SOASTA has its own analytics technology that it sees as differentiating, leverage of existing business intelligence engines remains key for many organizations. There is pushback from customers about high price points and a need for improved

ease of use. SOASTA's foray into initial mobile support has been well received, and there is an opportunity to deepen the breadth of capabilities for mobile moving forward as part of Akamai.

## APPENDIX

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### Reading an IDC MarketScape Graph

For the purposes of this analysis, IDC divided potential key measures for success into two primary categories: capabilities and strategies.

Positioning on the y-axis reflects the vendor's current capabilities and menu of services and how well aligned the vendor is to customer needs. The capabilities category focuses on the capabilities of the company and product today, here and now. Under this category, IDC analysts will look at how well a vendor is building/delivering capabilities that enable it to execute its chosen strategy in the market.

Positioning on the x-axis, or strategies axis, indicates how well the vendor's future strategy aligns with what customers will require in three to five years. The strategies category focuses on high-level decisions and underlying assumptions about offerings, customer segments, and business and go-to-market plans for the next three to five years.

The size of the individual vendor markers in the IDC MarketScape represents the market share of each individual vendor within the specific market segment being assessed.

### IDC MarketScape Methodology

IDC MarketScape criteria selection, weightings, and vendor scores represent well-researched IDC judgment about the market and specific vendors. IDC analysts tailor the range of standard characteristics by which vendors are measured through structured discussions, surveys, and interviews with market leaders, participants, and end users. Market weightings are based on user interviews, buyer surveys, and the input of IDC experts in each market. IDC analysts base individual vendor scores, and ultimately vendor positions on the IDC MarketScape, on detailed surveys and interviews with the vendors, publicly available information, and end-user experiences in an effort to provide an accurate and consistent assessment of each vendor's characteristics, behavior, and capability.

### Market Definition

The automated software quality (ASQ) SaaS and cloud testing market is a competitive market representing software as a service covering the automated software quality functional market and also revenue from the worldwide security and vulnerability management functional market including SaaS products sold providing code analytics as part of software quality, analysis, and measurement functionality.

Automated software quality tools support software unit testing, system testing, or both; they also support software quality assurance. Functions such as test specification, generation, execution, and results analysis, as well as test and QA management, are included in this category. ASQ SaaS and testing in the cloud (private, public, and hybrid) – and virtual test lab management as well as software quality analysis and measurement – are included in this category. Emerging platform support for mobile, video, crowdsourcing, end-user experience, embedded software quality, and other areas will be considered. The software quality analysis and measurement aspect of ASQ consists of software tools that enable organizations to observe, measure, and evaluate software complexity, size, productivity, and risk.

To qualify as a software-as-a-service solution, the offering is provided by a third-party, offsite provider and is not deployed internally by the end user. It is also required to support the majority of the following attributes:

- Is a shared one-to-many service built for a public market, not for a single customer (We also see the emergence of private cloud and hybrid cloud testing solutions.)
- Is provided as a "turnkey" solution that integrates required resources
- Provides dynamic, fine-grained service "scaling" associated with the needs of the business, the numbers of users, and so forth
- Supports user-oriented pricing, utilization, and cost tracking
- Enables self-service provisioning with cloud testing (although some onboarding may be necessary with staff support for more complex customizations)

SaaS and emerging cloud testing offerings often bundle hardware, services, and software licenses into an annual (or sometimes monthly) subscription fee, though in some cases, the user may license the software separately from the supporting infrastructure and services. SaaS can act as an on-ramp to cloud testing. Testing is particularly well suited to a cloud delivery model, given the need to mirror production systems with appropriate infrastructure to support consistent, well-managed, quality approaches. IDC's estimates for this market include all revenue associated with the delivery of services that support the functionality described previously. While the majority of revenue presented here is in SaaS, we expect increasing revenue for cloud testing offerings and user uptake to continue through 2016 and beyond.

## LEARN MORE

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### Related Research

- *IDC MarketScape: Worldwide Mobile Testing and Digital Quality 2017-2018 Vendor Assessment – Enabling Digital Transformation via Quality Solution* (IDC #US40344615, February 2018)
- *IDC MarketScape: Worldwide Software Quality Analysis and Measurement 2017-2018 Vendor Assessment – Uniting Quality with Security for DevOps* (IDC #US41601217, December 2017)
- *IDC MarketScape: Worldwide Enterprise Automated Software Quality 2017-2018 Vendor Assessment – Driving Business Optimization via DevOps with Continuous Test and Integration* (IDC #US41601117, December 2017)
- *Worldwide Automated Software Quality Forecast, 2017-2021: Digital Transformation, DevOps, Evolving IoT and Cognitive Enable Long-Term Growth* (IDC #US42777517, June 2017)
- *Worldwide Automated Software Quality Market Shares, 2016: Setting Path to Quality for Digital Transformation from Legacy to Web to Mobile to IoT Leveraging Cloud* (IDC #US42776617, June 2017)

### Synopsis

This IDC study uses the IDC MarketScape model to provide an assessment for cloud testing and ASQ SaaS, evaluating automated tools capabilities for enabling virtual testing infrastructure in the cloud, service virtualization, and testing of cloud applications as one of four key assessments of the IDC MarketScape for ASQ to provide a comprehensive view across key areas of the market – enterprise ASQ/DevOps, quality/security with software quality analysis and measurement, and mobile testing and

digital quality. Organizations seeking process, services, and product automation capabilities for ASQ come to their decision making with varying levels of maturity, differing pain points, and challenges. This is even more the case in a volatile global economy as companies continue to struggle with constrained and complex sourcing, limited QA resources, and varying levels of flexibility to meet business and competitive pressures. The intent with IDC's cloud testing ASQ criteria and our four-document report series is to demonstrate weighting approaches for the areas of greatest importance that come up for users making high-end ASQ selections currently with transformative demands for mobile, cloud, IoT, and other areas. Too frequently, users and vendors see "one" sample market assessment diagram and assume that a single model for the market will directly address all their needs (with no context for user-specific challenges or variegated maturity levels). We believe that in-context weighting and analysis is optimal to enable pragmatic insight for users making decisions in a dynamic, increasingly chaotic, complex global competitive environment. Additional weighting and visibility are available individually – yet publishing multiple IDC MarketScapes for ASQ can enable decision makers to "see" varying approaches based on their peers' experiences, as they assess IDC's analysis.

"IDC has seen a dramatic increase in multimodal development and complex sourcing for software projects. This continues the existing trend for combining internal resources with contractors, onshore/offshore providers, and use of open source. With Continuous Integration and agile DevOps approaches along with the need for DevSecOps, the demand for effective quality has increased geometrically," said Melinda Ballou, program director for IDC's Application Life-Cycle Management and Executive Strategies service. "Creating strategies that enable cloud testing with virtual infrastructure and service virtualization as well as testing of cloud applications for visibility into their health enable broader portfolio coordination with ALM and capabilities for emerging platforms with mobile, cloud, IoT, and other areas. It is in part due to this increase in vulnerabilities and complexity for software development and deployment projects that IDC has chosen to prioritize combined capabilities for ASQ with additional life-cycle areas. Cloud testing solutions in this context can provide a basis for collaboration to enable continuous quality as part of end-to-end DevOps. While this IDC MarketScape focuses on cloud testing and ASQ SaaS, IDC has chosen the context of three additional sample weighting strategies that have currency in 2018 and are frequently requested by users speaking with us – mobile testing and digital quality, software quality analysis and measurement, and enterprise ASQ. Global organizations seeking to coordinate continuous DevOps and other areas demand high levels of functionality, scalability, and maturity overall to execute well."

## About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

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