# The Forrester Wave™: Intelligent Application And Service Monitoring, Q2 2019

The 13 Providers That Matter Most And How They Stack Up

by Rich Lane

April 18, 2019 | Updated: April 18, 2019

## Why Read This Report

In our 29-criterion evaluation of intelligent application and services monitoring (IASM) providers, we identified the 13 most significant ones — BMC Software, CA Technologies, Cisco (AppDynamics), Datadog, Devo, Dynatrace, IBM, Micro Focus, New Relic, Riverbed Technology, ScienceLogic, Splunk, and Zenoss — and researched, analyzed, and scored them. This report shows how each provider measures up and helps infrastructure and operations (I&O) professionals select the right one for their needs.

## **Key Takeaways**

# ScienceLogic, Datadog, Dynatrace, And Zenoss Lead The Pack

Forrester's research uncovered a market in which ScienceLogic, Datadog, Dynatrace, and Zenoss are Leaders; New Relic, BMC Software, Cisco (AppDynamics), Riverbed Technology, and Devo are Strong Performers; and Splunk, CA Technologies, Micro Focus, and IBM are Contenders.

## Intelligent RCA And Digital CX Measurement Across The Stack Are Key Differentiators

Previous generations of monitoring tools often focused on specific silos within the application or infrastructure environment. Vendors that can provide strong root-cause analysis (RCA) and remediation, digital customer experience (CX) measurement capabilities, and ease of deployment across the customer's whole environment position themselves to successfully deliver intelligent application and service monitoring.

# The Forrester Wave™: Intelligent Application And Service Monitoring, Q2 2019

The 13 Providers That Matter Most And How They Stack Up



by Rich Lane with Laura Koetzle, Sandy Rogers, Julia Caldwell, and Diane Lynch April 18, 2019 | Updated: April 18, 2019

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## Today's Applications And Services Require Intelligent Monitoring

As complexity grows, I&O teams struggle to obtain full visibility into their environments and do troubleshooting. To meet rising customer expectations, operations leaders need new monitoring technologies that can provide a unified view of all components of a service, from application code to infrastructure. Forrester survey data shows that 51% of global infrastructure decision makers report they've already adopted, or are in the process of implementing, Al- and machine learning (ML)-enabled systems, with another 21% stating that they plan to obtain these technologies in the next 12 months.¹ Vendors are expanding their offerings to provide a full range of monitoring capabilities across the stack and to integrate Al/ML for more efficient RCA with prescriptive and predictive guidance.

As a result of these trends, customers should look for IASM solutions that offer:

- > Intelligent RCA and remediation. Pinpointing the primary cause of an issue within a complex application technology stack can be frustrating and time-consuming. An intelligent monitoring solution that uses AI/ML can shorten response and remediation times by providing more accurate, prescriptive, and predictive guidance.
- > Robust tools for measuring digital CX. Real user monitoring (RUM), synthetic transaction monitoring, and transaction monitoring measure CX, tracking every step of a user's interactions, from device to application to ultimate business outcome.
- > Ease of deployment and fast time-to-value. With flexible monitoring solution architectures, deployment tools, and processes, dev and ops teams can push an agent in mere minutes to all the hosts they wish to monitor.<sup>2</sup> And the less manual configuration an IASM solution requires, the faster an ops team can start using it to resolve problems.

## **Evaluation Summary**

The Forrester Wave<sup>™</sup> evaluation highlights Leaders, Strong Performers, Contenders, and Challengers. It's an assessment of the top vendors in the market and doesn't represent the entire vendor landscape. You'll find more information about this and related markets in our report on cognitive operations.<sup>3</sup>

We intend this evaluation to be a starting point only and encourage clients to view product evaluations and adapt criteria weightings using the Excel-based vendor comparison tool (see Figure 1 and see Figure 2). Click the link at the beginning of this report on Forrester.com to download the tool.

FIGURE 1 Forrester Wave™: Intelligent Application And Service Monitoring, Q2 2019

## THE FORRESTER WAVE™

Intelligent Application And Service Monitoring Q2 2019

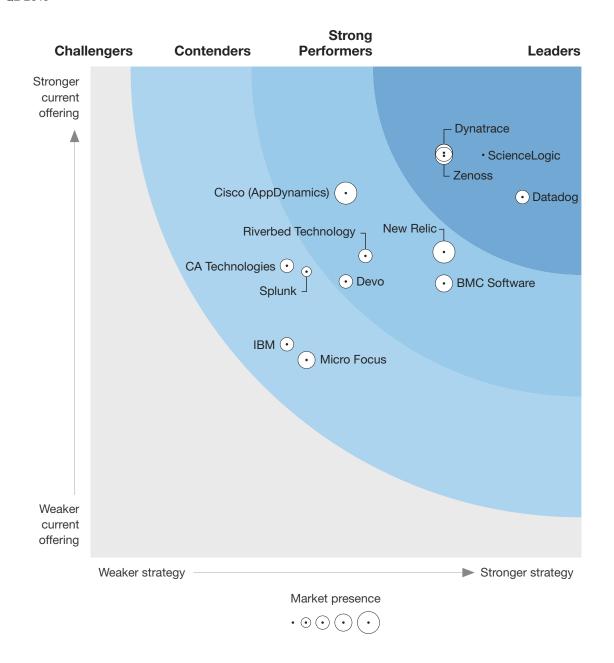


FIGURE 2 Forrester Wave™: Intelligent Application And Service Monitoring Scorecard, Q2 2019

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Current offering	50%	2.79	2.97	3.71	3.67	2.81	4.12	2.17
Application and service monitoring	15%	2.70	2.70	4.40	3.00	2.00	4.30	3.00
Infrastructure and cloud monitoring	15%	2.20	3.00	3.00	3.80	3.00	3.00	3.00
Dependency mapping and topology management	25%	3.00	3.00	5.00	4.00	1.00	5.00	1.00
Alerting and reporting	15%	3.00	3.00	3.40	5.00	3.80	4.20	2.20
Data management and intelligent analytics	20%	2.50	3.00	2.40	3.30	4.20	3.40	1.80
Platform	10%	3.50	3.10	3.60	2.40	4.00	4.60	3.30
Strategy	50%	3.60	2.00	2.60	4.40	2.60	3.60	2.00
Product innovation road map	30%	5.00	3.00	3.00	5.00	3.00	3.00	1.00
Market approach	20%	3.00	1.00	3.00	5.00	3.00	5.00	1.00
Ecosystem depth	10%	3.00	1.00	3.00	3.00	3.00	5.00	3.00
Execution capabilities	20%	3.00	3.00	3.00	5.00	1.00	3.00	5.00
Commercial model	20%	3.00	1.00	1.00	3.00	3.00	3.00	1.00
Market presence	0%	3.60	3.00	4.40	3.00	2.20	3.80	2.40
Number of customers	30%	3.00	3.00	3.00	5.00	3.00	5.00	3.00
Product revenue	40%	3.00	3.00	5.00	3.00	1.00	5.00	3.00
Average deal size	30%	5.00	3.00	5.00	1.00	3.00	1.00	1.00

All scores are based on a scale of 0 (weak) to 5 (strong).

FIGURE 2 Forrester Wave™: Intelligent Application And Service Monitoring Scorecard, Q2 2019 (Cont.)

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	counside	Micro	Focus New 3.11	Se. Sinel	oed Techno	olos celogic solur	1enc
Current offering	50%	2.01	3.11	3.07	4.10	2.91	4.09
Application and service monitoring	15%	2.20	4.00	3.50	2.40	1.60	1.80
Infrastructure and cloud monitoring	15%	3.00	3.00	3.00	5.00	2.20	5.00
Dependency mapping and topology management	25%	1.00	3.00	3.00	4.00	3.00	5.00
Alerting and reporting	15%	2.20	3.00	3.00	4.60	3.00	3.80
Data management and intelligent analytics	20%	1.80	3.10	2.90	4.20	4.20	4.20
Platform	10%	2.90	2.40	3.10	4.60	3.00	4.10
Strategy	50%	2.20	3.60	2.80	4.00	2.20	3.60
Product innovation road map	30%	3.00	3.00	3.00	5.00	1.00	3.00
Market approach	20%	3.00	3.00	3.00	5.00	3.00	5.00
Ecosystem depth	10%	3.00	5.00	1.00	3.00	5.00	5.00
Execution capabilities	20%	1.00	5.00	3.00	3.00	3.00	3.00
Commercial model	20%	1.00	3.00	3.00	3.00	1.00	3.00
Market presence	0%	3.80	4.40	2.20	1.00	1.60	3.40
Number of customers	30%	3.00	5.00	3.00	1.00	1.00	5.00
Product revenue	40%	5.00	5.00	1.00	1.00	1.00	1.00
Average deal size	30%	3.00	3.00	3.00	1.00	3.00	5.00

All scores are based on a scale of 0 (weak) to 5 (strong).

## **Vendor Offerings**

Forrester included 13 vendors in this assessment: BMC Software, CA Technologies, Cisco (AppDynamics), Datadog, Devo, Dynatrace, IBM, Micro Focus, New Relic, Riverbed Technology, ScienceLogic, Splunk, and Zenoss (see Figure 3).

#### FIGURE 3 Evaluated Vendors And Product Information

Vendor	Products evaluated
BMC Software	TrueSight Operations
CA Technologies	CA Digital Experience Insights
Cisco (AppDynamics)	AppDynamics
Datadog	Datadog
Devo	Devo Data Operations Platform
Dynatrace	Dynatrace
IBM	IBM Cloud App Management
Micro Focus	Operations Bridge Ultimate edition
New Relic	The New Relic Platform
Riverbed Technology	Riverbed SteelCentral APM
ScienceLogic	SL1
Splunk	Splunk IT Service Intelligence (ITSI) Splunk App for Infrastructure (SAI) Splunk Enterprise
Zenoss	Zenoss Cloud

#### **Vendor Profiles**

Our analysis uncovered the following strengths and weaknesses of individual vendors.

#### Leaders

ScienceLogic performs at scale with leading intelligence-based automation. ScienceLogic has spent years building a solution that services the unique needs of managed services providers (MSPs) and global systems integrators (GSIs) for handling massive data aggregation and disparate architectures. Its SL1 product applies an algorithmic approach to build and search a real-time data lake that can ferret out future resource exhaustion scenarios before they impact operations. Due to the depth of its topology capabilities, the product can enrich existing configuration management database (CMDB) data or act as the source of record itself for operations.

ScienceLogic's MSP customers highlighted that the solution has allowed them to grow their businesses without adding staff, due to its advanced automation capabilities, including run-book automation, predictive capacity allocation, and CMDB rationalization. The company is working to simplify the upgrade process for major releases, an area that customers felt is more complex than it should be. ScienceLogic is suitable for large enterprises with high scalability requirements or complex dependencies between services to monitor.

> Datadog straddles traditional IT operations and newer DevOps perspectives. Datadog offers a software-as-a-service (SaaS)-based solution built on the premise that operations and development professionals all have skin in the game and should be able to measure application performance from any angle. A unified dashboard keeps the practitioner in-context when troubleshooting performance issues, and integrations for collaboration and notification tools (e.g., PagerDuty, Slack, or VictorOps) are supplied natively through APIs.

Datadog has a large volume of out-of-the-box dashboards and integrations. Customers noted that the solution gives them far greater visibility than previously deployed tools, allowing staff members, armed with precise troubleshooting data, to react faster. One area for increased R&D spend would be to expand deployment capabilities to provide options for cloud providers and enterprise on-premises requirements. Because it's a purely SaaS alternative, Datadog will resonate with IT decision makers who want to free their staff from tool management and support.

Dynatrace offers a flexible platform to traverse IT and digital business observability. Dynatrace's approach is to provide an intelligence platform beyond infrastructure and application monitoring to include comprehensive user experience and business observability. With deep penetration into the full stack of enterprise application components and user monitoring, Dynatrace can stitch together all the facets of a digital user's journey seamlessly. By leveraging Al/ML capabilities, the product provides real-time reporting on IT and business metrics at a granular level, with actionable insights for multiple stakeholders.

Dynatrace offers intuitive and seamless dependency mapping capabilities that provide users with a consistent view across services. It has invested heavily in the usability of its solution, and the flexible UI design keeps practitioners in context when they're exploring performance issues. Customers noted that the main areas for product improvement include legacy systems integration, Hyper-V support, and integrating session replay capabilities from synthetics. Clients with advanced technology requirements, including those with internet-of-things (IoT) and edge computing use cases, should consider Dynatrace.

Zenoss' broad cross-section of integrations eases data management. Zenoss' strategy emphasizes simplifying integration across multiple IT data sources and corporate analytics systems. The company has spent a great deal of technical capital building strong integrations into hundreds of technology solutions. Zenoss Cloud readily accepts data from any source through ZenPacks, which are plug-ins, designed by the company or community, that leverage APIs, REST calls, or an agent. The solution also provides a software development kit (SDK) for customers to create their own custom device integrations to further extend the product.

Reference customers note that the system has provided value by allowing them to consolidate tools and support high metrics-collection rates through its horizontal scaling capabilities. One shortcoming of Zenoss' SaaS version is that it doesn't offer the same degree of customization capabilities as the on-premises version. Code base alignment and more-flexible administration practices would address this issue. Customers that have large volumes of disparate data sources and need a highly scalable solution should consider Zenoss.

#### **Strong Performers**

> New Relic's SaaS solution continues to expand beyond its affinity for DevOps. New Relic has traditionally provided application performance management (APM) capabilities with deep-level code diagnostics. The company has expanded its offerings to support for container, microservice, and infrastructure monitoring to provide a fuller stack view. Thus, although customers once looked on its solution as a DevOps-centric tool, New Relic is now selling to more traditional IT operations and positioning it as one-stop monitoring.

New Relic recently added serverless APM to its core product, and its product road map includes enhancing its relationship mapping with Al/ML to increase its prescriptive capabilities. Customer references stated that roll-ups of data into a CIO-centric view to provide overall enterprise health can be a challenge. Platform navigation can also involve a lot of context switching and opening of additional tabs to obtain an end-to-end view of applications and all their associated infrastructure components. New Relic is still a strong option for enterprises heavily invested in DevOps practices.

> BMC Software has modernized its platform with robust automation capabilities. With one of the more mature offerings in the monitoring space, BMC Software has continually advanced its product portfolio over time through organic innovation and acquisitions. Recent releases have introduced Al/ML-driven monitoring for data center and multicloud environments and rebuilt the solution from the ground up in a modern, portable, and scalable architecture leveraging containers. This allows the product to deploy into a number of environments (e.g., hybrid cloud or on-premises) to meet the needs of a large cross-section of customers.

BMC's product road map includes further increasing and integrating its automation capabilities to address the many repetitive aspects of a practitioner's day-to-day workload. The vendor will achieve this through implementing a big data back end to support more advanced analytics. Customers would like to see deeper cloud monitoring to understand end-to-end performance across geographically distributed locations. BMC Software's TrueSight suite will assuredly benefit enterprises that are starting their journey into modernizing their applications yet also have a large number of legacy and commercial off-the-shelf (COTS) systems to support.

Cisco (AppDynamics) continues to focus on monitoring real-time business outcomes.

Coming from the traditional world of APM gives the AppDynamics platform strong capabilities in code diagnostics and transaction tracing. The product can combine data to provide unique views into business outcomes and performance, such as shopping cart abandon rates and healthcare registration compliance. Cisco is infusing R&D capital into the product after its acquisition of AppDynamics in 2017, making advancements in its prescriptive and predictive capabilities and adding in smart automations such as remediation of incidents based on prior knowledge.<sup>4</sup>

AppDynamics offers a wide range of deployment options, so enterprises have flexibility on what configuration is best for their circumstances. Customers noted that the vendor should update the product's licensing model to provide more flexibility and needs to include modules that some competitors provide in their core offerings, such as transaction analytics and container/orchestrator monitoring. Customers that desire flexibility on deployment options, depending on their current and future needs, should evaluate Cisco's AppDynamics.

Riverbed Technology leverages network intelligence for digital experience monitoring.

Riverbed Technology's approach to the market is to provide solutions for customers that need to tie together a highly distributed mix of platforms and technologies to monitor and measure end-to-end application experiences. Its SteelCentral APM solution leverages its own proprietary tracing technology to "stitch" together pieces of an application transaction to provide a comprehensive view across end user, application, network, and hybrid infrastructure.

In addition to its heritage and core strength in networking (e.g., WAN traffic optimization), Riverbed has advanced its capabilities for monitoring infrastructure sources at scale. Customers also call out the ability of the product to tie IT performance to revenue outcomes as a key value. In its product road map, Riverbed has a commitment to strengthen its AI/ML capabilities for more in-depth automated root cause identification, which customers noted as a current weakness. Clients that are looking for a solution that integrates well across the Riverbed Technology portfolio or that run a highly diverse mix of infrastructure are a good fit here.

> Devo is well suited to handle data at scale for customer-obsessed enterprises. Devo's Data Operations Platform can provide "outside in" user experience monitoring by enriching traditional monitoring data with business data. The product supports combining outcomes-based data (e.g., sales conversion rates or shopping cart abandonments) with traditional technology metrics (e.g., server, application, or network performance). Devo's advanced algorithm-driven architecture allows for searching unlimited amounts of historical data and correlating it with real-time streaming data.

Devo boasts some unique features to address changing data formats and augment search results with real-time data enrichment, correlation, and aggregation. Customers praise Devo for providing fast response times to issues and also feel they have a lot of say in product enhancements. Areas for improvement include creating more extensive out-of-the-box dashboards for multiple IT personas. Devo is a good fit for customer-obsessed enterprises that need to manage high-volume asset and real-time data environments.

#### **Contenders**

> Splunk provides a flexible solution for customizing algorithms and adding data. Splunk's ITSI solution runs as an add-on capability to its Splunk Enterprise platform. Customers can also build IASM functionality using just the Splunk Enterprise platform, but Forrester didn't include those use cases in this evaluation. Splunk has its roots in log management and machine learning. These core capabilities have provided a foundation for the company to expand into a wide set of corporate functions, such as security, compliance, business analytics, and monitoring. Splunk has a large and active ecosystem of technology professionals, including professional services consultants and customers that share a wealth of knowledge and custom-built technology add-ons on its knowledge base portal to augment its own intellectual property (IP).

Splunk's strength lies in its ability to normalize data for complex correlations across multiple data types. This allows users to trust that anomalies, correlations, and pattern detections are being accurately reported. Customers state that the product, while offering a lot of capabilities, is complex, thus requiring specialized skills to effectively use and support the solution. Time-to-value could also be compressed, as it often takes weeks from purchase, lagging other options available today. Enterprises looking to use custom complex algorithms to mine information contained in disparate log sources will likely gravitate toward Splunk.

- > CA Technologies (Broadcom) is focusing on expanding enterprise footprints. With Broadcom's 2018 acquisition of CA Technologies complete, the company's strategy is to continue to invest and innovate in its enterprise software portfolio, provide more solutions for current customers, and become thought leaders in the open source community. The company is adding more Al/ML capabilities for predictive analytics into its Digital Experience Insights monitoring product, using industry-accepted solutions like Hadoop and Kafka.
  - CA Technologies' strengths include monitoring infrastructure at scale. Ease of upgrade is also a major selling point for large enterprises. Users reported that alerting can be challenging, sometimes requiring multiple configuration steps to maintain context across modules (e.g., Team Center, UM, or Workstation). Another opportunity to improve would be more intuitive navigation when customers are drilling down into an application stack. A more unified console would go far to alleviate these issues. Enterprises that have a large infrastructure footprint and need a solution that has proven to work at scale should consider CA Technologies.
- Micro Focus has a variety of monitoring capabilities to address customer needs. Micro Focus' Operations Bridge (OpsBridge) gives users a broad set of options for measuring digital user experience, including a wide range of core application and infrastructure monitoring functionality and robust COTS support. RUM and synthetics, along with browser plug-ins and a wide array of configurability options, provide developers and operations teams a breadth of diagnostic information. Micro Focus has a large set of GSI partnerships that leverage the solution in global data centers and has a broad base of resellers worldwide.

Micro Focus has a well-thought-out product road map for innovation and modernization; however, OpsBridge currently suffers from its heritage of legacy products and acquisitions. This leads to a less-than-optimal user experience, making it hard for users to maintain consistent context when navigating across tasks. Customer interviews noted faster turnaround on bug fixes as an opportunity for improvement. Given its breadth of capabilities, Operations Bridge is particularly useful for customers looking to flexibly procure specific elements of monitoring functionality to suit their environments.

> IBM is geared for the needs of large, established enterprises' IT operations. IBM's Cloud App Management offering includes all the core capabilities you'd expect from an enterprise application and infrastructure monitoring solution, including support for microservices and containers. Given the company's history, the solution has robust capabilities for handling message brokers, middleware, and legacy environments in addition to newer cloud-native technologies. IBM's product also offers strong security, and the company has built up a deep partner ecosystem to help implement, customize, and maintain the solution to address customer needs.

IBM sells Cloud App Management as one stock-keeping unit (SKU) containing two separate product modules and deployment paradigms, where container and microservice monitoring is covered only via the on-premises install and core APM and infrastructure monitoring are provided in SaaS. This creates a separate data and metrics environment for each module and a fragmented user experience to harness full functionality. IBM should continue to focus on unifying its code base, making it deployable to any environment, and build more capabilities into the core solution, including analytics and Al/ML features (e.g., Watson) without additional product licensing. Based on customer interviews, reporting is another area for improvement. Enterprises that heavily leverage IBM technologies will benefit most from this solution, given the strong degree of integration within its portfolio.

#### **Evaluation Overview**

To assess the state of the IASM market and see how the vendors stack up against each other, Forrester evaluated the strengths and weaknesses of top IASM vendors. After examining past research, user need assessments, and vendor interviews, we developed a comprehensive set of evaluation criteria. We evaluated vendors against 29 criteria, which we grouped into three high-level categories:

- > Current offering. Each vendor's position on the vertical axis of the Forrester Wave graphic indicates the strength of its current offering. Key criteria for these solutions include dependency mapping and topology, application and service monitoring, infrastructure and cloud monitoring, alerting and reporting, data management and analytics, and platform.
- > Strategy. Placement on the horizontal axis indicates the strength of the vendors' strategies. We evaluated each vendor's product innovation road map, market approach, ecosystem depth, execution capabilities, and commercial sales model.

> Market presence. Represented by the size of the markers on the graphic, our market presence scores reflect each vendor's number of customers, product revenue, and average deal size.

#### **Vendor Inclusion Criteria**

Forrester included 13 vendors in the assessment: BMC Software, CA Technologies, Cisco (AppDynamics), Datadog, Devo, Dynatrace, IBM, Micro Focus, New Relic, Riverbed Technology, ScienceLogic, Splunk, and Zenoss. Each of these vendor's solutions:

- > Was generally available as of September 1, 2018. "Generally available" means the functionality shown in the demo was fully downloadable as a release for on-premises code bases or was pushed into SaaS systems by this date.
- Meets the minimal threshold of enterprise customers and solution revenue. One hundred or more unique enterprise customers have purchased the solution, and it has generated greater than \$50 million in annual product revenue.
- Shows a strong breadth of functionality. The solution must offer multiple functional capabilities, including but not limited to native application and infrastructure (on-premises and cloud) resources monitoring, native dependency mapping, transaction monitoring and/or distributed tracing, and predictive monitoring capabilities.



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## Supplemental Material

#### **Online Resource**

We publish all our Forrester Wave scores and weightings in an Excel file that provides detailed product evaluations and customizable rankings; download this tool by clicking the link at the beginning of this report on Forrester.com. We intend these scores and default weightings to serve only as a starting point and encourage readers to adapt the weightings to fit their individual needs.

#### **The Forrester Wave Methodology**

A Forrester Wave is a guide for buyers considering their purchasing options in a technology marketplace. To offer an equitable process for all participants, Forrester follows The Forrester Wave™ Methodology Guide to evaluate participating vendors.

In our review, we conduct primary research to develop a list of vendors to consider for the evaluation. From that initial pool of vendors, we narrow our final list based on the inclusion criteria. We then gather details of product and strategy through a detailed questionnaire, demos/briefings, and customer reference surveys/interviews. We use those inputs, along with the analyst's experience and expertise in the marketplace, to score vendors, using a relative rating system that compares each vendor against the others in the evaluation.

We include the Forrester Wave publishing date (quarter and year) clearly in the title of each Forrester Wave report. We evaluated the vendors participating in this Forrester Wave using materials they provided to us by February 7, 2019, and did not allow additional information after that point. We encourage readers to evaluate how the market and vendor offerings change over time.

In accordance with The Forrester Wave<sup>TM</sup> Vendor Review Policy, Forrester asks vendors to review our findings prior to publishing to check for accuracy. Vendors marked as nonparticipating vendors in the Forrester Wave graphic met our defined inclusion criteria but declined to participate in or contributed only partially to the evaluation. We score these vendors in accordance with The Forrester Wave<sup>TM</sup> And The Forrester New Wave<sup>TM</sup> Nonparticipating And Incomplete Participation Vendor Policy and publish their positioning along with those of the participating vendors.

#### **Integrity Policy**

We conduct all our research, including Forrester Wave evaluations, in accordance with the Integrity Policy posted on our website.

#### **Endnotes**

- <sup>1</sup> Source: Forrester Analytics Global Business Technographics® Infrastructure Survey, 2018.
- <sup>2</sup> See the Forrester report "The Forrester Wave™: Continuous Delivery And Release Automation, Q4 2018."
- <sup>3</sup> See the Forrester report "Vendor Landscape: Cognitive Operations."
- <sup>4</sup> Source: "Cisco has acquired AppDynamics Inc," Cisco press release, March 22, 2017 (https://www.cisco.com/c/en/us/about/corporate-strategy-office/acquisitions/appdynamics.html).
- <sup>5</sup> Source: "Broadcom Inc. Completes Acquisition of CA Technologies," Broadcom press release, November 5, 2018 (https://www.broadcom.com/company/news/financial-releases/2375294).



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