



CIOs are turning to AI to bridge the gap between constrained resources & cloud complexity

A 2020 Global CIO Report

The journey to AI-driven autonomous operations

Organizations in every industry have been transitioning to the enterprise cloud in recent years, as they seek the agility needed to keep up with the growing pace of digital transformation. Modern IT environments are highly dynamic and web-scale, with microservices running in containers, spanning multiple clouds and hybrid infrastructures. Networks and infrastructure are fully virtualized and IT resources are shared among applications.

In this new ecosystem, scale and complexity has increased significantly, and controlling it has grown beyond human ability. There's a widening gap between strained IT resources and the demands of managing the modern enterprise cloud. Traditional monitoring tools, built for static environments, are unable to keep up. Attempts to improve existing monitoring capabilities are resulting in failure, and organizations are realizing a radical, transformational approach is needed.

This report shines a light on the challenges organizations face as they combat the complexities of the enterprise cloud, and why the journey to AI-driven autonomous cloud operations has made it to the top of the agenda for CIOs in 2020.

What's inside

- 1** IT teams are drowning in a data deluge
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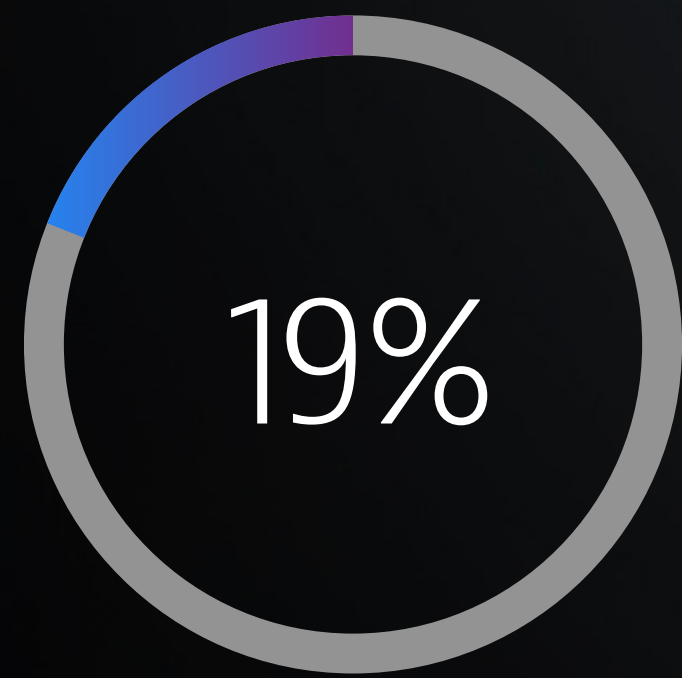
IT teams are drowning in a data deluge

Traditional monitoring tools weren't designed to handle the volume, velocity and variety of data generated by applications running in dynamic, web-scale enterprise clouds. These tools are often siloed, lacking the broader context of events taking place across the entire technology stack. As a result, they bombard IT teams with hundreds, if not thousands, of alerts every day. Many of these alerts are false positives, duplicates or low priority. This makes it difficult for IT and cloud operations teams to understand where to focus their efforts to deliver seamless user experiences and optimize business outcomes. As a result, they're drowning in data, as incremental improvements to existing monitoring tools fail to make a difference.

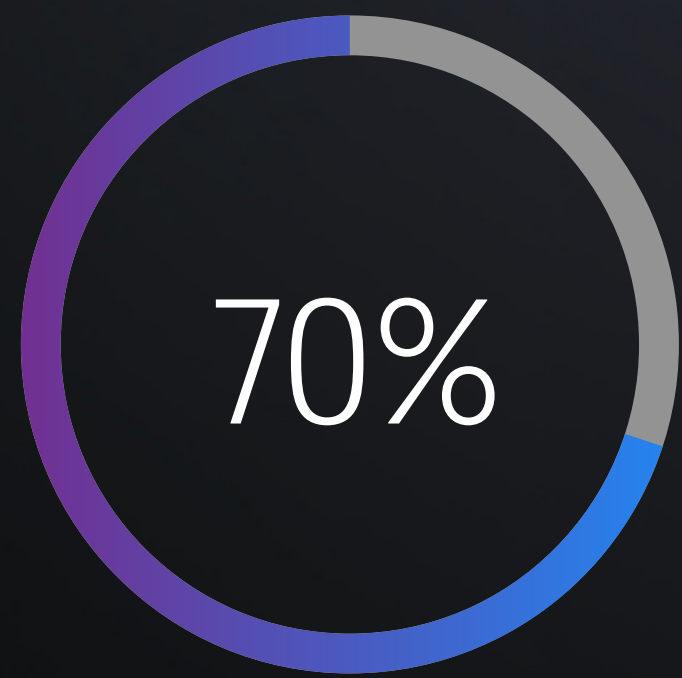
On average, IT and cloud operations teams receive **2,973 alerts** from their monitoring and management tools each day.



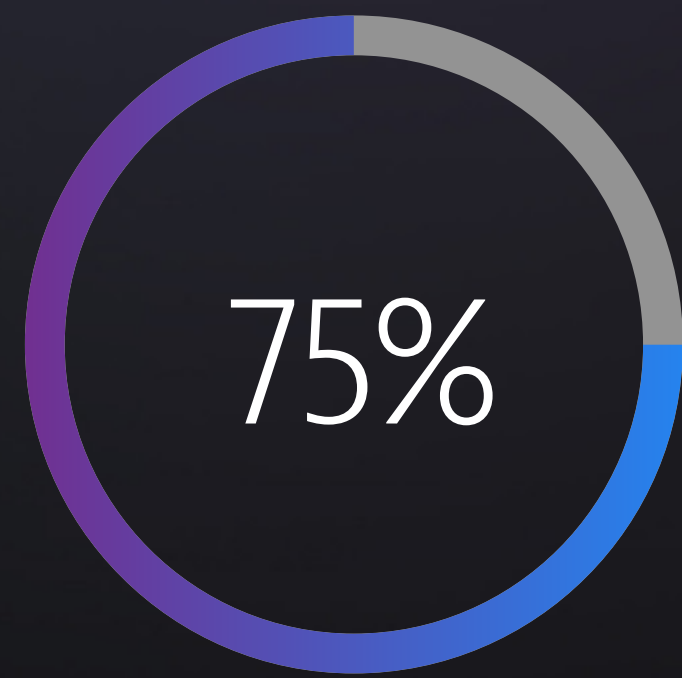
IT teams are drowning in a data deluge



more alerts have been received from monitoring and management tools in the last year than they were 12 months before.

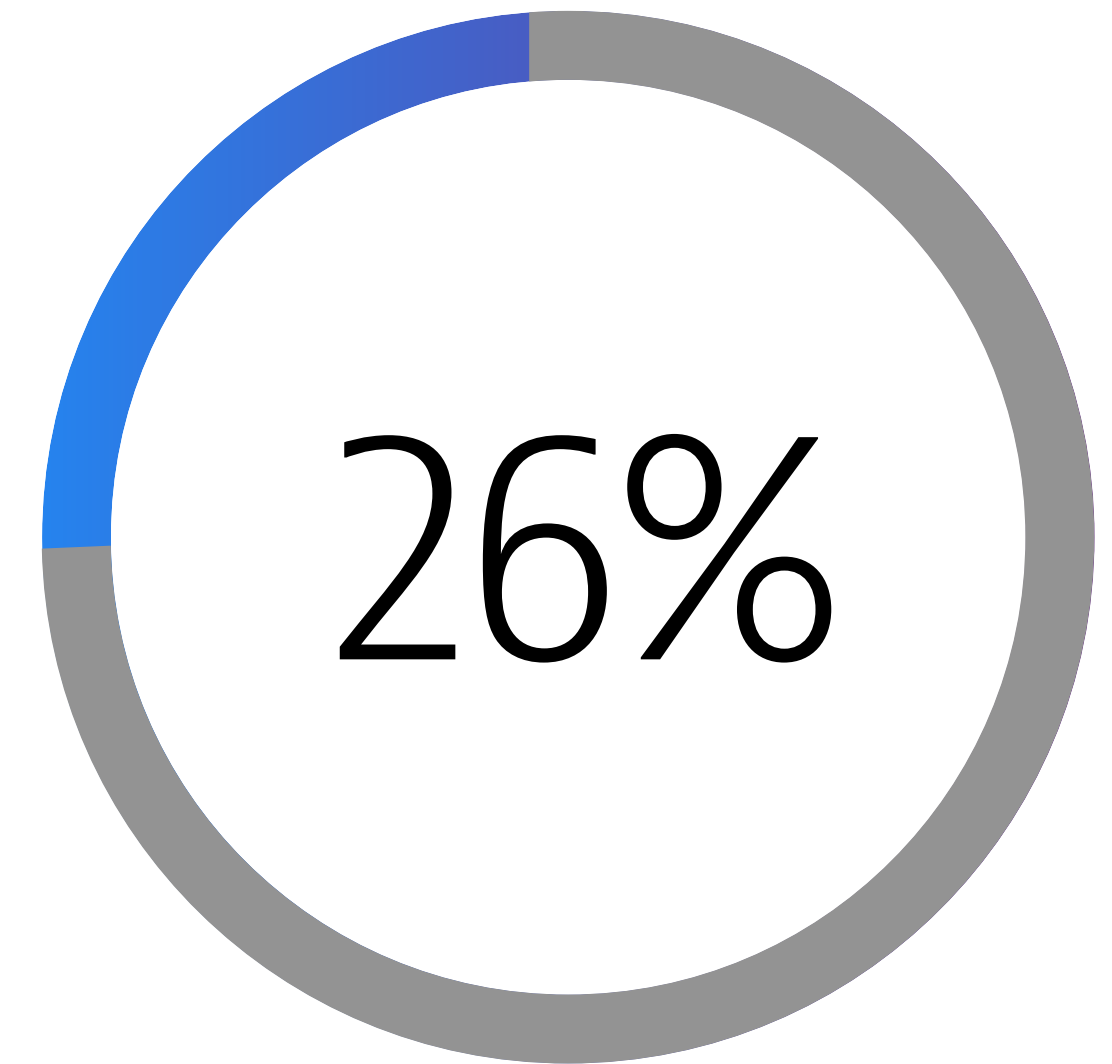


of organizations are struggling to cope with the number of alerts they receive from monitoring and management tools.



of organizations say most of the alerts they receive from monitoring and management tools are irrelevant.

On average, just



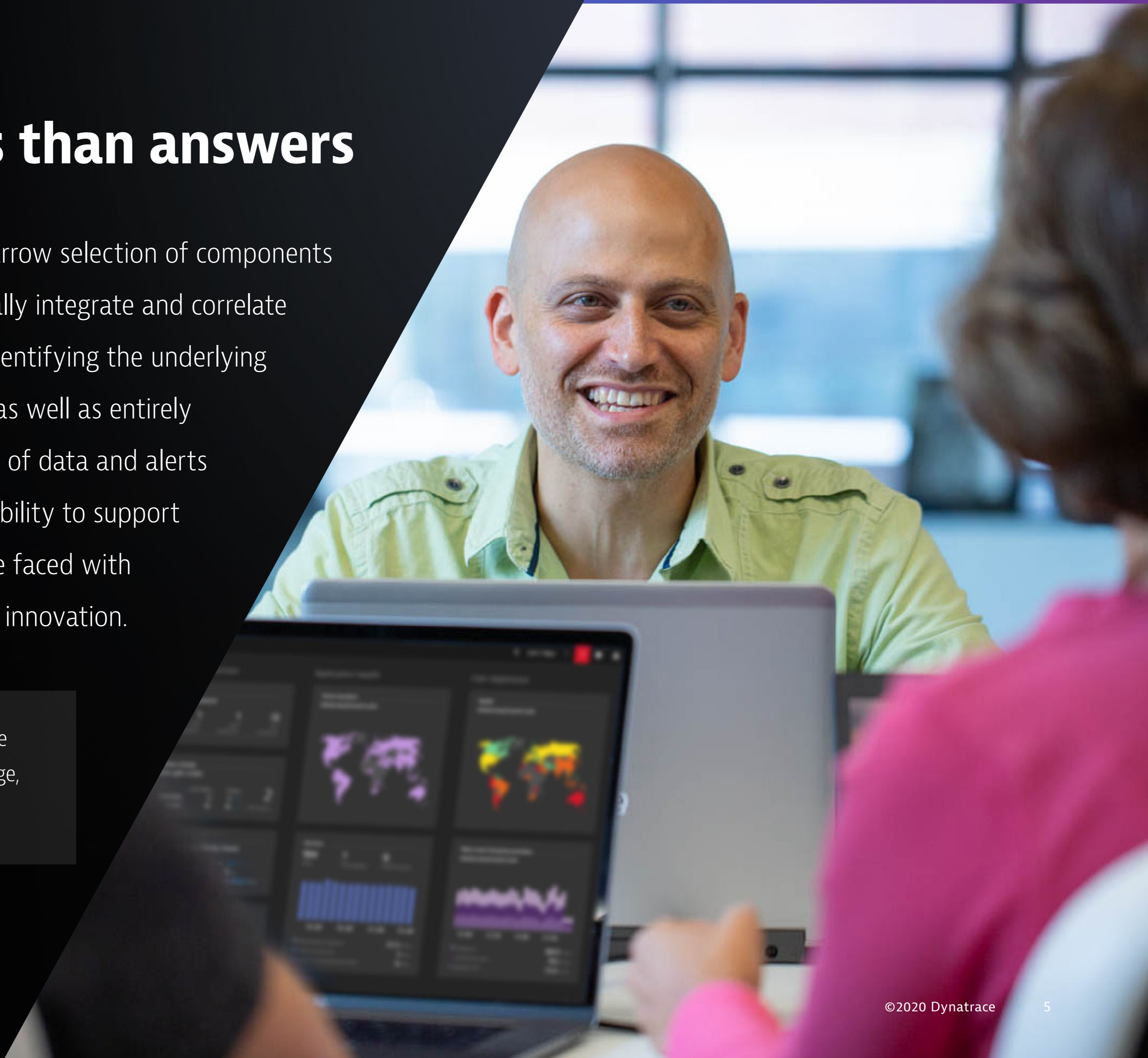
of the alerts organizations receive each day require actioning.

There are more questions than answers

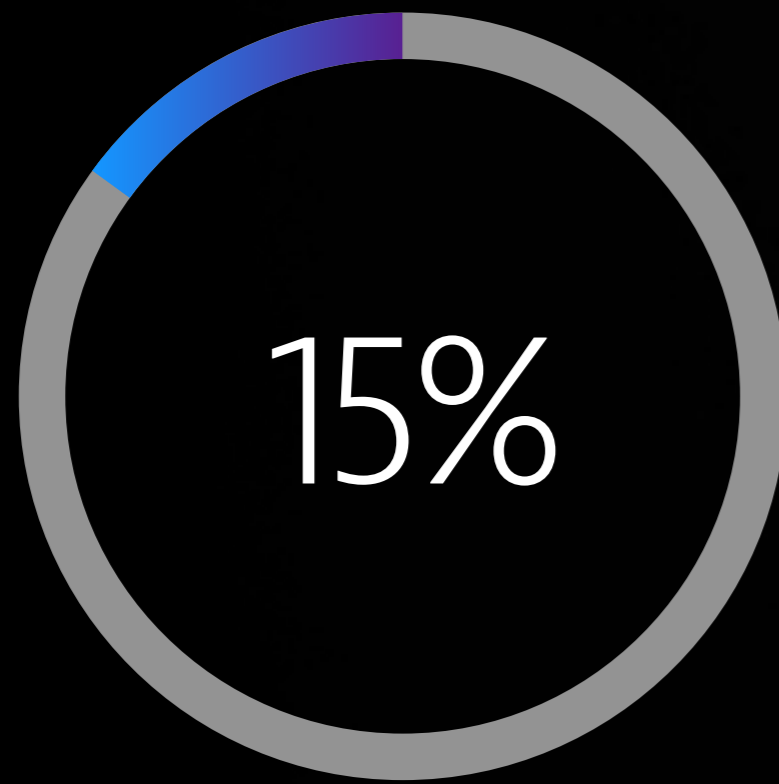
Traditional monitoring tools only provide data about a narrow selection of components from the technology stack. This forces IT teams to manually integrate and correlate alerts to filter out duplicates and false positives before identifying the underlying root-cause of issues. The process is slow and error prone as well as entirely unsuited to dealing with the volume, velocity and variety of data and alerts generated by the enterprise cloud. As a result, IT teams' ability to support the business and customers are greatly reduced as they're faced with more questions than answers — adding risk and delaying innovation.

The time IT teams spend trying to identify which alerts need to be focused on and which are irrelevant costs organizations, on average, **\$1,530,000 each year***

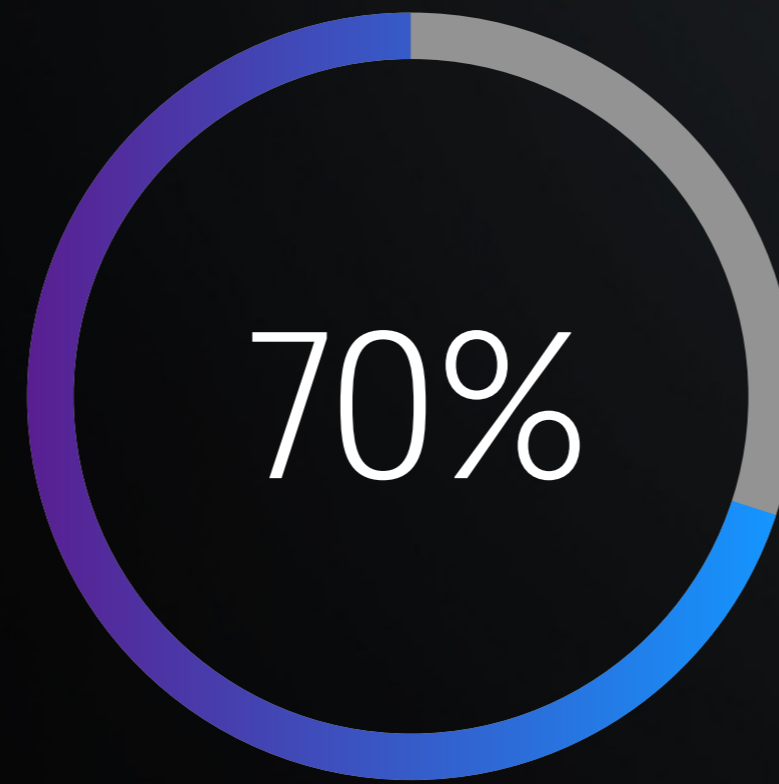
*Based on organizations spending an average of \$10.2 million on IT staff annually.



There are more questions than answers



the average amount of IT teams' time spent trying to identify which alerts they need to focus on and which are irrelevant.



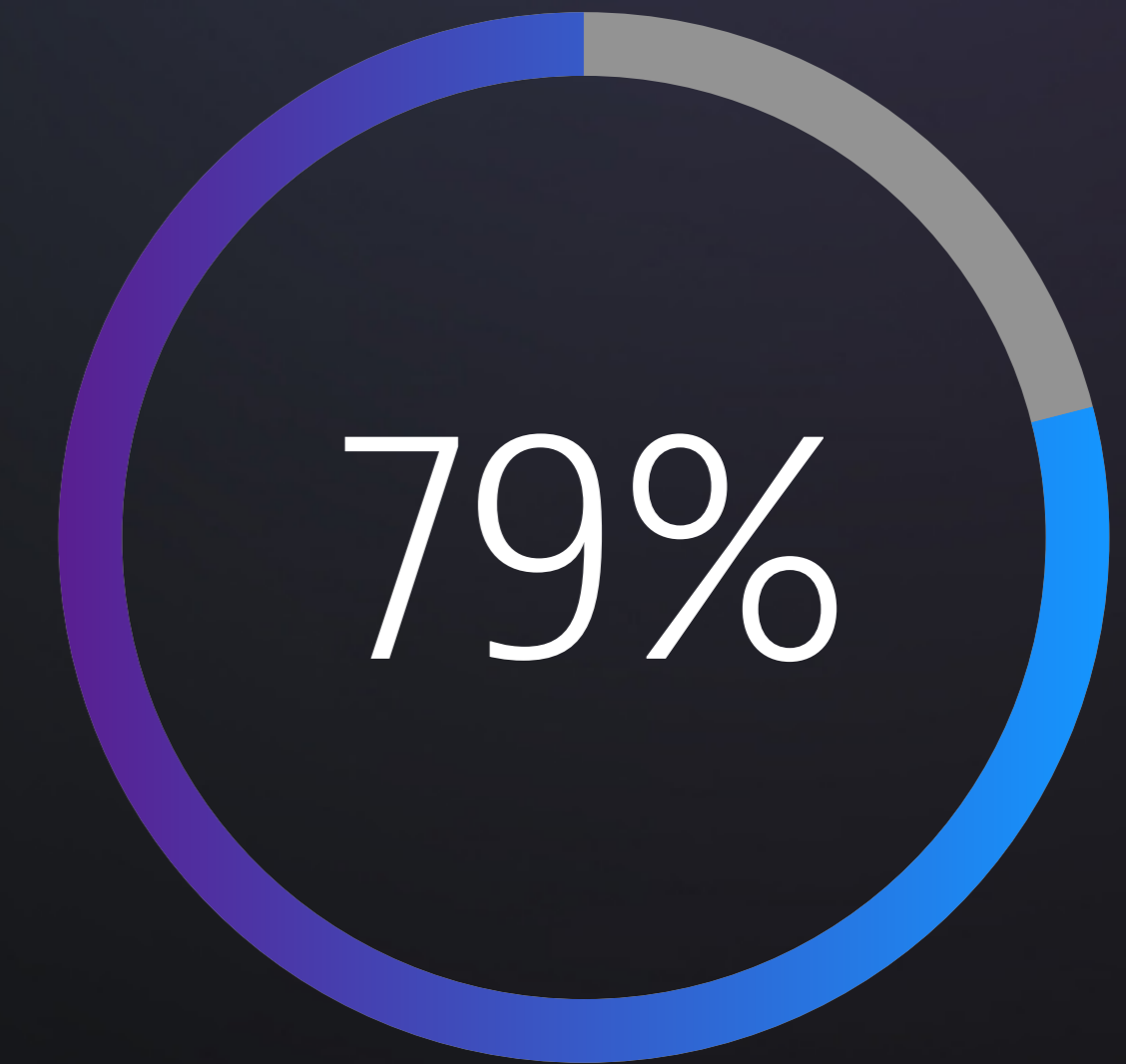
of IT teams have experienced problems that should have been prevented, due to the excessive volume of alerts.



incidents, on average, are experienced by organizations each year that could have been prevented if alerts were seen or acted upon in time.

CIOs' journey to the AI-driven autonomous cloud

Organizations need a radically different approach to monitoring to keep up with the transformation that's taken place in their IT environments. They're turning to AI and automation for the answer, with the aim of shifting to autonomous cloud operations. The end goal is to allow critical IT resources to be invested in optimizing business outcomes and driving value for end-users and customers, rather than chasing down and analyzing problems. For many, this process begins with automating continuous delivery and operational tasks, to enable self-healing applications and auto-remediation.



of organizations say that the volume of alerts, and the time required to sift through them to identify relevant results, is making it difficult to automate enterprise cloud operations.

CIOs' journey to the AI-driven autonomous cloud

"The scale and complexity of enterprise cloud environments was set to soar beyond the capabilities of today's IT and cloud operations teams. Traditional monitoring tools and approaches don't come close to understanding the volume, velocity and variety of alerts that are generated today, which is why we reinvented our platform to be unlike any other. The Dynatrace Software Intelligence Platform is a single platform with multiple modules leveraging a common data model, and with a precise, explainable AI engine at its core. This combination enables Dynatrace to deliver the precise answers and contextual causation that organizations need to succeed in taming cloud complexity and, ultimately, achieving AI-driven autonomous cloud operations."

—Bernd Greifeneder, CTO and Founder, Dynatrace



Methodology



This report is based on a global survey of 800 CIOs in large enterprises with over 1,000 employees, conducted by Vanson Bourne and commissioned by Dynatrace.

The sample included 200 respondents in the US, 100 in the UK, France, Germany and China, and 50 in Australia, Singapore, Brazil and Mexico respectively.

The Dynatrace difference

Organizations need a radically different approach to ensure that software works perfectly. That's why Dynatrace reinvented from the ground up, creating an all-in-one platform with AI at the core. The Dynatrace Software Intelligence Platform automatically discovers and captures high fidelity data from applications, containers, services, processes, and infrastructure. It then automatically maps the billions of dependencies and interconnections in these complex environments. Finally, the explainable AI engine, Davis, analyzes this data and its dependencies in real-time to instantly provide precise answers — not just more data on glass. It's this level of automation and intelligence that overcomes the challenges presented by the enterprise cloud and enables teams to develop better software faster, automate operations and deliver better business results.

Why we are radically different

Automatic

Zero-touch configuration, continuous discovery and relationship mapping in real-time, instant answers and precise causation.

Full-stack

Understand all the relationships and interdependencies, top to bottom, from end-user experience to infrastructure health.

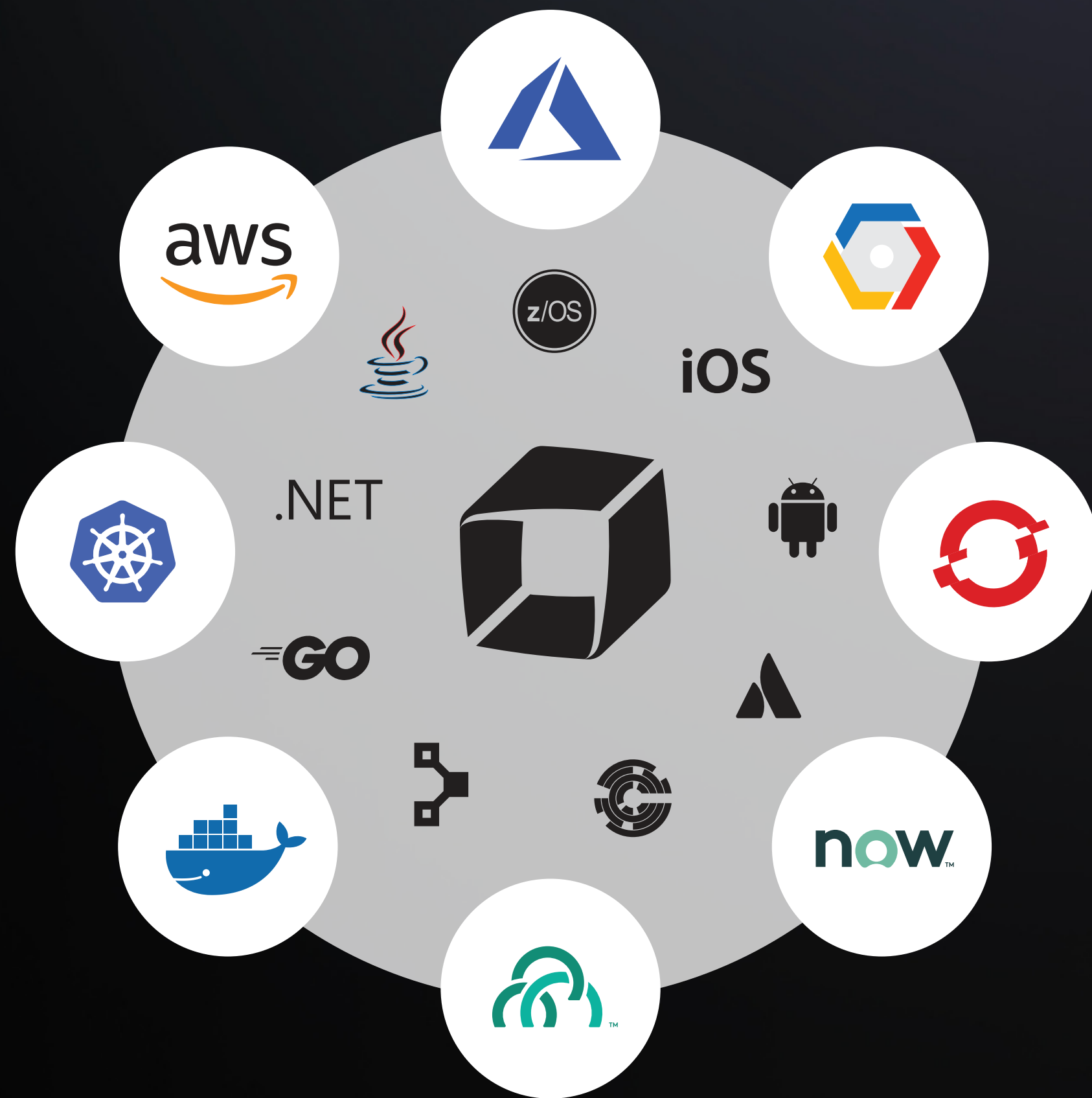
AI at the core

Radically different explainable AI engine, Davis, processes billions of dependencies for instantly precise answers beyond human capabilities.

Web-scale

Scale out cloud-native architecture, role-based governance for large global teams, and automatic enterprise-wide deployment.

Dynatrace supports a wide range of platforms and operating systems



The biggest hybrid, multi-cloud environments rely on Dynatrace:

SAMSUNG



DAIMLER



Appendix: Global data summary

Average number of alerts IT and cloud operations teams receive from monitoring and management tools each day.

Country	Alerts
Global	2,973
US	3,092
UK	2,885
France	2,644
Germany	2,624
China	4,012
Australia	2,781
Singapore	2,846
Brazil	2,611
Mexico	2,449

Appendix: Global data summary

Average increase in number of alerts received from monitoring and management tools in the last 12 months.

Country	Increase
Global	19%
US	20%
UK	17%
France	18%
Germany	15%
China	28%
Australia	19%
Singapore	16%
Brazil	19%
Mexico	13%

Appendix: Global data summary

Percentage of alerts received each day that require actioning.

Country	Alerts
Global	26%
US	26%
UK	17%
France	25%
Germany	22%
China	37%
Australia	28%
Singapore	20%
Brazil	31%
Mexico	23%

Appendix: Global data summary

Percentage of CIOs that say their organization is struggling to cope with the number of alerts received from monitoring and management tools.

Country	CIOs
Global	70%
US	59%
UK	55%
France	68%
Germany	68%
China	95%
Australia	60%
Singapore	66%
Brazil	98%
Mexico	90%

Appendix: Global data summary

Percentage of organizations that say most of the alerts they receive from monitoring and management tools are irrelevant.

Country	Organizations
Global	75%
US	72%
UK	76%
France	77%
Germany	74%
China	79%
Australia	68%
Singapore	82%
Brazil	66%
Mexico	80%

Appendix: Global data summary

Country	Average proportion of IT teams' time spent identifying which alerts are irrelevant	Average organizational annual spend on IT staff (\$ million)	Average organizational overhead for identifying irrelevant alerts (\$ million)*
Global	15%	\$10.20	\$1.53
US	16%	\$10.77	\$1.72
UK	10%	\$10.67	\$1.06
France	19%	\$9.91	\$1.88
Germany	9%	\$10.77	\$0.96
China	20%	\$11.41	\$2.28
Australia	12%	\$8.43	\$1.01
Singapore	16%	\$9.21	\$1.47
Brazil	16%	\$9.93	\$1.58
Mexico	20%	\$7.10	\$1.42

*Based on percentage of time spent identifying alerts against average organizational annual spend on IT staff. For example, global IT staff spend 15% of their time identifying which alerts need to be focused on, which against an annual spend of \$10,200,000, costs organizations \$1,530,000 each year.

Appendix: Global data summary

Percentage of organizations that experienced problems, due to the volume of alerts, that could have been prevented.

Country	Organizations
Global	70%
US	70%
UK	64%
France	76%
Germany	64%
China	78%
Australia	60%
Singapore	76%
Brazil	66%
Mexico	76%

Appendix: Global data summary

Average number of incidents each year that could have been prevented if alerts were seen or acted upon in time.

Country	Incidents
Global	21
US	22
UK	25
France	20
Germany	23
China	17
Australia	21
Singapore	23
Brazil	17
Mexico	24

Appendix: Global data summary

Percentage of organizations that say the volume of alerts, and the time required to sift through them to identify relevant results, is making it difficult to automate enterprise cloud operations.

Country	Organizations
Global	79%
US	75%
UK	80%
France	89%
Germany	78%
China	61%
Australia	80%
Singapore	94%
Brazil	90%
Mexico	92%

Software Intelligence for the Enterprise Cloud

We hope this 2020 Global CIO Report has inspired you to take the next step in your digital transformation journey.

Dynatrace is committed to providing enterprises the data and intelligence they need to be successful with their enterprise cloud and digital transformation initiatives, no matter how complex.

Learn more

If you are ready to learn more, please visit dynatrace.com/platform for assets, resources, and a **free 15-day trial**.



About Dynatrace

Dynatrace provides software intelligence to simplify enterprise cloud complexity and accelerate digital transformation. With AI and complete automation, our all-in-one platform provides answers, not just data, about the performance of applications, the underlying infrastructure and the experience of all users. That's why many of the world's largest enterprises trust Dynatrace to modernize and automate enterprise cloud operations, release better software faster, and deliver unrivaled digital experiences.