



THE DZONE GUIDE TO

Cloud

Native Development & Deployment

VOLUME IV

RESEARCH PARTNER SPOTLIGHT



Key Research Findings

BY G. RYAN SPAIN
PRODUCTION COORDINATOR, DZONE

498 respondents completed our 2017 Native Cloud Development survey. The demographics of the respondents include:

- 21% of respondents work at organizations with at least 10,000 employees; 17% work at organizations between 1,000 and 10,000; and 26% work at organizations between 100 and 1,000.
- 42% of respondents work at organizations in Europe, and 29% work at organizations in the US.
- Respondents had 15 years of experience as an IT professional on average; 32% had 20 years or more of experience.
- 30% of respondents identify as developers or engineers; 22% as developer team leads; and 20% as software architects.
- 82% of respondents work at organizations that use Java, and 74% work at organizations using JavaScript (36% only using client-side, 5% only using server-side, and 34% using both).

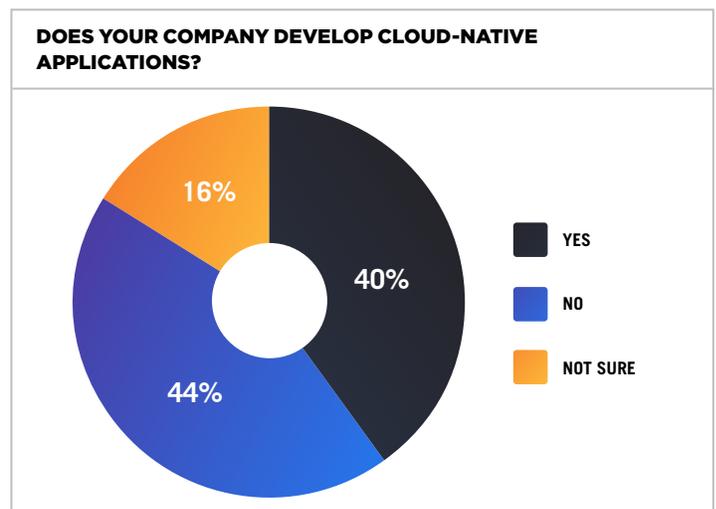
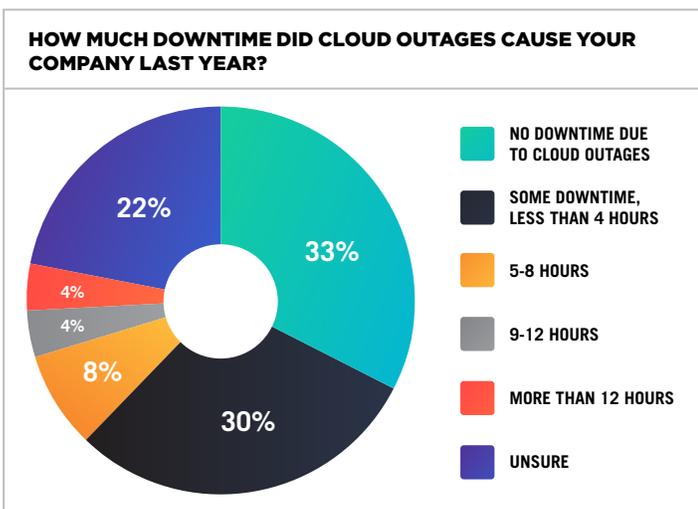
WHAT'S THE DEAL WITH DOCKER?

At this point, Docker is nothing new to most enterprise developers. And while Docker certainly isn't the only way to containerize applications, it's hard to think of containers without Docker (and/or that happy whale) coming quickly to mind. Container adoption has had consistently high growth amongst our cloud survey respondents for years now. This year, 39% of respondents said their organization has adopted container technology, compared to 25% in last year's cloud survey and 10% the year before. (It is worth noting that results from the cloud survey results on container adoption differ from two recent Continuous Delivery surveys DZone ran, which had reports of 25% and 30% of respondents' organizations using container technology.) Only 11% of respondents said they weren't even considering containerization.

Discrepancies between the cloud survey and CD survey may be explained in part by the fact that respondents at organizations developing cloud native applications were much more likely to respond that their org used container technologies. 40% said their company develops cloud-native applications vs. 44% who said their company does not (16% were not sure). Those who don't work at companies developing cloud-native apps were 24% likely to say their company has adopted containers, while 58% of cloud-native company respondents also answered that their company uses container technology. Furthermore, there was a correlation between container usage and deployment frequency, with 51% of respondents whose companies have daily or on-demand deploys had adopted containers, compared to 39% who had weekly deploys, and 23% and 25%, respectively, for companies who had monthly and quarterly deploys.

CLOUD GIANTS

The use of different cloud service providers, unlike container usage, has been incredibly stagnant for the last few years. Between our 2015 cloud survey, our 2016 cloud survey, and this year's survey, there was almost no statistically



significant change in the use of cloud service providers reported on. Usage of Amazon Web Services, the most popular cloud service provider all three years, grew 4% between 2015 (56%) and 2017 (60%). Microsoft Azure had slightly more growth, with usage up 5% from 2016 (31% compared to 26%) and up 7% from 2015 (24%). So AWS is still almost twice as likely to be used as Microsoft Azure, and three times as likely as Google Cloud Services (19% in 2017).

While Amazon remains on top, the static usage of Azure and GCS indicate that they won't be going away anytime soon, and respondents using different service providers had different experiences with cloud development on average. For example, users of Google Cloud services were 8% more likely to have low cloud-caused downtimes (0-4 hours over the span of a year) compared to Amazon and 11% more likely compared to Azure. On the otherhand, Google Cloud Services users were also 8% more likely to claim they experience cloud platform issues like integration, security, and application performance.

DEPLOY AHOY

Application deployment frequency varied quite a bit amongst our respondents. 27% of respondents said their organization has on-demand deploys, while 17% said they only deploy about once a month. As mentioned earlier, container usage correlated with faster deploy times. Another factor that seems to have an impact is actually performing prod/deploy on a cloud platform. Respondents who said they perform production/deployment on a cloud platform were 11% more likely to have on-demand deploys (34%) than those who don't (23%), and were 14% less likely to have an average deployment frequency of monthly or greater (21% vs. 35%).

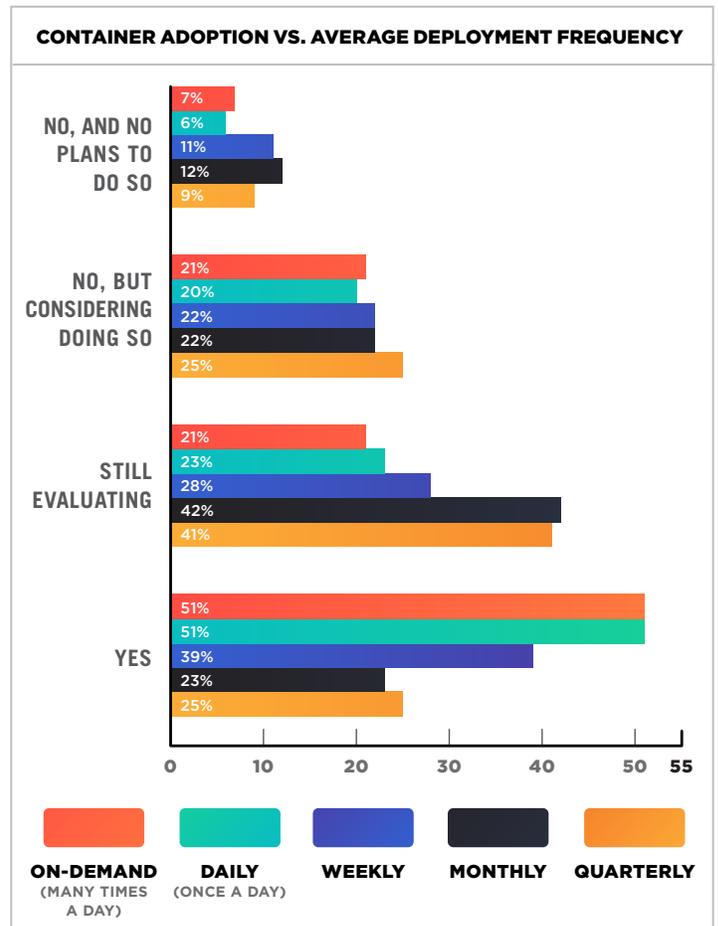
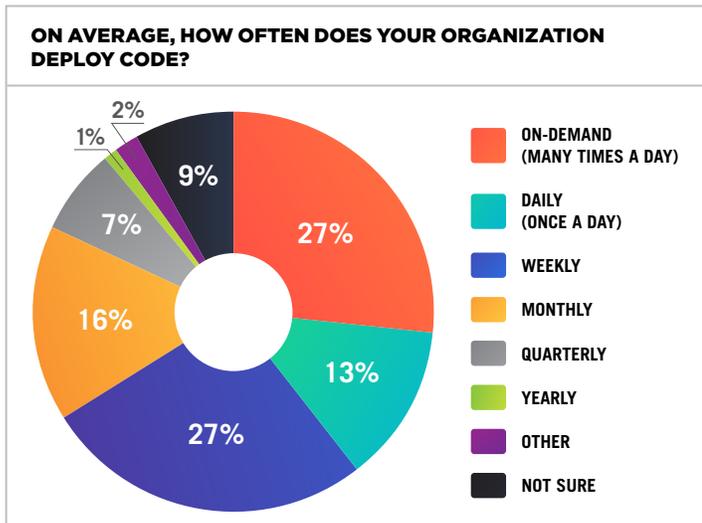
Additionally, respondents at companies developing cloud-native applications were also more likely to deploy more frequently. 35% of cloud-native application deployments were estimated to be on-demand (multiple times per day), compared to 21% of non-cloud-native apps. And 53% of

on-demand deployments were done by cloud-native app companies, as opposed to 34% done by companies not developing cloud-native applications.

THE IMPORTANT THINGS

Virtual Machines form the foundation of many organizations' infrastructures, cloud native or not. 86% of respondents said their company uses VMs, up slightly from last year's 82%. The focuses for optimizing the configuration of VM instances has remained about the same for the past year, with CPU and memory being most commonly optimized (63% and 60% of respondents said their orgs optimize for these, respectively), followed up by storage volume and storage throughput (39% and 31%, respectively), and lastly GPU (8%). None of these VM optimizations had a difference from last year's responses outside of the margin of error.

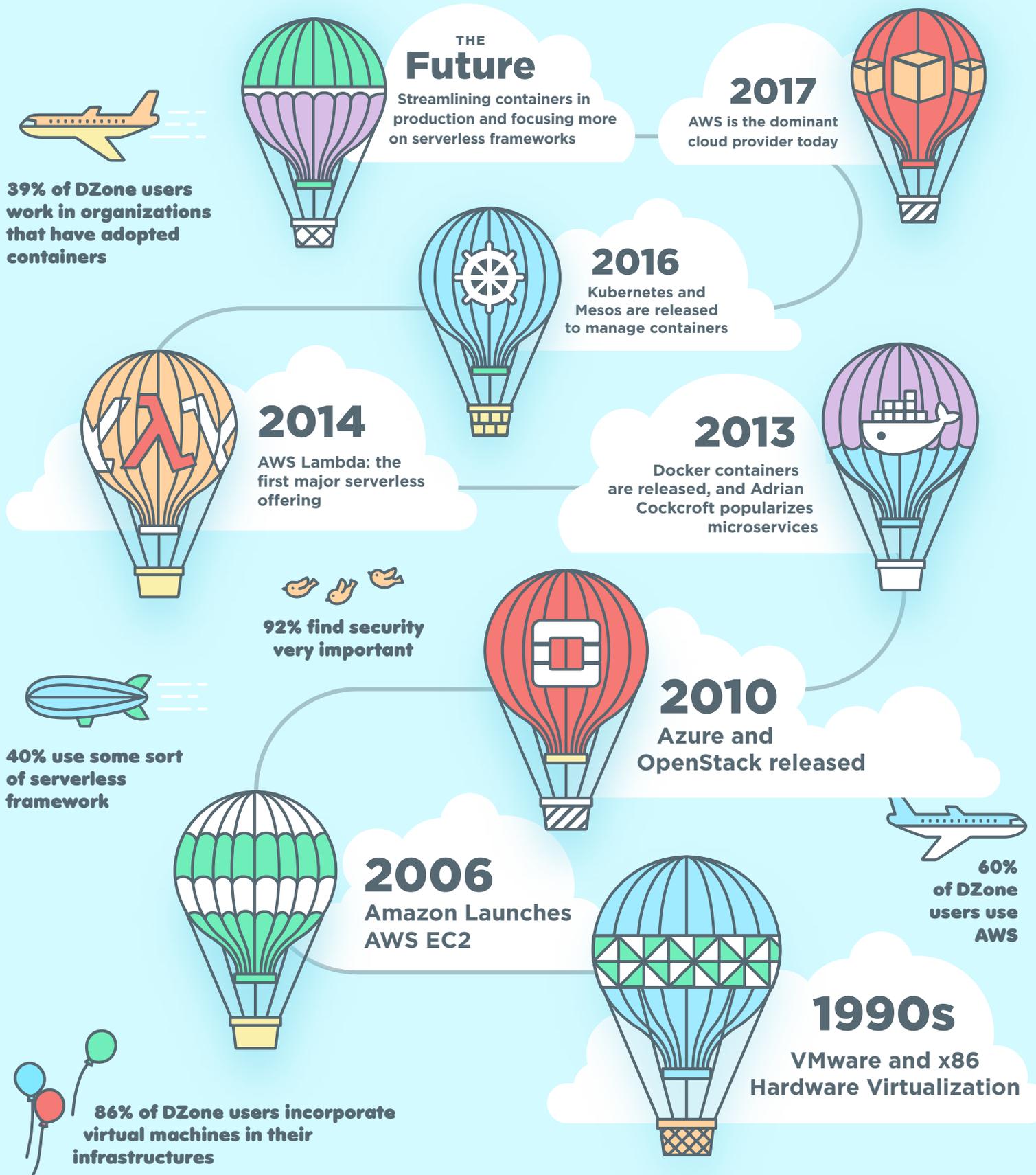
When selecting a cloud service provider, there were also some factors respondents held much more important than others. Overall, security was the #1 influence on cloud service provider selection, with 93% of respondents rating it as "very important." Next were performance (85%), scalability (74%), support (65%), and price (61%). Specifically regarding security factors in a cloud provider, respondents found firewalled servers to be most crucial (71% said "very important"), followed by data encryption (66%), and authentication options (63%).



-- the rise of --

CLOUD ARCHITECTURE

The birth of cloud computing can be traced back to the first hardware virtualization tool in 1967, IBM's CP-40, and when users at large companies once sent jobs to be run on a separate mainframe that their local systems couldn't handle. It's incredible how fast cloud computing rose from a new way of running companies and applications, to becoming a marketing buzzword to "cloudwash" new SaaS applications, to finally becoming the "new normal." However, there's still plenty of work to be done to achieve all the potential of cloud services. Take a brief trip to see how far cloud has come since the 90s, and that all the hype isn't just hot air.



Diving Deeper

INTO CLOUD

TOP #CLOUD TWITTER FEEDS

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TOP CLOUD REFCARDZ

Cloud Foundry

dzone.com/refcardz/cloud-foundry

Covers technologies supported by Cloud Foundry, finding a hosting provider, writing apps for and deploying to Cloud Foundry, scaling and managing apps in the cloud, and more.

Kubernetes

dzone.com/refcardz/kubernetes-essentials

Containers weighing you down? Kubernetes can scale them. In order to run and maintain successful containerized applications, organization is key. Kubernetes is a powerful system that provides a method for managing Docker and Rocket containers across multiple hosts. This Refcard includes all you need to know about Kubernetes including how to begin using it, how to successfully build your first pod and scale intelligently, and more.

Docker Monitoring

dzone.com/refcardz/intro-to-docker-monitoring

Docker has rapidly evolved into a production-ready infrastructure platform, promising flexible and scalable delivery of software to end users. This Refcard looks into the challenges that containers (or black boxes) present in DevOps, explores architectural models for monitoring containers, and investigates pros and cons of Docker monitoring and troubleshooting options. It also covers a complex, real-world example with Sysdig Cloud to understand what to monitor and how.

CLOUD ZONES

Learn more & engage your peers in our cloud-related topic portals

Cloud

dzone.com/cloud

The Cloud Zone covers the host of providers and utilities that make cloud computing possible and push the limits (and savings) with which we can deploy, store, and host applications in a flexible, elastic manner. The Cloud Zone focuses on PaaS, infrastructures, security, scalability, and hosting servers.

Internet of Things

dzone.com/iot

The Internet of Things (IoT) Zone features all aspects of this multifaceted technology movement. Here you'll find information related to IoT, including Machine to Machine (M2M), real-time data, fog computing, haptics, open distributed computing, and other hot topics. The IoT Zone goes beyond home automation to include wearables, business-oriented technology, and more.

Security

dzone.com/security

The Security Zone covers topics related to securing applications and the machines that run them. The goal of the Zone is to help prepare the people who make and support those applications stay up to date on industry best practices, remain aware of new and omnipresent threats, and help them to think "security-first."

CLOUD PODCASTS

[The Cloud Casts](https://thecloudcast.net) thecloudcast.net

[GCP Podcast](https://gcppodcast.com) gcppodcast.com

[The Doppler Cloud Podcast](https://cloudtp.com/doppler/podcasts) cloudtp.com/doppler/podcasts

CLOUD WEBSITES

[Netflix Tech Blog](https://techblog.netflix.com) techblog.netflix.com

[CloudTweaks](https://cloudtweaks.com) cloudtweaks.com

[CloudAve](https://cloudave.com) cloudave.com

Living in a modern society almost necessitates the use of certain technologies. Imagine trying to find a decent job—or even line up a date—without a mobile device. Sure, it's possible, but you would be at a significant disadvantage without one.

When technologies reach a certain level of adoption, it becomes very difficult to participate in modern society without using them. We've seen this happen again and again with technologies ranging from electricity to automobiles to internet access.

A very similar thing happens in the business world. When technologies first arrive, early adopters can gain a competitive advantage—though a short-lived one—by successfully leveraging cutting edge technologies. Think of the many examples: Henry Ford's assembly line; Atari's home video game system; the iPhone's touch screen; Tesla's advanced battery technology.

When it comes to cloud computing, we are past the early adopter phase and into the phase where inaction means a significant disadvantage. Today a business not using clouds is like a job-seeker without a cell phone number.

We're moving into an era where the conversations around cloud should be less about the risks of migration, and more

about the risks of a poor cloud implementation or strategy.

Just using cloud to solve technology problems (like running an application) is not enough. Instead, organizations should think about the bigger picture: that is how to use clouds to move the business ahead.

An example of how cloud use can lead to business results is DevOps. Study after study has shown the business results that come from a successful DevOps practice: 2.5 times faster revenue growth; and 2 times faster profit growth. Using cloud-based tools, test environments and practices for developing, testing and deploying applications are a great way to accelerate a successful DevOps practice in your organization.

Of course, using clouds successfully is more than just having a business objective. You need insight into how your clouds and applications are performing; you need a security strategy that is baked in from the beginning.

And there are organizations like CA that have the tools and expertise you need to go beyond basic cloud adoption, and into cloud mastery.



WRITTEN BY ARUNA RAVICHANDRAN

VICE PRESIDENT OF DEVOPS AND SOLUTIONS MARKETING, CA TECHNOLOGIES

PARTNER SPOTLIGHT

Cloud Solutions By CA Technologies



Manage, develop & deploy and secure applications across public, private and hybrid clouds.

CATEGORY

Solutions to Manage, Monitor, Accelerate and Secure Clouds

NEW RELEASES

Continuous

OPEN SOURCE

Yes

STRENGTHS

- Quickly and securely accelerate application release velocity by leveraging clouds
- Most comprehensive hybrid cloud and IT monitoring solution
- Application management tools that eliminate complexity, reduce costs and increase quality
- Security solutions that protect access to your cloud platforms and applications

CASE STUDY

OneNeck IT Solutions LLC offers hybrid IT solutions, including cloud and hosting solutions, for businesses around the country. OneNeck helps customers reduce costs, improve service levels, increase revenues and gain competitive advantage across a broad spectrum of industries, including healthcare, manufacturing, financial services, retail, education and government.

CA Unified Infrastructure Management (UIM) provides OneNeck with a single tool for insights into public, private and hybrid clouds, as well as traditional infrastructure.

With CA UIM, OneNeck was able to consolidate from five monitoring tools down to a single monitoring platform to get end to end insights across Microsoft Azure, private cloud and traditional infrastructure. The results were faster triage times and better end user experience for their customers.

NOTABLE CUSTOMERS

- US Cellular
- Logicalis
- Vodafone
- Lexmark
- Petrobras

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WEBSITE ca.com/cloud

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