The State of Public Cloud Monitoring

A SURVEY OF IT PROFESSIONALS

March 2019
Executive Summary

This research finds that utilizing the public cloud for business applications continues to surge, with more than 8 out 10 companies increasing cloud-based workloads in 2018. The top priority to support these cloud-based applications is to gain visibility in application and data traffic. Woefully, less than 20% of participants indicated their company can properly monitor public cloud environments. Nearly half indicate that the lack of monitoring led to application performance issues. And with approximately 90% of IT professionals pointing out that packet level visibility is required for both application performance and security, an overwhelming majority of participants are concerned that low application and network visibility is masking security threats.

Nearly 7 out of 10 participants stated that public cloud monitoring is more difficult than monitoring their own data center and private cloud, as half indicated that the tools provided by public cloud vendors were inadequate to provide the necessary management and monitoring of infrastructure, applications and security. There is little doubt this is why nearly every participant cited numerous business benefits to a solution that could provide comprehensive cloud visibility.
Key Findings

Public Cloud Usage Continues to Grow

• 84% of companies grew their public cloud workloads in 2018

Operational Concerns

• Visibility is the top concern for applications deployed in the public cloud
• Less than 20% of companies can monitor public environments properly
• 87% fear lack of public cloud visibility hides security threats
• 86% reveal packet level monitoring is key for application performance

Justifying Investments in Cloud Monitoring

• 99% of companies indicate direct business value from comprehensive cloud visibility
Detailed Findings
84% of Companies Grew their Public Cloud Workloads in 2018

How has your company’s use of public cloud for production workloads changed over the past 12 months?
Which of the following concerns do you have for applications deployed in the public cloud?

- Visibility into data and application traffic: 65%
- Secure delivery of cloud traffic to on-premises monitoring solutions: 61%
- Ability to filter cloud traffic before sending to data center: 34%
- Access to network packet details: 34%
- Access to network packets flowing across containers: 32%
- None of the above: 6%
76% Say Monitoring Public Cloud Is Important

How important is monitoring the performance of your public cloud infrastructure?

- Very important: 54%
- Moderate importance: 22%
- Neutral: 7%
- Slightly important: 17%
Less than 20% of Companies Can Monitor Public Environments Properly

In which environments do you have complete and timely access to network packets?
86% State Packet Level Monitoring is Key for Application Performance

Are network packets important for monitoring network and application performance?

Yes: 86%
No: 14%
Are network packets valuable for security monitoring?

93% State Packet Level Visibility is Required for Security Monitoring

Yes
93%

No
7%
Nearly Half of Companies Experience Issues From a Lack of Cloud Visibility

In the last 12 months, which, if any, of the following issues has your company experienced from lack of visibility into PUBLIC or PRIVATE clouds?

- Delays troubleshooting application performance issues: 48%
- Delays troubleshooting network performance issues: 40%
- An application outage: 38%
- Inability to monitor performance of workloads in the cloud: 31%
- A network outage: 31%
- Inability to test performance prior to cloud deployment: 27%
- Delays resolving security alerts: 26%
- Inability to protect data privacy or adequately document compliance: 18%
- Inability to prevent a security threat or attack: 17%
- We have not experienced any issues from lack of visibility: 5%
How does obtaining visibility into network traffic within public cloud environments compare with traffic visibility within your physical data center?

68% Indicate Visibility into Public Cloud Environments is Difficult
In your opinion, is the data supplied by your company's public cloud provider sufficient for monitoring what happens in your public clouds?

Only 45% Believe Their Public Cloud Vendor Provides Sufficient Monitoring
Are you concerned that lack of visibility inside public clouds will prevent you from identifying potential security threats?

87% Fear Lack of Public Cloud Visibility Hides Security Threats

Yes 87%
No 13%
For public cloud-based applications, is it challenging to predict application performance prior to deployment?

87% Find it Difficult to Predict Application Performance Prior to Deployment

Yes 87%
No 13%
99% of Companies Indicate Direct Business Value from Comprehensive Cloud Visibility

In your opinion, what is the value of having a comprehensive cloud visibility solution?

- Helps our monitoring solutions identify performance degradation: 60%
- Enables our threat prevention solutions to identify malicious traffic by source: 59%
- Allows our security monitoring solutions to detect ‘indicators of compromise’: 57%
- Allows us to monitor traffic at every link of our network: 56%
- Enables us to load balance monitoring tools: 37%
- Allows us to monitor encrypted sessions: 32%
- There is no value in having access to network packets: 1%
Methodology and Participants
The primary research goal was to understand the challenges of managing, monitoring, and securing workloads running on public cloud infrastructure. Additionally, the research sought to understand the capability of current cloud monitoring tools.

IT professionals that were responsible for public cloud-based applications and/or infrastructure were invited to participate in a survey on their company’s use of public cloud infrastructure.

The English-language survey was administered electronically, and participants were offered a token compensation for their participation.

A total of 338 participants that develop, deploy, or manage public cloud applications or infrastructure completed the survey. Participants were from all 5 continents.
Companies Represented

Size:
- More than 5,000: 41%
- 1,000 - 5,000: 45%
- 500 - 1,000: 14%

Industry:
- Technology: 19%
- Financial Services: 15%
- Education: 11%
- Manufacturing: 10%
- Healthcare: 9%
- Government: 6%
- Telecommunications: 5%
- Services: 5%
- Retail: 5%
- Energy and Utilities: 4%
- Transportation: 2%
- Media and Advertising: 2%
- Food and Beverage: 2%
- Hospitality and Entertainment: 2%
- Non-Profit: 1%
- Pharmaceutical: 1%
- Other: 2%
Individuals Represented

**Location**
- United States or Canada: 74%
- Europe: 13%
- Mexico, Central America, or South America: 6%
- Asia: 3%
- Australia or New Zealand: 3%
- Middle East or Africa: 1%

**Role**
- Operations (including cloud or IT ops, infrastructure, network): 53%
- Development: 8%
- DevOps: 8%
- Security: 11%
- Architecture: 20%
Individuals Represented

Organization Role

- Executive: 18%
- Manager: 34%
- Architect/Technology strategist: 33%
- Frontline or Admin: 15%

IT Responsibilities

- IT/Cloud Infrastructure: 62%
- IT/Cloud Operations: 52%
- Cloud architecture and strategy: 44%
- Security: 42%
- IT/Cloud Networking: 38%
- DevOps: 26%
- Application performance management: 20%
- Development for cloud based applications: 20%
- Application quality and testing: 16%
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