

The State of Cloud Monitoring

Survey Reveals Visibility Is Key to Cloud Security and Performance

Introduction

Ixia, a Keysight business, commissioned Dimensional Research to conduct a survey measuring the use of private and public clouds and the challenges associated with cloud operations. The results reveal that companies have very low visibility into their public cloud environments, and the tools and data supplied by cloud providers are insufficient. Lack of visibility has numerous ramifications, from the inability to track network performance to lengthening the time it takes to identify and resolve security threats.

Executive Summary

Eight out of 10 companies increased cloud-based workloads in 2018. The top priority for these cloud users is to increase cloud visibility for greater operational control. Woefully, less than 20% of participants say they have the data they need to monitor public cloud environments accurately. A majority (87%) are concerned this lack of visibility is masking security threats. Nearly half said their lack of visibility has led to application performance issues.

Nearly 70% of participants stated that public cloud monitoring is more difficult than monitoring data centers and private clouds. Nearly all of those surveyed (99%) identified a direct link between visibility and business value. The results confirm that comprehensive cloud visibility is key to maintaining cloud security and performance.

Detailed Findings

Substantial public cloud migration continues

Results show a staggering 84% of companies placed additional workloads in the public cloud in 2018, and 21% reported the increase was significant (Figure 1). Only 13% of companies reported the same level of public cloud usage as the year prior. Just 3% reduced workloads in the public cloud. This data confirms that companies continue to increase their utilization of public cloud environments.

84% of Companies Grew their Public Cloud Workloads in 2018

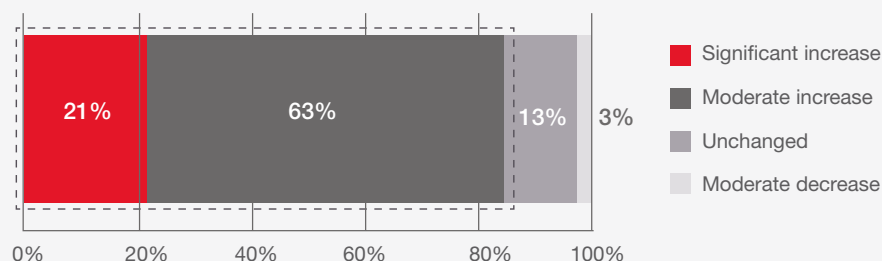


Figure 1. How has your company's use of public cloud for production workloads changed over the past 12 months?

Companies want increased cloud visibility

With organizations expanding their use of public cloud, 99% of participants indicated that comprehensive cloud visibility has direct value to their organizations (Figure 2).

99% of Companies Indicated Direct Business Value from Comprehensive Cloud Visibility

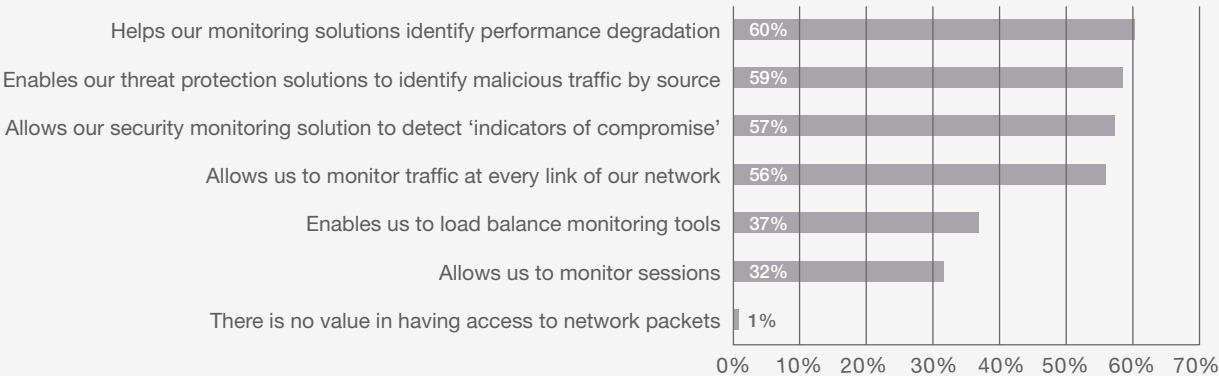


Figure 2. In your opinion, what is the value of having a comprehensive cloud visibility solution?

The benefit mentioned most frequently was monitoring and ensuring application performance at 60%. Security was also key. Some 59% of respondents noted the value of visibility for threat prevention, and 57% noted the value of identifying “indicators of compromise.” Respondents also called out the ability to monitor every link in the network (56%), the ability to balance workloads between monitoring tools (37%), and the ability to monitor encrypted sessions (32%). Perhaps the most telling piece of data is that only 1% of IT professionals saw no value in comprehensive cloud visibility. This finding supports the idea that visibility investments are justifiable at a business level.

Lack of visibility hides security threats and other issues

Insufficient cloud visibility obscures security threats, according to 87% of respondents. In another question (Figure 3), 95% of respondents reported that lack of visibility caused an application or network performance issue. Leading those issues were delays troubleshooting application performance at 48% and delays troubleshooting network performance at 40%. Thirty-eight percent of respondents cited insufficient visibility as a factor in application outages, and 31% said it contributed to network outages. Nearly a third of respondents (31%) indicated they were unable to monitor cloud workload performance. Respondents experienced other significant consequences from a lack of cloud visibility: delays in resolving security alerts (26%), compliance problems (18%), and an inability to prevent security attacks (17%).

Nearly half of companies have performance issues from a lack of cloud visibility

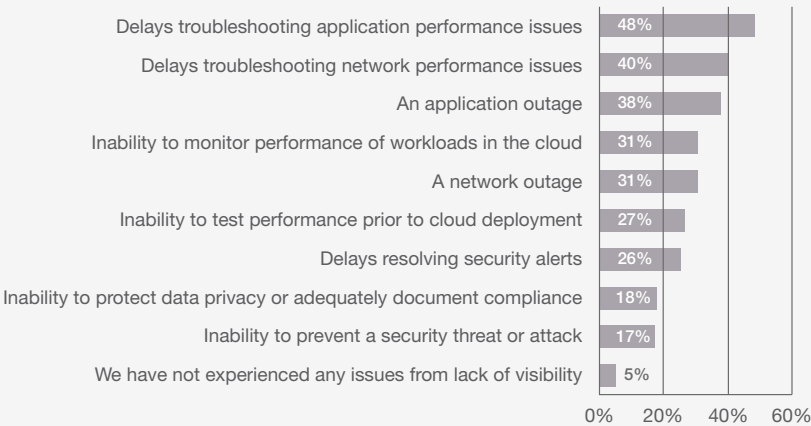


Figure 3. In the last 12 months, which, if any, of the following issues has your company experienced from a lack of visibility into the PUBLIC or PRIVATE clouds?

The importance of monitoring public cloud infrastructure

While previous questions focused on visibility into cloud environments, the survey also asked IT professionals how important it is to monitor performance in their public cloud environments. A majority (76%) asserted it was important, with 54% stating it was very important (Figure 4). Utilizing infrastructure-as-a-service and platform-as-a-service relieves an organization of infrastructure deployment and maintenance tasks. However, it does not eliminate the need to watch what takes place on those resources.

54% state monitoring public cloud infrastructure is very important, with 22% more indicating it is moderately important

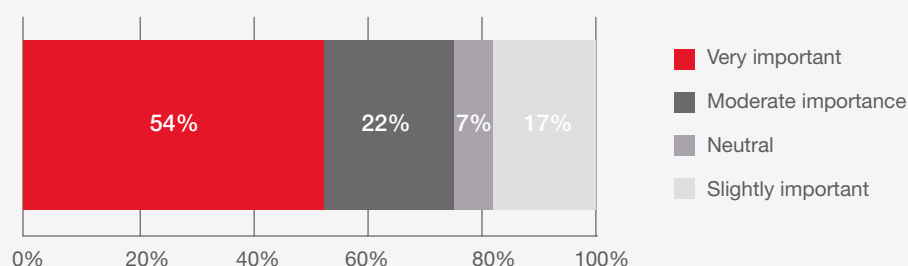


Figure 4. How important is monitoring the performance of your public cloud infrastructure?

Packet-level visibility critical for monitoring

Myriad techniques are available for monitoring. However, when asked about the value of packet-level monitoring, 86% of participants stated it was important for network and application performance monitoring. An even larger percentage (93%) stated it was valuable for security monitoring.



Public cloud environments difficult to monitor

The previous findings confirm that packet information is important for monitoring. However, less than 20% of IT professionals reported that they had complete and timely access to packets in their public clouds. The situation is better for private clouds, where 55% reported adequate access. It is significantly better for traditional on-premises data centers, where 82% had the information they needed (Figure 5). These results indicate that packet access is a particular problem for monitoring security and performance in public cloud environments.

Less than 20% of companies have the data they need to monitor public environments properly

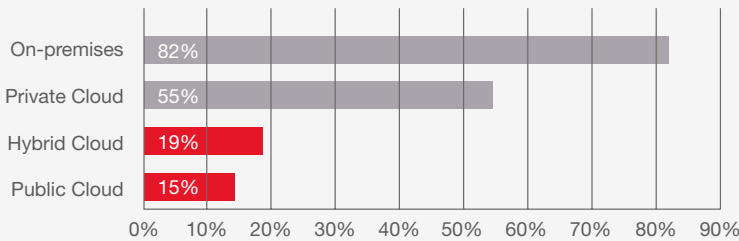


Figure 5. In which environment do you have complete and timely access to network packets?

Conclusion

As more applications and workloads migrate to the public cloud, organizations must focus on how to deliver an excellent customer experience, document compliance, and maintain security. This research finds that most companies have very low visibility into public cloud environments. Packet access is lacking, and the tools and data from public cloud providers are insufficient. This lack of visibility into public cloud workloads has numerous ramifications. They include the inability to track network performance and deliver against SLAs, as well as lengthening the time it takes to identify and resolve security threats.

Survey Methodology

Ixia, a Keysight business, commissioned Dimensional Research to conduct this survey in the field in December 2018. A total of 338 participants who operate, secure, develop, deploy, or manage cloud applications or infrastructure took part. Participants were from all five continents. They represented large (41%), medium (45%), and small (14%) organizations across a wide variety of industries. Researchers administered the survey electronically, and respondents received token compensation for their participation.

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