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Unified Observability for Modern Applications

vmware®

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Introduction

Observability initiatives are growing as organizations continue to modernize their existing application portfolio and build new cloud native applications. Many look at Kubernetes to help increase agility, accelerate software delivery, and support digital transformation. But as organizations scale these modern cloud environments, managing apps and infrastructure becomes complex in a multi-cloud and multi-technology environment.

With multi-cloud realities taking hold, managing overall cloud spend, resource utilization, application performance, and security and compliance across different clouds can be difficult and, consequently, can lead to overspending, inefficiencies and increased risk. Teams must control costs, ensure performance, and manage consistent security policies across these diverse and distributed environments. This leads to organizations seeking standardization across different domains and a unified approach to get information from metrics, traces, logs and events to make better decisions.

The importance of unified observability

Today's environments are complex. Application deployments can increase to hundreds of thousands of production deployments a day, making troubleshooting critical. Administrators and site reliability engineers (SREs) need to be able to find an issue quickly, and developers need to have access to resources and data to maximize productivity to meet business demands. Cloud deployments and Kubernetes deployments can be noisy with large amounts of events to manage, sometimes in the millions of points per second. Troubleshooting an issue can be like finding a needle in billions of haystacks. Customers are looking for solutions that can help with root-cause analysis, troubleshooting and scale while keeping costs in check. Dashboards alone cannot pinpoint a specific issue or root cause.

Infrastructure becomes more complex with hybrid cloud, serverless deployments, and a wider adoption of Kubernetes. As new buying centers form, platform engineering teams are tasked with managing this evolving infrastructure and dynamically changing applications. Organizations need to be initiative driven about addressing the increased challenges due to growing cluster counts and multi-cloud operations while maximizing the utilization of IT resources to enable teams to work together more efficiently and collaboratively.

As organizations struggle with managing these challenges, they often rely on disparate tools for each management discipline and cloud environment, resulting in siloed, disconnected teams struggling to manage processes that often cut across multiple clouds. Developers need cost, performance, security and configuration data—often sitting in disparate tools—to understand the complete characteristics of the application they are building. Enterprises with a multi-cloud environment also face a growing number of IT silos and a lack of skilled talent in today's tightening labor market, which adds yet another layer of difficulty.

Solutions are needed that simplify these management challenges, as well as help teams pick the right platform for their cloud native applications and deliver deep visibility, analytics and automation to manage complex environments. What's needed is an API-driven solution that enables developers, SREs, and platform engineering teams to pull relevant, correlated data from any source for quicker application analysis and debugging while providing complete visibility into the cost, performance and configuration of applications and workloads across cloud environments for platform ops, IT ops, and cloud ops teams.

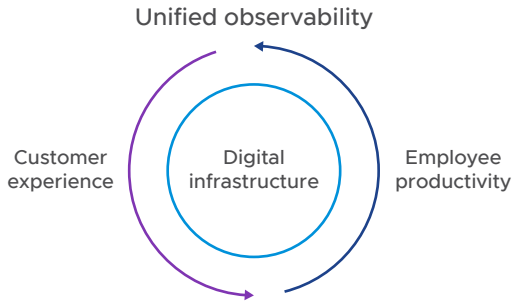

Figure 1: Unified observability improves employee productivity, infrastructure management, and customer experience.

Unified observability simplifies that complexity, providing a comprehensive view of metrics, logs and traces in one solution with full-stack visibility. With unified observability, you have insight into distributed systems and, with that insight, faster resolution to problems by identifying the root cause of the issue. This unified view eliminates the complexity with contextualized information and answers.

Unified observability makes log analysis faster and more relevant in the context of metrics and trace data. This means SREs, operations and developers get insight across teams to troubleshoot and mitigate production issues, and removes silos, grueling war rooms, and alert storms. With one unified observability solution, teams get a single source of truth and don't have to deal with siloed tools that quickly add up in cost and resources.

Insight into logs is critical as logs supply more in-depth information, providing comprehensive records of all events and errors during the software lifecycle. Logs provide answers to when a problem occurs as well as which events or trends it correlates with. For complex environments, especially ones that need to be always on, metrics, logs and traces help organizations stay on top of these dynamic environments.

Business benefits

Current log solutions can be expensive to scale and are often not fully integrated as part of existing observability solutions. Organizations use multiple solutions, resulting in complex troubleshooting, delays in issue resolution, and overall dissatisfaction. The State of Observability 2022 report references that only 7 percent of respondents are satisfied with their current toolset for monitoring.[1]

Organizations are looking to consolidate their monitoring and application performance monitoring (APM) tools to easily correlate and query against all types of data and reduce mean time to resolution (MTTR). And with unified observability, they get the following business benefits:

- Provides single-source-of-truth visibility for IT and application owners across various sources to drive greater business insights and innovation by bringing together end-to-end logs, metrics and traces
- Reduces the toil associated with incident management, particularly around root-cause analysis, improving uptime, speeding up issue resolution, and enabling greater business agility
- Provides a modern platform to address compliance and security for cloud applications while containing costs and eliminating siloed products and solutions

Unified observability by VMware Aria Operations for Applications

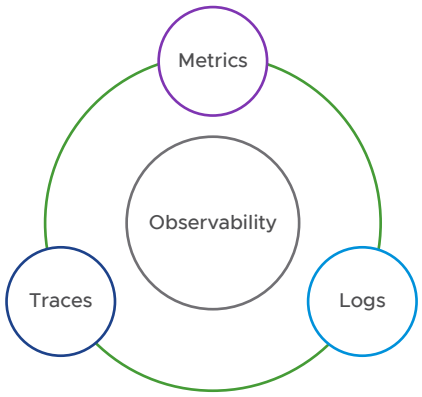

Figure 2: VMware Aria Operations for Applications unifies metrics, traces and logs.

1. VMware. "The State of Observability 2022." June 2022.

VMware Aria Operations™ for Applications (formerly VMware Tanzu® Observability™) brings together metrics, traces and logs in one solution with unified observability, and was named a Visionary in the 2022 Gartner® Magic Quadrant™ for Application Performance Monitoring and Observability.[2]

Unlike solutions that can be expensive and are unable to manage the large volumes of data generated by Kubernetes and cloud applications, and can cause more downtime, VMware Aria Operations for Applications unifies traces, metrics and logs in a single platform with unmatched scalability in the millions of points per second, and with compelling ROI.

VMware Aria Operations for Applications is modern monitoring and observability for modern environments and applications in one platform. With it, you can:

- Easily navigate the observability platform for all data types.
- Customize dashboards for systems, infrastructure and applications.
- Gain instant visibility across all major public cloud platforms (Amazon Web Services, Microsoft Azure, Google Cloud Platform).
- Eliminate complexity of modern systems with integrated anomaly detection.

Conclusion

Unified observability is critical for today's modern environments. Without observability, digital transformation strategies will not be efficient and will result in poorly performing services that could impact customer experience and the bottom line. Observability provides answers with metrics, logs and traces across the IT stack to give you the full picture of your IT health. This single pane of glass view provides comprehensive visibility for greater business insights, allowing organizations to troubleshoot and innovate faster, bringing value to their business.

Start your free unified observability trial today and see the benefits VMware Aria Operations for Applications provides for the modern cloud.

2. Gartner, Inc. "Magic Quadrant for Application Performance Monitoring and Observability." Padraig Byrne, Gregg Siegfried, Mrudula Bangera. June 7, 2022.

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   Recognized as VMware (Tanzu Observability) in the report.

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