Enterprise Cloud Operations Team Saves Millions With SolarWinds Full-Stack Observability

Executive Summary

This return on investment (ROI) case study examines how a global software provider's cloud operations organization earned a $5.4 million return on investment by adopting a full-stack observability solution from SolarWinds. The observability solution streamlined performance management, capacity planning, and operational reporting, conservatively earning more than a 5x ROI over three years and breaking even in less than two years.

Introduction

A global enterprise software company offering more than a dozen software as a service (SaaS) products via a hybrid, multi-cloud architecture spanning nearly a dozen on-premises data centers and multiple public cloud service providers across regions sought to modernize and streamline its operational toolset. The well-recognized software provider's cloud operations organization recently adopted a full-stack observability suite from SolarWinds to manage its infrastructure. By adopting and extending their investment in this integrated SolarWinds solution a few years ago, this large SaaS company has done the following:

- Avoided $1.7 million in onetime capital expenses
- Saved at least $1.8 million annually on operational expenses
- Earned $5.4 million based on a $1.1 million investment in SolarWinds three years ago, representing—conservatively—a less than two-year ROI.

The company's cloud operations team has been a SolarWinds customer for more than a decade, originally investing in SolarWinds IT service management products, according to the lead enterprise solution architect overseeing the cloud operations team. Over the last few years, the cloud operations team extended their investment in the full-stack observability solution from SolarWinds, which includes network performance monitoring; server, virtual, and application monitoring; and configuration management as well as database and storage management. This integrated suite has demonstrably provided operational efficiency and service delivery advantages and transformed cloud operations at the company.

Why Full-Stack Observability?

The enterprise cloud operations organization has approximately 250 administrators and engineers divided into multiple teams and supporting multiple SaaS products. This organization has grown through multiple mergers and acquisitions. Over time, individual teams adopted several different products to manage and monitor infrastructure and services, leading to a fragmented toolset causing operational inefficiencies, from service availability to resource planning.

When the lead enterprise solution architect joined the company a few years ago, he prioritized consolidation and integration of the cloud operations tool portfolio. "I cannot stand to have multiple tools managed by multiple groups," he said. "That kind of overlap, where the tools are doing similar things but have different data sets, is inefficient."

For example, the software business had several monitoring tools polling different resources at different intervals, which meant some tools had more granular visibility and detected events and trends the tools owned by other teams missed entirely. When there was an issue, this data disparity and inaccuracy affected root cause analysis. In addition to disparate data sets, these fragmented tools often had conflicting timestamps. A tool owned by a West Coast team would timestamp the data in one time zone, and a tool owned by an East Coast team would timestamp data in another time zone. Reconciling these conflicts slowed down operations.

With a full-stack observability suite from SolarWinds, the company's 250 cloud operations staff members now have a unified set of monitoring data and an integrated set of reports and workflows, allowing them to work more efficiently and respond to problems a fragmented and overlapping toolset often overlooked. Many of the legacy tools these teams possessed are still installed, but the lead enterprise solution architect says they're actually used less and less as SolarWinds becomes the de facto observability suite for cloud operations.

Reducing Capital Expenses, Increasing Efficiency

The lead enterprise solutions architect was able to identify three major examples of how the full-stack observability suite from SolarWinds enabled the enterprise software business to avoid major capital expenses over the last few years and increase staff productivity across IT domains.

Active Directory Monitoring

The enterprise's compliance organization recently dictated IT operations begin monitoring the Active Directory® servers supporting the SaaS products so any changes made could be logged and generate alerts. The goal was to improve governance around processes for adding user profiles to Active Directory and granting them appropriate access to resources. The compliance organization prescribed a specialized Active Directory monitoring tool offered by a competitor to SolarWinds. They told the CloudOps team it was the only tool capable of resolving this requirement.

The lead architect did his due diligence and determined this Active Directory monitoring tool would cost his organization $800,000 to procure and implement. He then started experimenting with how their team could achieve the same result within their existing SolarWinds toolset. He quickly determined SolarWinds server and application monitoring functions could capture the respective events and generate the logging and notification the compliance team required via some configuration of data collection and alerting. "We were able to accomplish this in two days, whereas implementing the suggested third-party monitoring tool would have taken up to a year," he said. He further conveyed they want to continue to consolidate tools. Different application development and IT staff members often come to their team with new or open-source tools, and on numerous occasions, the built-in or extended functionality offered by SolarWinds has addressed their requirements.

Virtual Machine, System, and Application Discovery

The lead architect lauded the SolarWinds solution for its strong infrastructure discovery capabilities. These auto-discovery capabilities returned immediate savings to the enterprise.

"Before [SolarWinds], the infrastructure team said we had only 6,000 virtual machines across our infrastructure. The first time we did auto-discovery, it identified 11,000 virtual machines." This highlights the data disparities created by different teams using different tools.

These newly discovered 5,000 virtual machines were relatively idle, consuming license and infrastructure resources. They also posed a compliance and security risk because it's impossible to patch what you can't see. The lead architect said this simple process of discovering and auditing these previously unknown virtual machines—with their respective resource allocations and applications—saved his organization approximately $500,000. Cloud operations teams were better able to manage capacity across hypervisors and servers. Beyond cost savings, the team now leverages SolarWinds to be the core truth of resource management, where data from SolarWinds feeds and reconciles their existing corporate CMDB.

Service, Database, and Storage Optimization

The service and application monitoring and resource data correlation capabilities of the SolarWinds solution also produce additional savings. One of the divisions of the enterprise's cloud services was experiencing service degradation with significant delays between its front-end servers and its SQL database clusters.

"Through VMware vCenter® and a couple of other VMware® tools, we would check CPU memory and host configuration and other items, but one area we did not have necessary correlated visibility into was storage volume operations, bandwidth, and resource," the lead architect said. "When the application team had to troubleshoot this kind of information, it was extremely hard to extract the storage data and apply it correctly to other tool data sources, one on top of another, to make trend and performance analysis."

With limited visibility, application teams concluded they needed to upgrade storage infrastructure. The leader estimated these teams were preparing to spend $400,000 on new storage arrays to attempt to solve the performance problem. SolarWinds revealed the investment was unnecessary.

"We could see that hundreds of this service's databases were all using one storage array. We could see that backups by one application were creating a bottleneck for the others. This allowed us not only to optimize storage infrastructure but ultimately improve both service delivery and resiliency."

Annual Operational Savings

Overall, the global enterprise software provider's cloud operations organization has become more efficient and effective with the full-stack observability suite from SolarWinds. This has led to a reduction in full-time equivalent (FTE) hours spent on repetitive tasks and inefficient processes, and it has also resulted in improved customer experience and service performance.

FTE Hours Saved

Prior to the SolarWinds solution, the business's fragmented toolset created inefficient processes across different services' ITOps, CloudOps, and DevOps teams around service-level objectives (SLOs), reporting, auditing, event management, and troubleshooting that burned through thousands of FTE hours among administrators and engineers, limiting their ability to perform tasks delivering more value to the organization. This toolset transformation has also been well-timed because the pandemic has led to attrition in the cloud operations organization. Teams are trying to get more done with fewer people, so every hour saved and being able to have less experienced staff complete more tasks is crucial.

First, the CloudOps team integrated the SolarWinds suite with the corporate ticketing system from ServiceNow®. This enabled any of the cloud operations organization's 250 personnel to

automatically close a ticket once they'd resolved an issue. Prior to this centralized integration, most personnel had to log in to ServiceNow and close the ticket manually. Many of them skipped this step until an audit revealed ticket resolution times were inflating. Now, SolarWinds automates this process. The lead architect estimates this saves his organization about 300 FTE hours per week, which translates to $712,500 in savings per year.

"Every single person tells me that SolarWinds integration has been a game-changer for them because it saves them so much time and effort," he said.

He also estimated the organization is saving 9,100 FTE hours per year by making reporting more efficient with SolarWinds. The cloud operations organization has traditionally been tasked with generating reports to SaaS product teams, executives, and the compliance organization on a regular basis. Prior to SolarWinds, each operations team (networking, systems, storage, virtualization, etc.) would generate a report with their preferred tool. Then, managers would have to compile these reports manually into a master report—this was inefficient and made it challenging to gain customer experience and capacity planning insights.

"If we had to pull any kind of report for one of our products or a service, we had to go through as many as four or five teams," the lead architect said. "They would all have their own tools, then we would have to manually pull something together. In some cases, we would have to request data from our cloud service providers. There was no unified visibility, and worse, there was no single source of truth that had visibility and correlation across everything. It could take us months to get one report. Each report would cause hundreds of hours of wasted [FTE] time."

With the SolarWinds suite pulling data from all aspects of infrastructure and services, the process of generating reports for product teams, capacity management teams, and product teams can take as little as an hour. This has led to an annual savings of approximately $415,581.

Finally, the SolarWinds suite has enabled the cloud operations team to be more efficient with event management and troubleshooting, leading to a savings of about 11,000 FTE hours annually, a value of an estimated $502,404. One major example of how this was accomplished was through custom event monitoring.

"We came up with a standard for event monitoring in SolarWinds," the lead architect said. His team configured SolarWinds so every alert automatically includes specific detailed inventory information, such as the company's service related to the alert, whether the affected workload is a production workload, and where it's physically located.

This event monitoring system simplifies the escalation process because SolarWinds can automatically route alerts to the team or person best suited to address an issue. In turn, this speeds up response times and troubleshooting. It also allows for more accurate service delivery intelligence.

"We're able to respond to something within two minutes, versus four to five minutes previously," he said. "It's saved us at least $500,000 per year because we're able to fix things faster." Beyond reduced mean time to resolution (MTTR), the organization has realized significantly enhanced coordination and efficiency to resolve problems.

Reduced SLA Violations, Improved Digital Experience

Finally, this company is a global enterprise software provider. Its customers usually have a service-level agreement (SLA) for their SaaS products. Downtime or performance problems lead to SLA violations, which forces the software provider to compensate customers, usually in the form of

service credits. Inconsistent service delivery and unplanned outages also force the provider to engage their customers in ad hoc service review meetings.

The lead architect estimated the overall operational improvements introduced by the full-stack observability suite from SolarWinds have led to a $175,000 annual reduction in costs associated with SLA violations. In additional, expanded use of SolarWinds has resulted in materially more consistent service delivery, driving toward near-zero outages. This equates to improved digital experience.

EMA Perspective

Enterprise Management Associates (EMA) expects this enterprise will continue to earn an increasing return on its investment in the full-stack observability suite from SolarWinds. As we've demonstrated, the company has avoided $1.7 million in onetime capital expenses through the versatility of the solution. We suspect additional opportunities to avoid capital expenses will present themselves in the future. The company is also saving at least $1.8 million annually on operational expenses. These OpEx savings will continue.

The global software provider's total cost of ownership (TCO) for the SolarWinds solution—including licensing, support, and maintenance—has been $1.14 million over three years. Based on the above savings, the investment paid for itself within one year and has earned a return on investment of $5.4 million—over 5x ROI and conservatively breaking even in less than two years.

SolarWinds Three-Year TCO	
SolarWinds product licenses	$590,000
SolarWinds annual maintenance and support (years two and three)	$275,000 (x2)
Total TCO	$1,140,000
Onetime Savings	
Active Directory monitoring solution	$800,000
Virtual machine audit and rightsizing	$500,000
Service, database, and storage optimization	$400,000
Annual OpEx Savings	

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Ticket automation via ServiceNow integration	$712,500 (x3)
Streamlined reporting	$415,581 (x3)
Improved alerting/event management	$502,404 (x3)
Improved SLA compliance	$175,000 (x3)
Total Savings	$7,116,586
Total ROI	$5,976,586

In addition, many of the tools SolarWinds has rendered obsolete remain installed, used only occasionally by a narrow subset of personnel. The lead architect estimates the company could save $1 million by decommissioning some of these tools, thus saving on product licensing, maintenance, support, and administrative overhead. He intends to advocate for this pairing of the toolset in the future and for expanding their observability capabilities and SolarWinds investment.

About EMA

Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that specializes in going "beyond the surface" to provide deep insight across the full spectrum of IT management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help its clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise IT professionals and IT vendors at www.enterprisemanagement.com or follow EMA on Twitter (http://twitter.com/ema_research).

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