EMA™ IT & DATA MANAGEMENT RESEARCH, INDUSTRY ANALYSIS & CONSULTING

IT Operations Teams Saved Millions With SolarWinds Hybrid Cloud Observability Solution

July 2022

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A $3 million ROI Within Three Years

Enterprise Management Associates (EMA) research has determined investment in full-stack observability with SolarWinds can deliver millions in return on investment (ROI). These returns are earned through improved efficiency of IT operations, avoidance of capital expenditures, and improved business outcomes.

EMA extrapolated and calculated these savings by conducting in-depth interviews with four SolarWinds customers, including a European retail enterprise, a North American retail enterprise, a North American communications service provider, and a global software provider.

These customers experienced a $3 million average ROI, within two to three years, against a total average investment of $650,000 in SolarWinds® Hybrid Cloud Observability solution. This whitepaper examines the concept of full-stack observability with SolarWinds and explores how customers earned an ROI with their observability investments.

The Case for Upgrading to a Full-Stack Observability Solution

IT Operations Are Broken

Recent EMA research found 31% of all IT service trouble is detected and reported by end users before IT operations (ITOps) is aware of an issue.[1] By the time ITOps troubleshoots these problems, end users and customers are already impacted, degrading productivity, triggering service level agreement (SLA) violations, and disrupting business processes and revenue generation.

Moreover, complex problems can come from any layer of the IT stack. EMA recently asked ITOps professionals to identify the root causes of the last three complex IT service issues requiring cross-domain collaboration. Security incidents (43%) topped the list, followed by client device problems or end-user errors (39%), network infrastructure (38%), servers or hypervisors (36%), and external providers, such as cloud or network service providers (35%). This diverse field of potential problems points to the need for full-stack observability.

Problems with IT monitoring tools are endemic in ITOps. For example, ITOps teams are using too many siloed tools. The typical IT organization uses anywhere from four to 15 tools for network management, leading to complexity. For instance, EMA research has found that 27% of all network problems are caused by manual administrative errors like bad configuration changes. However, this number goes up to 34% in organizations using 21 or more network management tools. Also, only 34% of the alerts generated by these management tools are actionable. The rest are false alarms.

These tool problems can lead to inefficiency. The typical network operations (NetOps) professional spends only 24% of their day on strategic projects delivering direct value to a business. Meanwhile, they spend 23% of their day troubleshooting problems and 19% generating reports for others to review. NetOps professionals believe 44% of all problems could be prevented with better management tools.

Digital Transformation Will Drive More ITOps Complexity

It's essential for ITOps to modernize its approach to tools because operational complexity is going to increase. For instance, 71% of enterprises are using multiple infrastructure as a service (IaaS) cloud providers today, with 15% claiming to be using three or more providers. By 2024, 88% of enterprises will be multi-cloud, with 475 using three or more providers. Hybrid, multi-cloud architectures require end-to-end monitoring and management across data centers and IaaS providers.

Software-defined and cloud-native technologies also add complexity. Software-defined networking (SDN) and virtual overlays in data center networks add network abstractions, creating multiple layers of technology ITOps must manage together.

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[1] Unless otherwise noted, all market research data cited in this paper was originally published by EMA in April 2022 in the report, "Network Management Megatrends 2022: Navigating Multi-Cloud, IoT, and NetDevOps During a Labor Shortage."

Cloud-native application platforms (Kubernetes®, microservices) and server virtualization introduce additional complexity and increase east-west traffic flow, placing more demands on monitoring tools. Software-defined WAN (SD-WAN) adds internet connectivity to the WAN, obscuring visibility.

The ubiquity of remote work has added yet another layer of complexity. EMA research has repeatedly found IT organizations are supporting an expanded and permanent work-from-home (WFH) population. Most ITOps teams lack tools for collecting data from these home offices. ITOps professionals have repeatedly told EMA their go-to tool for troubleshooting WFH issues is remote desktop access, where an admin logs onto a user's device and troubleshoots the problem remotely. This approach doesn't scale when thousands of employees are working from home. ITOps teams need to monitor applications and services for remote workers proactively.

Replace Siloed Monitoring With Full-Stack Observability Solutions

Observability is about understanding the internal state of a complex system by collecting and measuring the system's external outputs. The concept of observability has gained traction in DevOps organizations in recent years, but it's become increasingly important to broader ITOps organizations.

In the case of digital infrastructure, the "complex system" observability solutions must address is the full IT stack of applications, databases, servers, hypervisors, storage, and networks. Observability must also extend to external systems like IaaS services and software as a service (SaaS) applications, as well as shared services like directories and DNS servers.

Observability is about having a system designed to answer any question about the state of applications and infrastructure for the purposes of user experience assurance, troubleshooting, and capacity planning. Most IT organizations have tools that serve the monitoring and management needs of individual components in the stack, but these tools are siloed. Full-stack observability enables a cross-domain operational toolset integrating monitoring and management across all IT domains to make ITOps more efficient and response effective. It requires a tightly integrated suite of monitoring and management solutions to deliver actionable insights across different silos in the IT organization.

SolarWinds Hybrid Cloud Observability is an integrated, full-stack solution providing end-to-end oversight of service delivery and component dependencies to enable cross-domain operations.

ROI Analysis of SolarWinds Full-Stack Observability Solution: Millions Saved

EMA conducted a deep analysis of four customer implementations of the SolarWinds Hybrid Cloud Observability solution. Each customer implementation involved an expanded investment in SolarWinds, from one or more point solutions to a unified visibility suite across ITOps domains. In most cases, these customers retired legacy

monitoring and management tools the SolarWinds Hybrid Cloud Observability solution had rendered redundant.

EMA identified and calculated various financial benefits from adopting this full-stack observability suite.

Tool savings: The retirement of legacy tools in favor of the SolarWinds suite led to reduced one-time and/or recurring licensing and support costs. Several customers also reported their SolarWinds investments enabled them to avoid additional investments in expensive third-party solutions to support niche use cases, saving them additional one-time or recurring costs.

Operational efficiency: Customers saved on labor costs in several ways, allowing organizations to reallocate engineering resources to more business-critical tasks or, in some cases, reduce overall headcount through attrition and expired contractor agreements. They achieved these savings via reduced administrative overhead for monitoring tools and efficiency with configuring tools, generating reports, troubleshooting problems, and managing capacity. Many customers also implemented monitoring automation. SolarWinds was able to automate event and ticket resolution, which previously required hours to address manually.

Reduced and avoided infrastructure costs: Improved visibility allowed ITOps teams to identify opportunities to avoid or reduce spending on infrastructure. For instance, one customer realized it was overpaying for WAN circuits. Another avoided infrastructure investments by optimizing the configuration of existing infrastructure.

Proactive avoidance of punitive costs: Some ITOps organizations told EMA the SolarWinds suite had helped them avoid SLA compliance violations, which would have triggered customer payouts and possibly damaged those relationships.

EMA's overall analysis of these customers' experiences found the average customer experienced the following over two to three years:

- **The average total cost of ownership (TCO) for the SolarWinds Hybrid Cloud Observability solution across four customers was less than $650,000**
- **The average financial benefit of using the solution was $3.71 million**
- **The average ROI was $3.06 million**

The rest of this paper explores these findings in detail.

Tool Savings

Retiring Legacy Solutions

In all cases, the customers interviewed by EMA retired several different commercial and open-source tools, and their consolidation onto SolarWinds led to reduced costs.

For instance, a Fortune 500® North American retailer eliminated a $360,000 annual subscription with a SaaS-based monitoring tool in favor of a more affordable SolarWinds solution. While reducing costs, this company's ITOps team expanded the scope and scale of its monitoring with SolarWinds. EMA estimates this customer would have

increased its annual spend with its legacy SaaS vendor by tens of thousands of dollars to achieve similar results.

Two of the four customers retired only open-source solutions, with no associated license costs and only a trivial amount of support costs. Still, these customers achieved a healthy ROI thanks to the many other benefits explored in this paper, including reduced administrative overhead associated with maintaining legacy open-source tools lacking commercial support.

Avoiding New Investments in Specialized, Single-Use Case Solutions

Some customers were able to implement new monitoring requirements via SolarWinds, which would otherwise have required new investments in third-party solutions.

The monitoring team manager at the Fortune 500 North American retailer told EMA his application team was arguing for a $1.2 million investment in an application performance management solution from another vendor. He demonstrated SolarWinds could achieve the application monitoring they needed without this additional third-party investment. The application team canceled its request for the other tool.

The compliance group within a global software provider told the monitoring team to implement a third-party Active Directory® (AD) monitoring tool. This tool carried a price tag of $800,000. The lead solution architect for the monitoring group determined the SolarWinds suite could achieve the same goal by configuring its server and application monitoring capability to report on any logs associated with AD changes.

"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.

Labor Savings and Operational Efficiency

Administrative Overhead for ITOps Tools

Three customers reported reduced administrative overhead, leading to savings on full-time employee (FTE) hours. Some customers were able to eliminate contractors focused on tool administration. Others were able to allocate full-time personnel to more critical duties. EMA calculated all these benefits as FTE hours saved.

An $11 billion European retailer reduced the equivalent of one full-time engineer by retiring open-source tools in favor of SolarWinds, saving $128,000 per year.

"[The open-source tool] was tough to manage, where every change needed to be fulfilled by our team, and we spent too much time stabilizing after most configuration changes," the retailer's monitoring team manager said. "With SolarWinds, we've been able to give more autonomy to our users, and we have a much lower systems management workload. We've saved at least half our [two-person] team's time, based on the number of ticket requests we've reduced."

The Fortune 500 North American retailer reduced administrative overhead by three FTEs, resulting in $400,000 savings annually. Much of these savings came from replacing an unstable SaaS-based tool.

"[The previous solution] didn't provide consistent results. It was a bear to maintain and wasn't flexible during implementation," the retailer's monitoring team manager said. "In particular, [the SaaS solution's monitoring] agent was highly unstable and difficult."

This company also replaced several open-source tools and consolidated onto SolarWinds.

A communications service provider reduced administrative overhead by $438,000 annually by retiring its open-source monitoring tools in favor of SolarWinds. The provider's director of performance monitoring told EMA his team is more efficient with SolarWinds:

"We save hundreds of man hours by tapping into the [SolarWinds] software development kit (SDK) and managing our inventory monitoring programmatically."

The director said the time his team spends adding a device to monitoring inventory has decreased from two hours to 10 minutes. This represents tremendous savings, given his team receives 20 inventory change requests a day.

Operational Efficiency via Modern Observability

Every customer experienced several efficiency gains, driving labor savings in ITOps.

Integration and Automation

A global software provider automated its ServiceNow® ticket resolution via SolarWinds integration. It's legacy monitoring solution lacked effective options for integrating with IT service management (ITSM) and other third-party solutions. Previously, after resolving a problem, engineers had to log into ServiceNow, find the relevant ticket, enter details about the resolution, and then close it. With SolarWinds, engineers no longer need to log into ServiceNow after fixing an issue. SolarWinds updates and closes the ticket automatically.

Across 250 personnel, this organization saved 300 FTE hours per week, leading to a $712,000 savings annually. "Every single person tells me our SolarWinds integration has been a game-changer for them because it saves so much time and effort," the lead enterprise solution architect said.

A North American retailer implemented the automated resolution of thousands of alerts with its SolarWinds suite:

"Our process for auto-remediation involves identifying specific issues, having a high confidence something is having an issue, and then triggering a script through our monitoring framework to resolve the issue," the monitoring team manager said.

Moving from a legacy toolset to SolarWinds allowed this ITOps team to increase the number of incidents it could automatically resolve, from 16,207 in 2020 to 34,869 in 2021. This freed up $199,000 in labor expenses.

Streamlined Reporting

A global software provider saved thousands of labor hours by utilizing SolarWinds full-stack reporting features. The provider's fragmented legacy monitoring tools had no reporting integration, creating an extremely manual reporting process for product owners, the compliance team, and others.

"If we had to pull any report for one of our products or a service, we had to go through four or five teams," the software provider's lead architect said. "They all had their own tools, so we had to pull something together manually. Sometimes, we had to request data from our cloud service providers. There was no unified visibility, and worse, there was no single source of truth with visibility and correlation across everything. It could take months to get one report, and each would cause hundreds of hours of wasted [FTE] time."

This software provider saved 9,100 FTE hours by integrating and streamlining the report generation process using the integrated SolarWinds solution, saving $415,000 annually.

A European retailer improved reporting by switching its open-source monitoring tools to a full-stack observability solution with SolarWinds. In the past, the customized reports in its legacy toolset required 10 hours of manual work to create plus one hour to update. Comparable reports across the full-stack SolarWinds solution take 30 minutes to create and 10 minutes to update. Given this IT organization generates about 36 custom reports a year, EMA estimates it's saving nearly $16,000 per year in labor costs.

Improved Incident Response and Troubleshooting

A global software provider instituted intelligent escalations and accelerated troubleshooting processes by enriching SolarWinds alerts with contextual information. This implementation streamlines operations:

"We came up with a standard for event monitoring in SolarWinds," the lead architect said. Every alert automatically includes 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 located physically.

With these capabilities from SolarWinds, the ITOps team became more efficient with escalations. SolarWinds automatically routes alerts to people best suited to address a given issue. And those escalated alerts contain contextual data empowering engineers to resolve problems quickly. The lead engineer told EMA these capabilities reduced response times and troubleshooting processes by more than 50%. He estimated a $500,000 annual savings on labor.

Infrastructure Efficiency Through Better Visibility

A communications service provider was able to right-size WAN capacity with SolarWinds. The provider had limited visibility into WAN circuits with its legacy toolset. With SolarWinds in place, the NetOps team audited utilization across 2,000 customers.

"We use SolarWinds network performance monitoring to view utilization and identify where we are off, then the site survey team takes the data and makes recommendations to the account teams," the performance monitoring director said.

This right-sizing exercise allowed the provider to reduce bandwidth across 2,000 sites, leading to a savings of $700,000 in 2021. These savings will repeat in 2022 and beyond.

A global software provider avoided infrastructure upgrades through improved observability with SolarWinds. Some of the SaaS services the provider operates in its data centers were experiencing service degradation, with delays between front-end servers and SQL clusters. The infrastructure team couldn't isolate the problem with its VMware® monitoring and management tools. It recommended a $400,000 upgrade to the storage array to resolve the issue. The provider's lead architect used SolarWinds to prove the upgrade was unnecessary.

"We could see hundreds of the service's databases were all using one storage array. We could also see how backups by one application were creating a bottleneck for all the others, allowing us not only to optimize the storage infrastructure but ultimately improve both service delivery and resiliency," the lead architect said.

This global software provider also eliminated idle VMs in its data centers. "Before [SolarWinds], the infrastructure team said we had only 6,000 VMs across our infrastructure. The first time we did auto-discovery [with SolarWinds], it identified 11,000 VMs," the lead architects said.

These 5,000 relatively idle VMs were consuming licenses and infrastructure resources and posed security and compliance risks, given they couldn't patch what they couldn't see. By discovering and auditing these idle VMs, then tuning resource allocation, the software provider reduced costs by $500,000.

Eliminating Punitive Compliance Costs

Many companies face punitive costs as a result of ineffective digital operations. These costs come in the form of regulatory and industry compliance fines or SLA violation payments to customers. SolarWinds helped ITOps teams avoid these costs.

A global software company maintains SLA agreements with thousands of its customers, and violations of those SLA agreements carry payouts to customers per incident. The SolarWinds Hybrid Cloud Observability solution enabled ITOps to monitor SLA compliance proactively. The lead engineer said the company has moved toward near-zero outages, and he estimated this led to an annual savings of $175,000 on SLA violation payouts.

A communications service provider told EMA it realized a massive one-time savings on SLA compliance. Any violation of its SLA agreements with customers carries a $13,000 payout per incident. Recently, a routing issue collapsed virtual private network (VPN) tunnels between 200 customer sites and the provider's core network. The problem first manifested as a service availability issue with media servers at a customer site.

The ITOps team used dependency mapping intelligence in the SolarWinds solution to quickly isolate the problem to a system bug in the provider's edge routers. The problem was resolved before any SLA violations were triggered. The performance monitoring director said this proactive troubleshooting prevented 200 SLA violations, leading to a potential savings of $2.6 million in fees paid to customers.

Tip of the Iceberg: Many Soft Benefits

It can be challenging to translate business benefits into financial benefits when performing an ROI analysis on an observability solution. Customers identified many benefits to which EMA couldn't apply a dollar value. This section summarizes some of these soft business benefits ITOps teams may experience with the SolarWinds suite.

A European retailer created scripts to perform active monitoring of application and network performance at more than 400 of its stores. This project improved user experience at revenue-generating sites, preventing the potential loss of revenue.

A North American retailer said internal SLA compliance improved from 43% to 90%, leading to a better digital experience for employees and customers and overall productivity improvements across the company. This retailer also reduced the typical mean time to resolution (MTTR) of IT service problems by 48%, despite SolarWinds identifying 20% more incidents than the legacy toolset.

A North American communications service provider implemented golden configuration standards across its network using SolarWinds network configuration management capabilities. This effort improved network compliance, ensured better network availability, and reduced security risk.

A global software provider uses inventory data in SolarWinds as a source of truth for overall infrastructure. This data is fed to the corporate configuration management database (CMDB), keeping the overall CMDB up to date, leading to better resource management and compliance.

EMA Perspective

EMA's analysis of its ROI research found depending on the scale of operations, one can expect an ROI with SolarWinds within a year or two, three at the latest.

The financial return on such an investment can climb to millions of dollars. Some aspects of these savings are easy to calculate. Eliminating legacy tools can reduce license and support costs. Improved visibility can allow an organization to tune capacity and reduce unnecessary expenses. And avoiding SLA violations with customers is an obvious cost-saving measure.

Labor savings is a massive, invisible opportunity. An IT organization's people are valuable, especially in today's environment where technically skilled personnel are difficult to hire and retain. By streamlining processes, eliminating repetitive tasks, and simplifying workflows, an organization can save millions across large ITOps groups. These savings are realized not necessarily by cutting head counts. Instead, IT organizations can deliver more value to a business by applying their personnel to strategically important projects designed to digitally transform the business.

This paper should serve as a guide for calculating the potential ROI of your SolarWinds full-stack investment, which should help the reader justify their investment to management.

Here are the top five things to look for in an observability solution delivering a strong ROI:

1. **Robust inventory discovery and management.** Organizations need to reduce unknowns about their services with a solution designed to discover everything across the full IT and cloud stack. This capability allows ITOps to maintain a good source of truth about digital operations.
2. **Topology and dependency intelligence.** A solution must provide full-stack insight into how applications and services work across different infrastructure domains and across both on-premises and cloud environments. It should provide context to support a variety of tasks, from troubleshooting to capacity management.
3. **Flexible, custom reporting across the stack.** When IT organizations can collaborate efficiently to create unified and flexible reports, an organization can save hundreds and thousands of hours. EMA research recently found the typical NetOps professional devotes 19% of their average workday to generating reports. Not only will these reports be generated efficiently in a full-stack solution, but they will also provide excellent insight into the state of digital services.
4. **Data quality and variety.** The ability to collect many types of data helps ensure total visibility. Organizations should plan to collect and correlate cloud and device metrics across infrastructure layers, events, production traffic, synthetic traffic, and more. A full-stack solution must ensure the data collected doesn't end up as islands of isolated information. It should integrate analysis of this data and present it in the context of services, not silos. The solution architecture must also protect the quality of the data it collects with a reliable and scalable data platform.
5. **Integration and automation.** Third-party tool integrations are essential. An observability solution should integrate IT Service Management (ITSM) platforms for automated ticketing, CMBD solutions for an accurate source of truth, and security information and event management (SIEM) to contextualize security incidents with ITOps data. Automation should be implemented across these integrations but also within the full-stack tool. ITOps should configure alerting to launch scripts to auto-resolve frequent events, automate report generation, and automate the addition of new devices in services to the monitoring inventory.

About SolarWinds

SolarWinds (NYSE:SWI) is a leading provider of simple, powerful, and secure IT management software built to enable customers to accelerate their digital transformation. Our solutions provide organizations worldwide—regardless of type, size, or complexity—with a comprehensive and unified view of today's modern, distributed, and hybrid network environments. We continuously engage with technology professionals—IT service and operations professionals, DevOps and SecOps professionals, and DBAs—to understand the challenges they face in maintaining high-performing and highly available IT infrastructures, applications, and environments. The insights we gain from them, in places like our THWACK® community, allow us to address customers' needs now, and in the future. Our focus on the user and our commitment to excellence in end-to-end hybrid IT management have established SolarWinds as a worldwide leader in solutions for observability, IT service management, application performance, and database management. Learn more today at www.solarwinds.com.

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