Visibility and Automation Are Keys to Managing Complex Hybrid Environments

Brandon Shopp, vice president of product for SolarWinds, discusses how visibility is critical to understand and manage today's technology infrastructures.

What's driving the need for state and local governments to better manage and monitor IT systems and performance?

The rise in digital services requires states and localities to expand the amount of infrastructure and applications they operate. Citizens and employees expect immediate access to these services, so the pressure to handle things in a timely manner is high. Also, the IT environment has changed. Services and apps run in multiple locations — some of which you have no control over and are more exposed to the internet. New software-defined technologies require different considerations than a pure hardware-based approach, and you still have to support legacy technology and a lot of homegrown solutions. Another challenge is the astronomical amount of data coming from a growing number of disparate endpoints that you have to make sense of and protect from a privacy standpoint. So overall, there's a lot more to consider regarding performance, usability, availability and security. You've got to support it all. And of course, you need the appropriate talent to do so.

What capabilities should today's infrastructure management and monitoring solutions provide?

You need a solution that supports your infrastructure whether it's on-prem, in the cloud or hybrid. Next, the solution needs to be "multi-lingual," so it can talk to all the disparate pieces of the infrastructure regardless of their different protocols. Then, it needs to give you comprehensive visibility across the entire IT stack, instead of forcing you to manage multiple tools and piece together the data. Finally, it should help you leverage newer capabilities and technologies like machine learning and AI to make sense of the massive volumes of data in your infrastructure.

What types of IT automation use cases are you seeing at the state and local level?

There are no bounds to the potential use cases for automation. Today, we have more data and maturing technologies that can automatically classify and understand things like anomalous behavior. We can build a set of intelligent workflows that perform various actions based on what the system is seeing and learning. With the growth in software-defined technologies, we're also seeing more network automation. And within DevOps and DevSecOps, developers are writing scripts to automate tasks that before they only felt comfortable doing manually. Another popular use case is provisioning and deprovisioning users who join or leave an organization.

What should organizations consider as they incorporate automation, artificial intelligence and other advanced tools?

With AI, you have to be sure programmers don't introduce bias into the models they build. You also need appropriate processes and controls to protect the privacy of personally identifiable information (PII). With automation, it's important to think through processes so you fully capture all scenarios or workflows. Next you have to test and iterate to ensure you have built in the right logic. Then you have to revisit the automation periodically. You also need a process and monitoring technology that give you visibility. Finally, you need fallback plans in case something doesn't go as expected.

What role does infrastructure visibility play in supporting a mobile workforce?

Today's workforce depends upon disparate services that aren't always owned, maintained or controlled by the organization. Infrastructure visibility helps you quickly locate problems and determine who you need to call to resolve them. Is it a remote worker's internet service provider? Is it the SaaS provider's infrastructure? Is it your infrastructure? There are multiple internal and external potential points of failure. Visibility and timely data let you resolve issues quickly so employees — in and out of the office — have the services they need.

How can organizations prepare for new tools and ensure their infrastructure data is as useful as possible?

1) Identify goals based on where you want to be in three to five years. Determine what metrics indicate success. From there, develop strategies and plans to meet them. 2) Assess whether — or how — the organization can truly provide the level of service you need. 3) Identify technologies that can help you deliver services more efficiently and determine how to measure, monitor and manage them. 4) Plan and budget for legacy modernization. 5) Ensure appropriate visibility into your infrastructure and applications so you can automate where possible and resolve issues quickly. 6) Learn how to tie infrastructure and application availability to financial costs.

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