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AIOps Network Operations Removes Complexity Caused by Fragmented Networks

Executive Summary

The practice of rapidly adopting new technologies to support digital transformation (DX) has resulted in increasingly complex and fragmented network infrastructures. As organizations add disparate point products to address DX challenges, each with its own management console, more and more silos arise. The lack of visibility and integration of these products across the network leads to security gaps and network outages.

Network operations teams rarely have clear and consistent insight into what controls and configurations are set up across the infrastructure. Even more importantly, they lack comprehensive visibility into the environment to effectively detect network outages or anomalies.

These challenges can be addressed with a new approach. AI/ML-assisted network operations with built-in network-security automation and orchestration eliminates silos and reduces complexity for network operations teams.

> "… technologies such as public clouds produce incredible amounts of data, and incredible amounts of noise. In fact, improving the signal-to-noise ratio in the vast array of data produced by information systems is one of the largest challenges in the modern IT environment."[1]

Top Three Network Operations Challenges

It's critical for network operations teams to see and understand what's happening in their dynamic network environments. However, there are a number of issues that stand in the way, including:

- **Disjointed tools** for local-area network (LAN), wide-area network (WAN), cloud performance, and security monitoring. This impedes holistic end-to-end user-to-application visibility (digital experience visibility).

- **Root cause analysis (RCA)** of user experience issues in a multilayered, distributed, and complex network is not trivial and takes longer to resolve.

- **Manual operations** are limiting operator effectiveness to predict and remediate user experience issues.

The Way Forward

To succeed in digital transformation, network teams need to ensure quality of user experience on any application from anywhere. If teams do not have visibility and are overwhelmed by the extensive amount of data being generated by myriad siloed tools, they cannot be proactive and carry out this task. An effective artificial intelligence for IT operations (AIOps) network operations solution will enable IT teams to understand what users are experiencing by simplifying day-to-day network operations with comprehensive monitoring and automation.

Further, leveraging artificial intelligence (AI) and machine learning (ML) will enable network ops teams to correlate events, detect anomalies, and optimize operations. This will ultimately improve visibility, reduce mean time to incident detection (MTTI), and increase incident response efficiency.

> "By 2026, 90% of G2000 CIOs will use AIOps solutions to drive automated remediation and workload placement decisions that include cost and performance metrics, improving resiliency and agility."[2]

When considering an AIOps network operations solution, make sure it includes the following capabilities:

Observation

The solution must have broad coverage across LAN, WAN, and cloud deployments. Performance and security anomalies from user to application access must be clearly demonstrated. Simplified monitoring across wireless, switches, firewalls, and software-defined WAN (SD-WAN), and secure access service edge (SASE)—in one console—will enable network ops teams to deliver a positive user experience regardless of where users connect from.

Correlation

It's also necessary to analyze the dependence of device, LAN, WAN, and cloud events while incorporating policies to identify the root causes of end-user performance issues. This enables teams to cut through the noisy events and surface the issues affecting the business.

Response

Integrating orchestration tools into network operations delivers network automation both proactively and through rules. Leveraging AI/ML and automation prevents issues before they arise.

Achieve Consistent User Experience and More With AIOps

Today's network operations teams need to be able to ingest and act on absurdly high volumes of data, which is only possible with AI and ML automation. Implementing an effective AIOps network operations solution will enable organizations to understand what is happening in the network and guarantee consistent user experience. This is only possible if IT teams have visibility and efficiency. Artificial intelligence and machine learning make it possible to cut through all the noise and quickly respond to incidents, even preventing issues before the occur

[1] Ken Corless, et al., "AIOps: The Power to Transform IT Operations and Enhance Cybersecurity," CIO Review, accessed May 20, 2021.

[2] "IDC FutureScape: Top 10 Predictions for the Future of Digital Infrastructure," IDC, November 5, 2021.

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