

Brocade 5-Step Network Innovation Model: Automate, Integrate, Innovate

HIGHLIGHTS

- Leverage programmable fabrics to create an automated, high-performance, scale-out foundation for network transformation
- Enable network automation for the entire network lifecycle—from provisioning and validation to troubleshooting and remediation
- Adopt a software-based, DevOps-style network automation framework that integrates with workflows across multiple IT domains for end-to-end IT automation

The Need for Network Transformation

The adoption of third-platform technologies and the delivery of digital services are creating demands that legacy networks cannot support. No one doubts the need to evolve the network in order to make it easier to manage, more readily adaptable, and more cost-effective to support. Such improvements are necessary to maintain profitability, customer satisfaction, and regulatory compliance. Yet how to approach such a complex and critical task is less clear.

Transforming One Step at a Time

The Brocade 5-Step Network Innovation Model provides a framework for determining the optimum network deployment strategy to support this transformation. The model outlines a logical and evolutionary process for adopting network innovation, with each step building on the foundation created by the preceding one, in alignment with organizational strategy.

Step one recommends gaining alignment between business and IT strategies, auditing what technology is in place, and developing a clear and actionable plan. Steps two and three focus on supporting core operations by eliminating network downtime, improving operational efficiency and agility, and improving application deployment, availability, and access. Rounding out this model, steps

four and five continue the evolution with the adoption of software-defined solutions and network analytics. This document provides an overview of steps two and three for organizations preparing to transform their networks.

Step Two: Automate the Network to Improve Performance and Productivity

Organizational agility relies on an equally agile IT environment, meaning zero network downtime, minimal to no latency, and optimized application performance. But meeting these basic operational requirements can be difficult. Studies have found that more than 32 percent of downtime is caused by human error, while latency is responsible for another 26 percent of instances.¹ Failing to address these issues, however, can have a significant negative impact on

¹ IDC, "The Problems of Downtime and Latency in the Enterprise Datacenter," December 2015.

the customer experience, revenue, and productivity. A survey of key decision-makers revealed that 74 percent believe “poor application performance prevents organizations from being a market leader.”²

Programmable Fabrics and Application Performance and Protection

To meet network availability and application performance demands, organizations require a network infrastructure that is self-healing, highly automated (to minimize human intervention and reduce human error), and optimized for today’s data center east-west traffic patterns and modern application architectures. This is best delivered by network fabrics, which provide high levels of automation, simplified management, and a collapsed, flattened architecture. Compared to three-tier topologies, fabric-based networks rely on fewer devices, support higher data-transfer speeds, and scale faster. As a result, they offer a more cost-effective, less complex, low-latency network solution.

Programmable fabrics are also an ideal foundation for network automation. By selecting fabric solutions that offer server-based, software-driven automation decoupled from the underlying infrastructure and network operating system, organizations can avoid getting locked into a technology. Moreover, they can substantially increase the rate of innovation when automation is hardware-independent. Since development cycles are magnitudes shorter for software than for hardware, advancements in automation can be realized at the pace of your business, rather than at the pace of the vendor.

Step Three: Create an Agile Infrastructure to Compete at the Speed of Business

Organizations recognize the need to stay ahead of service demands and focus on innovation to drive competitive advantage. Yet, according to Gartner, they spend up to 80 percent of their IT budgets on maintaining legacy systems. This is why organizations are now seeking to automate their network infrastructures.

Most network automation solutions, however, focus on automating provisioning tasks, which represent only one phase of the network lifecycle. In order for IT organizations to focus resources on digital service delivery, rather than network maintenance, network automation must span the entire network lifecycle, from provisioning and validation to troubleshooting and remediation. Organizations should consider this as they evaluate network automation solutions.

A Workflow-Centric, Cross-Domain Approach to Automation

While automation of the entire network lifecycle can help organizations achieve operational efficiency and agility within the network domain, in order to deliver services at the speed of business, network automation must be integrated with workflows across multiple IT domains. The network, after all, is only one element of the IT services delivery chain. A DevOps-style approach to network automation bridges IT silos to eliminate the manual handoffs (between functional teams) that cause delays and hinder business agility.

To enable cross-domain automation, organizations must think in terms of workflows. Workflows have emerged as a fundamental part of IT operations within hyper-scale cloud providers because they are proven mechanisms for converting

business rules and policies into IT services delivered at scale. Since a workflow is a collection of tasks that are in many cases executed manually and routinely, it serves as a good foundation for developing automation. Cross-domain automation must be able to recognize events from any network device, cross-domain platform, or application, and then invoke action by other tools and applications to execute an end-to-end automated workflow. This workflow-centric, cross-domain approach to automation enables true business agility.

Continuing Innovation Adoption

Steps two and three of the Brocade 5-Step Network Innovation Model provide guidance on how the network can be modernized through programmable fabrics, while becoming highly automated and integrated with other IT domains to deliver improved availability, application performance, end-to-end automation, and agility.

Steps four and five build on this intelligent, agile, and resilient infrastructure to provide additional capabilities that are critical to adopting innovations such as the Internet of Things, personalization, and real-time reporting. For more information on the Brocade 5-Step Network Innovation Model, visit www.brocade.com/thenewip.

About Brocade

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² Vanson Bourne, “Why Smart Organizations Maximize Application Performance,” 2016.

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