If your job is to design, deploy and manage networks, piecemeal improvement is no longer a viable strategy. It isn’t enough to simply implement each new technology or tool that comes along. You need to look ahead and ensure that key characteristics are designed into your networks from the beginning.

To master growing operational complexity, you can build in simplicity and automation. To deal with sophisticated threat actors and an expanding attack surface, you can build in comprehensive, integrated security. To address business demands for increased mobility and agility, you can build in flexibility and openness.

This report:

- Reviews the increasing demands being placed on networks and network professionals.
- Outlines barriers that prevent many enterprises from meeting those demands.
- Describes how technology partners like Juniper Networks can help you build crucial qualities into your networks, including simplicity and automation, comprehensive and integrated security, and flexibility and agility.
Demands on the Network

Network professionals are all too familiar with the growing demands put on networks and network staffs.

Operational complexity is intensifying. Mobility and BYOD policies multiply the number of devices that need to be connected and monitored. Wi-Fi, cloud connectivity, location services and IoT require new connectivity and management tools. And of course, applications like VoIP, unified communications, video streaming, teleconferencing, and virtualized desktops continue to drive up bandwidth requirements.

These trends also greatly expand the enterprise’s security “attack surface.” Cybercriminals and hackers can target more devices, more networks, and more access points. Attackers are also becoming more sophisticated and more likely to attack obscure corners of the network.

In addition, executives and business users now have greater expectations about networks. They expect fast, reliable, secure service from any device, anywhere in the world. They also expect that new applications and online business services can be rolled out quickly, with flawless performance on day one.

Barriers to Meeting the Demands

Why is it so hard to respond to these demands? Part of the problem is that some organizations have inadvertently created barriers to their own success.

In many enterprises, network and security solutions must be configured and updated on each individual device, or at least on each type of device. Adding and modifying resources and rolling out new applications and services are manual, slow, error-prone activities.

In many enterprises, too many freestanding security products require their own management tools. They produce far more unrelated alerts and notifications than security analysts can monitor and investigate. A lack of integration between tools means that incident response teams have only fragmented visibility into security events, which makes it difficult to compile evidence about complex, targeted attacks.

In addition, many enterprises approach different network tasks as technology silos. Proprietary architectures in each area make it impossible to provide users with seamless access to resources spread across corporate data centers, public clouds and hybrid clouds. Integrating new technologies for mobile workers and remote offices is slow and costly.

Simplicity and Automation

Fortunately, some technology partners, such as Juniper Networks, are working to help you overcome these barriers and meet challenges like growing operational complexity, an expanded attack surface, and requirements for increased mobility and agility.

For example, to simplify operations, Juniper’s Junos Fusion Enterprise architecture and the Junos Space Network Director provide single-point network configuration and management for enterprise campus networks. They simplify network management across complex campus networks and on-premises data centers.

Junos Fusion Enterprise and Junos Space Network Director provide a practical way to implement some of the key concepts of software-defined networking (SDN). With SDN, key management functions are abstracted from physical implementations, which vary across environments. That allows you to centralize and automate tasks related to configuration,
services provisioning and policy management. When you decide to change a policy, the management platform takes care of translating and applying it in different environments. When you decide to deploy a new application in multiple offices, the platform automates the provisioning of the necessary services to each location.

For smaller deployments, Juniper offers its powerful Virtual Chassis technology, which simplifies the network by enabling up to 10 switches to be interconnected and operated as a single logical device. When applied to a traditional multi-tier enterprise network, Virtual Chassis can reduce the number of managed devices by up to 90%. Because Virtual Chassis is based on the same EX Series switches that form the building blocks of Junos Fusion Enterprise deployments, smaller organizations can convert their networks to Junos Fusion Enterprise as they grow.

Simplicity and automation help you counteract growing operational complexity, reduce operational costs, and deploy new applications and services faster and more reliably.

Comprehensive, Integrated Security

Juniper also helps you build comprehensive, integrated security into your network, so you can deal with sophisticated threat actors and the expanding attack surface created by new technologies and applications.

For example, Juniper’s SRX Series Services Gateway and the Sky Advanced Threat Prevention service integrate a wide range of critical network security technologies, including stateful firewall; unified threat management (UTM) and intrusion prevention system (IPS) capabilities; application firewall and quality of service (QoS) features; protection against DDoS attacks; support for SSL tunnels; and cloud-based static and dynamic analysis of malware (sandboxing).

Providing these technologies as a single integrated solution lowers management costs, increases visibility into security events across the enterprise, and reduces the chance that a manual configuration error could lead to a security breach.

Juniper’s Spotlight Secure threat intelligence service and Junos Space Security Director allow you to collect a wide variety of threat indicators and distribute them in seconds to thousands of enforcement points across the network. That helps you focus on meaningful alerts and neutralize zero-day and targeted attacks before they can sabotage your operations or exfiltrate confidential data.

Flexibility and Agility

No single vendor can provide ideal solutions for every area of networking and security. To respond to business demands for increased mobility and agility, you need to adopt an open framework that supports both key industry standards and APIs from partners with related technologies.

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For example, Juniper’s Open Convergence Framework provides out-of-the-box integration with best-of-breed solutions for wireless LANs, unified communications, network access control,
security, and other technologies. Business managers expect the fast deployment of new applications and high-performance connectivity from anywhere. To meet their expectations, you can select technology components that fit the specific needs of your technical environment and business users. It is no longer necessary to accept vendor lock-in or settle for limited options from one company.

Uniting Simplicity, Security and Flexibility

The challenges involved in designing, deploying and managing tomorrow’s campus networks can’t be met by implementing new technologies and tools piecemeal. Network professionals need to work with a long-term partner that has the vision, resources and track record to provide centralized, integrated, efficient solutions that cover diverse data center, branch and cloud environments. Juniper Networks is certainly a leading candidate for this role.

Explore how Juniper unites simplicity, security and flexibility by visiting Juniper.net/unite.