ARE YOU GOING DIGITAL WITHOUT A NET?

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Cisco
Whether your business is embracing new digital technologies or moving to the cloud, your network needs to be up to the task.
Today’s enterprise networks are under tremendous pressure from both a bandwidth and security point of view. Two factors are behind this pressure. First, companies are increasingly moving to cloud-based services and now operate in the cloud for many business needs. Second, companies are undergoing a digital transformation to become 21st-century enterprises that exploit technologies such as mobility, analytics and the Internet of Things (IoT).

Both trends place high levels of stress on enterprise networks, most of which were not designed for the challenges of digital and cloud. Large companies typically have 10,000 to 25,000 network devices in their IT estate, often from over a dozen manufacturers. Most are aging and prone to failure. Further, the sheer scale of devices and connected “things” (growing between 4X and 8X annually for most businesses), creates operational challenges for updates, troubleshooting and security.

Most companies leave it to the procurement function to replace new network devices as they fail, leaving the business with many different types of equipment of varying ages. This low-cost, procurement-led approach may have worked for the previous generation of IT support, where most people accessed data on a PC or in their local data center. But it doesn’t work today.

It's like walking a digital tightrope without a net.
MOVING FROM HARDWARE-LED TO SOFTWARE-LED NETWORKING

Aging equipment is escalating maintenance costs and exposing security vulnerabilities. Supporting new digital services with existing networks takes time and money because, in many cases, IT needs to manually configure everything on old boxes.

Because most companies’ networks are comprised of myriad device types and ages, updating and staying current on the latest security patches is a challenge. For example: One company reported that it had not implemented new patches and operating system upgrades for ten years. That kind of situation is now a business risk, not just an IT risk. It exposes companies to cyberattacks and other kinds of security breaches, and it makes it more likely that the network will suffer outages or cause suboptimal application performance. These events can damage customer relationships and brand reputation.
Of course, leading-edge hardware is an essential part of the network. But hardware-based networks alone can’t live up to the innovation and performance requirements of the digital age. Such networks don’t have the security, automation and analytics required to manage business applications, leverage the cloud and interface with a proliferation of devices. Companies need a new network paradigm. (See Figure 1.)

FIGURE 1: A NEW NETWORK PARADIGM

**HARDWARE**

- FROM: Custom equipment per function
- TO: Standardized equipment across functions

**SOFTWARE**

- FROM: Coupled with hardware
- TO: Decoupled with hardware

**LICENSING & MAINTENANCE**

- FROM: High, complex pricing structure per device
- TO: Enterprise license agreement consumed as a subscription

**SUPPORT**

- FROM: Fragmented and inconsistent support structure
- TO: Simplified global support model

**ARCHITECTURE**

- FROM: Individually packaged and priced architecture
- TO: Unified secure architecture for backbone WAN campus data center
A BETTER WAY:
A SOFTWARE-BASED, UNIFIED NETWORK PLATFORM

What’s the answer, when business groups are demanding as much as 30 percent annual growth in bandwidth while providing little if any budget increase to make it happen?

One approach is to cobble together your own set of disparate hardware components—different vendors for security, data center and WAN, wireless, and so forth. The challenge with that approach is that (1) you’re still locked into hardware; and (2) you then need expertise in all the components and their integration. You can’t load a batch of updates across each of them in an automated way. You can’t push policies out to each of them. You need to physically log in to each box or vendor’s console to do it.

From Accenture’s and Cisco’s perspective, a better way is to look at your network as a holistic software platform—not moving from box to box but instead through a layer of software. Network functionalities—routers, switches, firewalls, wireless controller, etc.—are now packaged as virtual machines. The network is no longer a set of boxes, but a set of virtual software that can be quickly and easily deployed and distributed, and licensed the same way you would license an ERP system or SaaS.

A digital network platform is comprised of three layers (see Figure 2):

1. ANALYTICS
   Network Data
   Contextual Insights

2. SECURITY
   Perimeter Security
   Identity Services

3. AUTOMATION
   End-to-end abstraction and policy control through a single management interface
Riding on top of the platform are application platforms for the digital business—cloud, collaboration, business analytics, IoT and artificial intelligence.

**FIGURE 2: OVERVIEW OF THE DIGITAL NETWORK PLATFORM**

**DIGITAL BUSINESS SERVICES**

**APPLICATION PLATFORMS FOR DIGITAL BUSINESS**

- **CLOUD**
- **COLLABORATION**
- **BUSINESS ANALYTICS**
- **IoT**
- **ARTIFICIAL INTELLIGENCE**

**DIGITAL NETWORK PLATFORM**

1. **ANALYTICS**
   - Network Data
   - Contextual Insights

2. **SECURITY**
   - Perimeter Security Identity Services

3. **AUTOMATION**
   - End-to-End Abstraction and Policy Control Single Management Interface
THE BENEFITS OF A UNIFIED NETWORK PLATFORM

Shifting the network to a software-based model can deliver a host of important benefits to your organization across costs, capabilities, risks and business agility:

**COST REDUCTION**
- A singular operations and management framework reduces time needed to deploy policies and configurations.
- Vendor/skills consolidation can reduce IT support and vendor maintenance costs.
- A secure, intelligent platform enables automation and more efficient use of network resources and bandwidth.

**IMPROVED CAPABILITIES: THE USE OF ANALYTICS**
- A software-based model better enables the use of analytics to understand the health of networks, clients and applications, allowing IT to focus on more critical areas.
- Analytics provides for faster troubleshooting and can confirm compliance and validate SLAs.

**BETTER RISK MITIGATION**
- A single security platform that replaces multiple products provides real-time application of security policies across the organization.
- A unified platform delivers complete visibility into end-to-end security, from campus to cloud, covering physical and virtual layers.
- Proactive vulnerability detection and automated fixes help prevent financial and reputational losses due to security breaches.
- A unified platform offers continuous verification to maintain compliance.
INCREASED BUSINESS AGILITY

• A software-led network delivers the performance necessary for mission-critical workloads, either on-premise or in the cloud.

• A unified network platform enables digital and cloud-based capabilities faster through automation.

• Automated provisioning and a centralized policy engine reduce the time to launch a new branch or office.

• The time needed to enable new, network-based services and security policies is reduced compared with multi-vendor solutions.

A COMPREHENSIVE APPRAISAL OF YOUR NETWORK’S FUTURE

How can a company define the right network for its ongoing needs? A comprehensive appraisal—or what Accenture and Cisco call a Digital “X-ray”—is required. Given competitive and marketplace pressures today, companies have a “need for speed” when it comes to network transformation. Inaction and delay are not options.

Analysis of your current network capabilities—compared with the capabilities needed to support digital and cloud—can help you identify particular use cases to move toward a new architecture. For example:

• **Software defined access**: Manage network design, access policy and provisioning for wired and wireless from a centralized control platform.

• **Software defined data center**: Leverage an application-centric approach to data center networking, enabling automated workload management in a hybrid environment.

• **Analytics-driven security**: Use analytics and threat intel to detect and prevent malicious attacks by analyzing network data against known signatures.

• **Application analytics**: Improve app performance and security through rapid app mapping. Identify apps to migrate to the public cloud.

• **Software defined WAN**: Enable app-aware, performance- and policy-based path selection across a transport-independent WAN.
The analysis should be business case-driven so you gain visibility into potential benefits. For example, what is the benefit of putting broadband circuits at every site instead of running everything back through the data center? Or the advantage of more efficient use of network circuits, or moving from regional to centralized management of devices?

Automation is another essential feature of the digital network platform. For each use case, the network can be automated so the IT function can instantly push virtual machines or provide an update with a new architecture in the WAN—at each site or in the cloud. Automation can happen from a given site all the way out to the network that links into the cloud. So, if a new security policy or quality of service needs to be pushed out, that can be done end to end from a central box. Every part that it touches will be a box on the platform and all are running common software to make them interoperate effectively.

Analysis of current network capabilities can help you move toward a new architecture.
DIGITAL TRANSFORMATION DEPENDS ON NETWORK TRANSFORMATION

The network is a vital component of today’s digital businesses, playing a central role in strengthening customer relationships through enhanced communications, running the applications that drive the business forward and, ultimately, helping ensure that organizations can operate with greater efficiency and agility.

While forward-thinking CIOs recognize the importance of network technologies, many still struggle with transforming their traditional, hardware-based network to drive real innovation and business growth. Aging equipment, inconsistent platforms and multiple carrier contracts exacerbate the issues of running a decentralized, complex network environment.

Building an operationally efficient, lower-cost and future-proof network is a complicated undertaking, requiring a clear strategy for increasing network capacity, adequate resources for designing and deploying new technologies, and a comprehensive infrastructure plan. For many organizations, effective and efficient management of their network environment is also a key concern. Accenture and Cisco have the experience and proprietary tools needed to identify enterprise network needs and create the roadmap to solve them.

With a new, unified network platform, companies can fully leverage cloud and digital technologies for maximum impact—enhancing efficiencies and agility while mitigating security risk.
It's time for a digital-ready, cloud-ready network. Don’t walk the digital tightrope without a net.

A secure, intuitive network that meets the needs of a complex enterprise is foundational for any company competing to win in the new digital era. Cisco’s Intent-based Networking redefines network operations and capabilities, leveraging a secure, software-driven model to enable business-speed IT operations and drive digital business initiatives."

DAVE WEST
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