Top 3 Reasons Your Network Matters in the Cloud Era

Is Your Enterprise Campus Network Cloud-Ready?

INSIDE

Executive Overview

Cloud computing adoption is neither a question of *if* nor *when*. It's now. Most enterprises today are using some form of the cloud—in either public, private, or hybrid mode—to host their applications, servers, storage, or other infrastructure.

This is especially true in data center and campus environments.

The real question facing networking professionals is whether they have the right network strategy to support this radical shift in IT service delivery.

In the simplest cloud deployments, such as outsourcing one or two applications to a software-as-a-service provider, all you may need is a little more Internet bandwidth. But most enterprises have more complex needs due to these three mega trends

- More mobile people
- More cloud applications
- More connected things

Because of these trends, they need to think more strategically about what their networks need to support the cloud.

In this e-guide, you will discover how these three information technology trends impact your cloud strategy—and how you can build a network that's ready for the cloud.

Chances are, you're already moving to the cloud

The cloud is here. Whether you're building a private cloud, leveraging the power of a public cloud, or combining hybrid cloud services with traditional, on-premise infrastructure, you're committed. And for good reason.

WHAT YOU GET FROM THE CLOUD

Operational efficiency: Cloud enables you to roll out and update new applications and services and reach employees scattered over multiple campuses using streamlined processes, saving the effort of your IT support staff and reducing OpEx in the process.

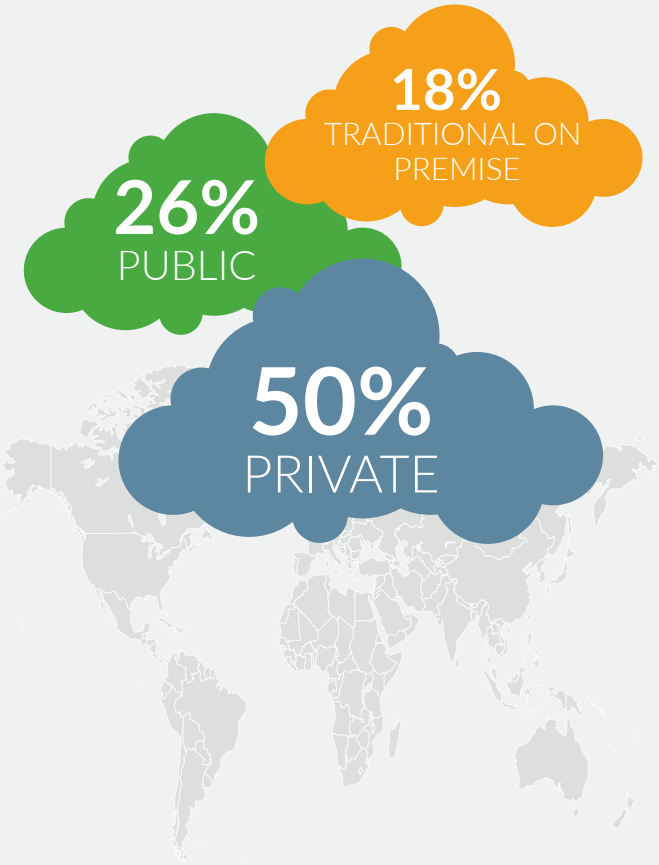
Business agility: Because it's so easy to give your users the applications and services they need to do their jobs, they can respond to market forces much more swiftly, allowing the business to change course on a dime if necessary.

Ability to quickly spin up new business models: The cloud does much more than make existing processes more efficient. It also allows you to innovate at speeds previously not thought possible, with new ways to develop, make, distribute, and support new products and services.

Better utilization of resources: Cloud-based consumption models are much more efficient, allowing you to avoid overprovisioning resources by enabling you to scale up and down based on exactly what you need at any given time.

Lower CapEx and OpEx: Because you can scale as needed, and because cloud allows you to provision users much more efficiently, you only invest in infrastructure when you need it, and you need less personnel to support it.

Global Enterprise Cloud Application Adoption Plans, 2017 [1]



But is your campus network ready for the cloud?

It's not just a question of moving workloads to the cloud. You face overwhelming industry forces that are accelerating the need to change how you design, build, and operate your campus network.

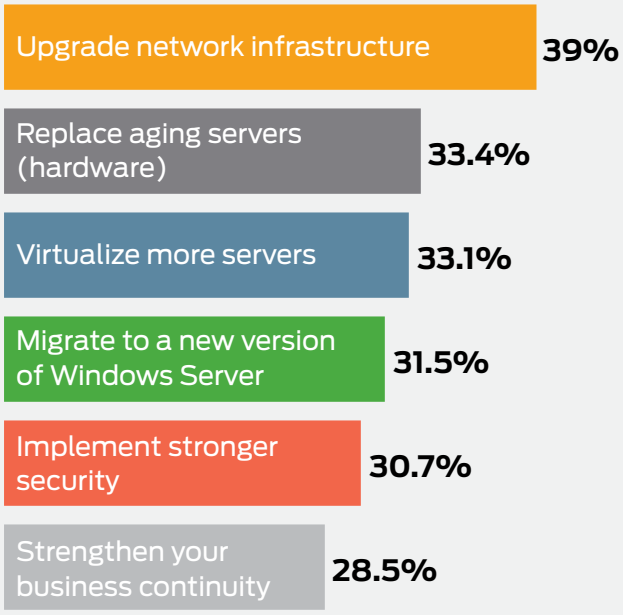
THREE CLOUD TRENDS THAT TELL YOU IT IS TIME TO UPGRADE YOUR NETWORK:

More mobile people: Your network not only has to support more people, but they don't stand still. They are clamoring for bring-your-own-device (BYOD) policies that allow them to work on their own time, at the places of their choosing, using whatever device they like.

More cloud apps: A companion trend to BYOD is BYOA: bring your own app. Users are increasingly used to going out to the public cloud and downloading whatever apps they feel will help them do their jobs. Some of these are free, some cost money, but the main point is that they are outside the control of IT, leading to a lack of control over the network.

More connected things: Finally, the Internet of Things (IoT) is impacting the network, as intelligent sensors, devices, and machines are increasingly connected via the cloud.

Most Urgent IT Requirements[2]



More mobile people

Today, virtually every employee is connected to the network. This means your network supports dozens to hundreds to many thousands of users internally. Depending on your type of business, you may also touch suppliers and consumers. Many large companies today are managing massive networks with which they touch literally billions of lives.

Many in this burgeoning population of users are mobile and insisting on using their own devices for work.

User Mobilities and BYOD Enterprise Trends[3]

74% of enterprises now allowing or planning to allow users to "bring your own device" (BYOD).

56% of IT decision-makers will spend up to one-fifth of their IT budgets on mobility.

Impact on Your Network

Unpredictable bandwidth usage

What happens with BYOD? Your bandwidth demands go sky high, and become much less predictable. On average, one consumer uses 60 GB of data in one month. Imagine how much more executives, sales persons, and field technicians who routinely attend online videoconferences, download multimedia presentations, or large reports consume.

Providing this kind of bandwidth at a cost your company can afford requires you to consider network policy (limiting devices or types of traffic), technology (bigger pipes, improved infrastructure), and operational improvements (better tools, more efficient processes).

The need for security, security, security

More mobile users also significantly impacts the traditional security model of protecting the network perimeter by blurring the definition of that perimeter, both in terms of physical location and asset ownership. It's more than a little scary to realize that the vice president's "business" tablet is also a toy for her fourth grader. And, that both of them are probably making the three biggest mobile device security mistakes:

1. Downloading apps from unverified sources

2. Using a device without a password or using a password that's simple to break

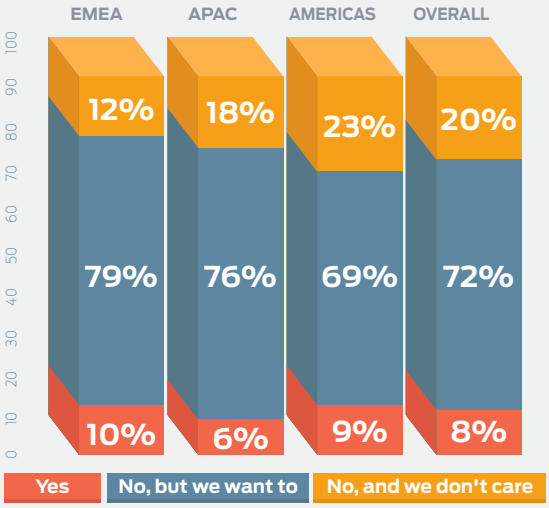
3. Failing to keep the device's operating system updated

IT professionals agree it's difficult to change user behavior. Therefore, protecting the network is key. Providing single sign-on, context-based access rights, and SSL VPNs—along with the right policy—can help ensure that a fourth grader's mistake doesn't result in a network intrusion.

More cloud apps

A large number of your connected employees, accustomed in their personal lives to instant access to cloud-based apps, are bringing rogue apps to work without consulting IT. This BYOA (bring your own app) activity is putting pressure on the enterprise network.

Do you know the number of shadow IT apps in use at your company?[4]



Impact on Your Network

Unpredictable network patterns

When users are mobile, they can join the network from anyplace on any campus. By signing into their cloud apps from unpredictable places, they create chaotic network traffic that is impossible to anticipate. For companies that have large numbers of remote workers, robust VPNs are necessary. You may need to set policies that regulate traffic or deploy bigger pipes to meet bandwidth requirements. Finally, you need visibility so you know exactly who is on your network, what they are using, and from where they are located.

No user tolerance for slow performance

Users also want to access all their favorite apps with the same performance they expect from IT-approved applications. Companies need visibility into which applications are being accessed, and tools to manage applications on behalf of hundreds, and maybe thousands, of users. You may also want to set policies to protect business apps against recreational ones.

The need for security, security, security

Just think of all the sensitive corporate data stored in those BYOA apps. Corporate data stored on a device or in a third-party cloud provider's environment is no longer under the control of the IT department. What happens if a laptop with sensitive data is stolen or if there's a data breach in the third-party cloud vendor's environment? IT has no control over these events. To deal with these and other issues, many organizations are establishing network policies for third-party software. But they still need the visibility into the network and the tools to enforce those policies.

More connected things

Welcome to the Internet of Things (IoT), the network of physical objects or "things" embedded with electronics, software, sensors, and network connectivity that allows them to collect and exchange data.

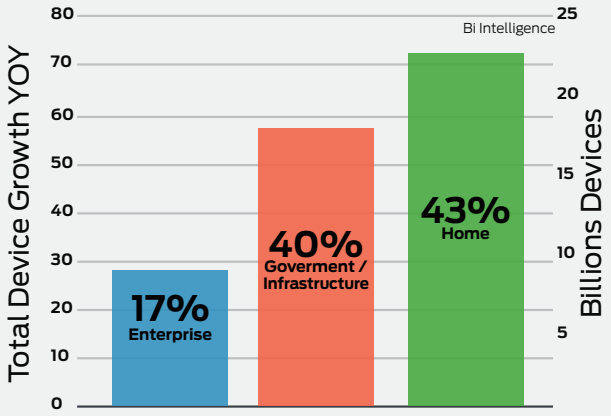
By 2019, the IoT will be more than double the size of the smartphone, PC, tablet, connected car, and the wearable market combined.

What You Can Do With the IoT:

- Track behavior for real-time marketing
- Be more aware of physical situations
- Make decisions based on sensor-driven analytics
- Optimize processes
- Optimize consumption of resources
- Instantaneously control and respond to complex autonomous systems

Cloud Security Alliance. Cloud Adoption Practices & Priorities Survey Report, January 2015.[5]

Estimated Number of Installed IoT Devices by Sector[6]



Impact on Your Network

High bandwidth demands

Just think of all those connected things talking to you and to each other. You need bigger pipes, and the tools to manage and regulate traffic. After all, today's business world is not patient. If your website crashes or important executive video-conference meetings start lagging, people are vocal about their complaints and customers go elsewhere.

Need to scale on demand

With more things coming online constantly, you need to be able to scale your network effortlessly, without any noticeable hiccups.

High SLAs required

Your operations—and your business—will grow to depend on the IoT. You need the tools to understand what is happening in your network at all times. And with wireless access at an increasing premium across any network, you need to be acutely aware of how a large number of additional IoT devices connecting this way will impact overall network performance.

Concerns about security, security, security

So many endpoints, so little time. Things like sensors and thermostats can be hacked as easily as traditional PCs and laptops. Plus, the growth of things raises critical issues of compliance. New European Union data privacy laws will take effect by January 2016, and will affect any business that collects, processes, stores, or shares personal data. You could be required to pay ruinous fines if found in breach of the rules relating to data protection.

Are you cloud-ready?

It's time for a network campus upgrade. Traditional networks simply can't handle all the implications of cloud.

You need the flexibility to go in any cloud direction you choose—private, public, or hybrid—the agility to change direction on a dime, and the security you need in this connected world.

You know you're ready when:

YOUR NETWORK IS SIMPLE

- ✓ You've virtualized your network.
- ✓ You've automated your network.
- ✓ Your network is simple to manage.
- ✓ Your network scales as needed.

YOUR NETWORK IS SECURE

- ✓ You've secured the entire network, not just the perimeter.
- ✓ You've got visibility into all devices attached to the network.
- ✓ You've got visibility into all the applications on the network.

YOUR NETWORK IS OPEN

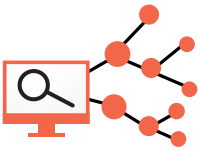
- ✓ You've got interoperability with best-of-breed solutions from any vendor.

Most importantly of all, your network has become a strategic differentiator for your business.

What you get with Juniper

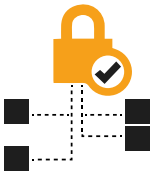
unite Cloud Enabled Enterprise

With Juniper, you get everything you need to make your campus network cloud-ready. With the simplicity, security, and openness that Juniper solutions offer, the cloud delivers on all its promises.



Simple visibility to all the applications on your network: A single, easy-to manage platform ensures network availability and network edge visibility and protection, regardless of whether the environment is physical or virtual; public or private cloud; or traditional on-premise IT.

Protection for your business from evolving security threats: Advanced, open, and scalable network security that goes well beyond firewalls and perimeter defenses to threat intelligence and the latest detection tools to keep you safe.



Best-in-class solutions: You get the ability to deploy best-in-class industry solutions to work seamlessly with Juniper solutions to achieve unrivaled ease-of-use and enjoy a centralized management experience.

Juniper Unite is a comprehensive reference architecture that lets users build an agile, secure, and cloud-enabled enterprise using Juniper switching and security solutions—including unified threat management, next-generation firewalls, and threat intelligence services—as well as best-of-breed WLAN, UCC, and network access solutions through an Open Convergence Framework. Juniper Unite offers all the essentials a growing business needs to support its operations today while preparing to embrace the future. One network. One architecture. All up and running on Day One. It's everything you need to bring your offices together as one. Juniper Unite for the cloud-enabled enterprise. From Juniper Networks.

Next Steps

For more information about Juniper Unite Cloud-Enabled Enterprise, please contact your Juniper representative or go to www.juniper.net/unite.

About Juniper Networks

Juniper Networks is in the business of network innovation. From devices to data centers, from consumers to cloud providers, Juniper Networks delivers the software, silicon, and systems that transform the experience and economics of networking. The company serves customers and partners worldwide. Additional information can be found at www.juniper.net.

References

[1] Gartner, Inc., "Survey Analysis: Buyers Reveal Cloud Application Adoption Plans Through 2017," 22 October 2014 by Joanne M. Correia, Laurie F. Wurster, Chad Eschinger, Yanna Dharmasthira, Bob Igou.

[2] Jeffrey Schwartz (Redmond Magazine). Windows IT's Marching Orders. February 4, 2015.

[3] Teena Hammond (Tech Pro). Research: BYOD booming with 74% using or planning to use. November 2014.

[4] Cloud Security Alliance. Cloud Adoption Practices & Priorities Survey Report, January 2015.

[5] John Greenough (Business Insider). The 'Internet of Things' will be the world's most massive device market and save companies billions of dollars. April 14, 2015.

[6] Ibid.

Corporate and Sales Headquarters
Juniper Networks, Inc.
1133 Innovation Way
Sunnyvale, CA 94089 USA
Phone: 888.JUNIPER (888.586.4737)
or +1.408.745.2000
Fax: +1.408.745.2100
www.juniper.net

APAC and EMEA Headquarters
Juniper Networks International B.V.
Boeing Avenue 240
1119 PZ Schiphol-Rijk
Amsterdam, The Netherlands
Phone: +31.0.207.125.700
Fax: +31.0.207.125.701

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