CITRIX®

The Essential Guide to Preparing Your Network for the Cloud

How to meet your network requirements at every step of your cloud transformation.
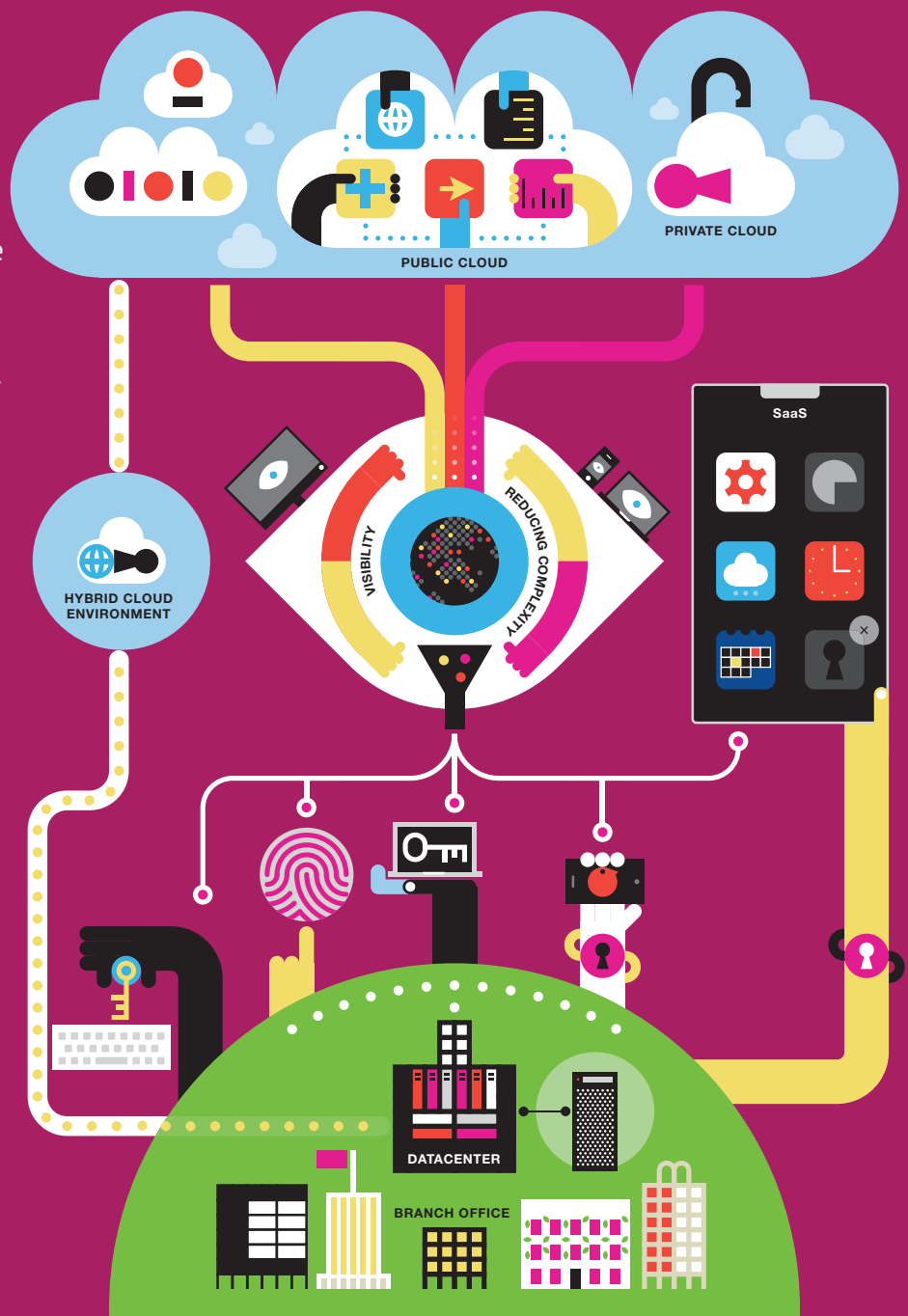
There's no cloud transformation without a WAN transformation

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Every cloud transformation project is different. Some organizations start small by providing access to a few SaaS apps, while others migrate their existing apps as well. Many cloud strategies take a hybrid approach, assembling a mix of public cloud services and on-premises resources in combinations as unique as the businesses they support. Modern retailers even extend app and Internet access to their customers for more engaging and flexible shopping experiences. But there's one thing each of these cloud journeys has in common: a goal to deliver a strategic impact for the business.

And this is within reach — **but only if your network can keep up with your cloud transformation.**

Even if your current network has performed well to date, it was designed for the demands of traditional infrastructure. Changing where apps, desktops, and data are stored and where and how they're accessed will fundamentally reshape the volume and paths of traffic through your WAN. That would pose a problem for most legacy networks, but by making WAN transformation part of your cloud project, you can deliver reliable performance and effective security at a reasonable cost wherever people work.

In this eBook, we'll explore the changing demands on your network at every stage of the cloud journey and how they can be addressed using Citrix SD-WAN.

PUBLIC CLOUD

PRIVATE CLOUD

SaaS

HYBRID CLOUD ENVIRONMENT

VISIBILITY

REDUCING COMPLEXITY

DATACENTER

BRANCH OFFICE

3 Why the cloud poses problems for your existing WAN

It's simple enough to understand why cloud transformation can't succeed without network transformation. With a traditional network architecture, you're probably using your WAN to backhaul traffic from remote and branch locations through your data center because that's where your Internet connectivity and firewall are. This poses several problems:

- It's expensive and inefficient to make traffic take a detour through your central data center rather than going straight from each work location to the cloud.

- The data center detour also adds latency, slowing business apps and data. This is especially damaging since digital workspace performance is the cornerstone of productivity in the modern workplace.

The global push to upgrading networks for the cloud
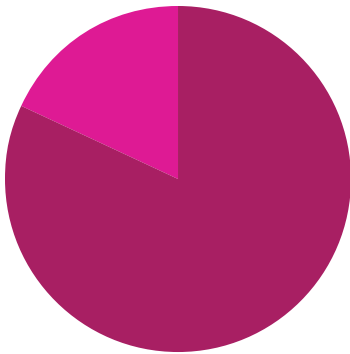
82% Feel hindered by network complexity

Percentage of IT leaders that believe that their organization's ability to migrate apps to the cloud is hindered by the increased complexity of their network infrastructure.
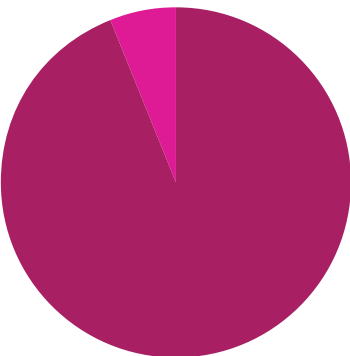
94% Already moving forward

Percentage of organizations already reassessing, modifying, or overhauling their network to better facilitate app delivery across their hybrid cloud environments.[1]

[1]IDC Multi-Cloud Application Delivery Survey, June 2016.

4 Supporting your journey to the cloud—whatever form it takes

While industry hype may suggest that the journey to the cloud should be completed as quickly and completely as possible, we all know that the real world doesn't look that way. You need the flexibility to choose the right course and pace for the needs of your organization. And whatever stage you're in, you need your network to support your current needs while preparing you for the future stages still to come.

4 ways Citrix SD-WAN can help you prepare

Citrix SD-WAN provides the flexibility you need to ensure reliable performance, maintain security, and control costs at every stage of your cloud journey.
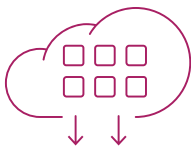
| Supporting SaaS apps and Internet use | Migrating apps to the cloud | Creating a hybrid, multicloud environment | Making the Internet available to customers |

5 Supporting SaaS apps and Internet use

If your cloud strategy currently includes providing access to the Internet along with SaaS apps, Citrix SD-WAN can help you maintain security while ensuring a high-quality experience for users in any location.

Bringing new flexibility and control to the modern enterprise network, Citrix SD-WAN lets you connect your branches directly. As a result, instead of backhauling remote and branch site traffic via the central data center, you can maintain cost-effective connections directly to the Internet and SaaS applications from every location in your organization.

Citrix SD-WAN automatically recognizes Internet sites and SaaS applications and lets you define policies for how individual applications or families of applications are handled. You can choose which application traffic should immediately exit the branch, which should be sent to the data center, which should be blocked, and which should be logged.

And by making your network application-aware, Citrix SD-WAN enables a high level of security for Internet use and cloud-based apps. Data moving across the WAN can be segregated by application or source, including SaaS and web apps, and then protected using contextual security policies designed around the specific requirements and risk profile of each app, as well as the real-time context of each user. The Citrix SD-WAN firewall can work with the secure gateway of your choice in the cloud and automatically block undesirable traffic by policy.

6 Migrating apps to the cloud

As you begin moving business apps from your data center to the cloud, Citrix SD-WAN ensures like-local performance for every app. Cloud application traffic can be uploaded directly from branch and remote locations to the cloud without being routed through the data center, reducing latency. If a problem arises on one link, the network fails over seamlessly to backup links for always-on reliability and uninterrupted productivity.

Using a Citrix SD-WAN cloud instance, a reliable and secure SD-WAN tunnel can be built to any cloud where you are running applications. Multiple connections to the cloud, including broadband, wireless, and private connections such as Microsoft Azure ExpressRoute or AWS Direct Connect, are aggregated to create a logical connection that is reliable even in the case of a network failure and offers abundant bandwidth.

Intelligent path selection ensures a high-quality user experience for applications by detecting the apps using the WAN and actively managing the traffic for those applications across the logical connection. The solution optimizes the performance of applications such as Unified Communications while controlling costs by reducing the amount of data that crosses the WAN and allowing the use of high-bandwidth broadband connections as enterprise-class WAN connections.

As with SaaS and web apps, Citrix SD-WAN enables app-specific security policies to be applied to provide the right level of protection for each app without overly restricting the user experience.

For IT, simplified WAN management combined with deep visibility into app and network performance makes for a smoother, more successful move to the cloud.
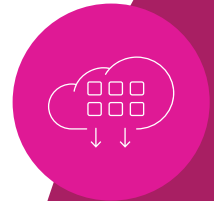
7 Creating a hybrid, multicloud environment

According to IDC, 72.3 percent of cloud users have a mix of on-premises and off-premises clouds. If you're pursuing this type of hybrid strategy, Citrix SD-WAN makes it simpler to support multiple cloud topologies.

Citrix has partnered with Equinix™ to allow customers to use Citrix SD-WAN with Equinix Performance Hub to connect to the Equinix Cloud Exchange, where they can take advantage of its hybrid interconnection model for providing high-speed, low-latency connectivity between multiple cloud providers and enterprise networks.

The combination of Citrix SD-WAN and Equinix enables companies to support a variety of application delivery strategies and select technologies based on what works best for their business, now and in the future.

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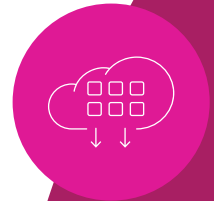
8 Extending the Internet to customers

Internet access is an integral and expected part of today's enterprises. As an example, consumers are increasingly blending online and in-store retail experiences to enhance the way they shop for, buy, and receive products. So in response, many retailers are offering guest Wi-Fi access for customer-facing apps and the open Internet over their own in-store networks. Similarly, Internet access for both business and personal use is available in healthcare clinics, branch offices, hospitality locations and outdoor venues.

Citrix SD-WAN empowers these businesses to meet the security and bandwidth requirements of both customers and employees wherever and however they connect.

Enterprises offering guest Wi-Fi access or employee Internet access must meet two requirements:

- Ensuring a great experience for customer-facing apps and Internet browsing—when it can be impossible to predict exactly how many customers will be using them at a given time.

- Making sure that staff can work productively regardless of customer bandwidth consumption or employee personal Internet use —including for critical business applications and communications systems.

Citrix SD-WAN is designed to allow direct Internet breakout from your branches and retail locations, thus simplifying your network while providing a better user experience and reserving WAN bandwidth for business applications.

- Securely connect all locations to the cloud using aggregated links to provide more bandwidth at a lower cost.

- Apply app-specific, contextual security policies to maintain the right level of protection for each type of app, traffic, and user.

- Prioritize critical business and customer-facing apps for the best possible performance to ensure that personal Internet use and web browsing don't compromise productivity and the customer experience.

- Create a better experience for all users through selection of the best path, local media caching, and deep visibility into experience quality with an easy-to-use platform for monitoring, troubleshooting, and data-driven policy tuning.
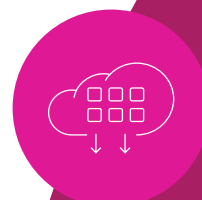
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Maintaining reliable, cost-effective cloud connectivity

Ryman Healthcare is a retirement living and rest home care organization with 31 locations throughout New Zealand and Australia. The company's move to paperless operations has placed new demands on its network, and Citrix SD-WAN helps it meet the challenge.

Ryman uses Citrix SD-WAN to connect its many locations with Microsoft Azure Cloud to provide a collaborative cloud environment for its staff. With 24/7 reliance on telecommunications, the company relies on Citrix SD-WAN to ensure high resiliency. Multiple links, including multiprotocol label switching (MPLS), local Internet, and 4G, are bonded into a highly scalable, self-healing network. This provides the flexibility to supplement MPLS and Azure ExpressRoute with lower-cost local Internet service as needed to ensure sufficient bandwidth while controlling costs.

> "We can prioritize the high-grade traffic over the highest-grade circuit and put lower-grade traffic such as print on a lower-grade circuit. So we don't have to pay for high-speed bandwidth we don't need and in some places may not be able to get."

Roger Sillars, IT manager | Ryman Healthcare

10 Preparing your network pays off

Wherever you are in your journey to the cloud, and wherever you're going next, NetScaler SD-WAN helps you ensure the best results for users, IT, and the business. It delivers four key benefits needed to help you transition to a cloud-ready enterprise:

Reliability

A more reliable WAN ensures that branch and remote access to apps is never interrupted by an outage on a single network link, giving you greater confidence for moving apps to the cloud.

Efficiency

NetScaler SD-WAN improves efficiency and scalability by simplifying the network, lowering the cost of network connections, providing deep visibility into application performance, and centralizing policy definitions.

Quality of experience

By detecting the applications using the WAN and actively managing their traffic across the network, NetScaler SD-WAN enables high-quality branch communications and a high-quality user experience for all apps.

Security

To support your move to the cloud, NetScaler SD-WAN provides multi-layered security that allows you to segregate data based on application or source, enforce secure access control with contextual security policies, and block or direct individual applications according to your policies.

www **To learn more about Citrix SD-WAN and its benefits, please visit http://www.citrix.com/sdwan**

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