



# Optimizing your network for the cloud-first world

Why performing cloud and network modernization together assures seamless, reliable user app delivery.



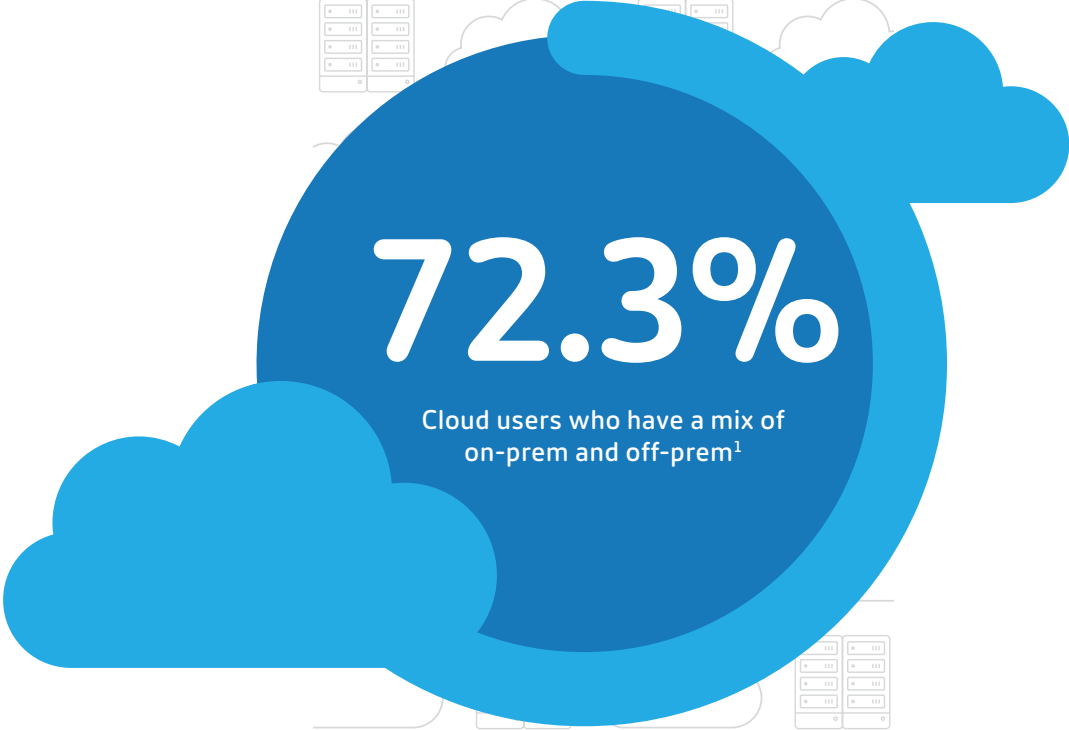
# Getting the cloud and your network working — together

No matter your strategy — hybrid, multi-cloud, all cloud. Success always depends on one thing — the ability of your network to keep pace with your cloud transformation.

Even if your network is performing well today, changing where and how apps, desktops, and data are stored and delivered will fundamentally reshape the volume and paths of traffic through your WAN. But when you make WAN transformation a part of your cloud project, you can reinvent what's possible — delivering operational agility and enhanced security — all at a reasonable cost.

## According to IDC, multi-cloud strategies are growing

They say the trend is largely driven by the need to accommodate existing and new apps, gain organizational agility, and optimize app environments.



72.3%

Cloud users who have a mix of on-prem and off-prem<sup>1</sup>

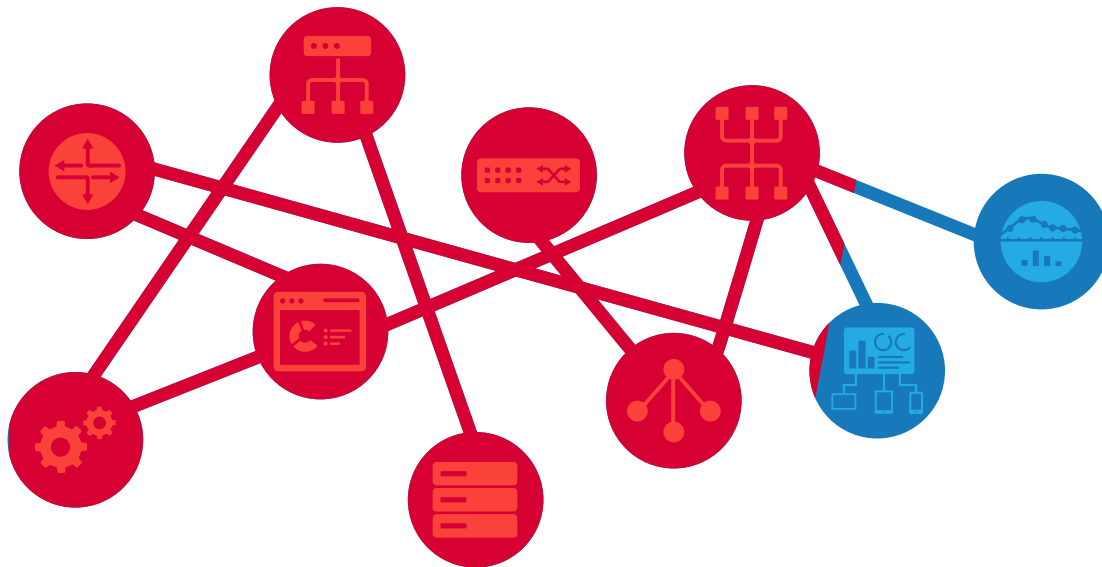
# Why networks become obstructions on the cloud journey today

In traditional network architecture, organizations often use WAN to backhaul traffic from remote and branch locations through the data center because that's where Internet connectivity and the firewall are. But that's problematic for two reasons:

1. **Cost** - It's expensive and inefficient to make traffic backhaul to the data center through multiple hops rather than going straight from each branch location out to the Internet or SaaS.
2. **Performance** - 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 network must be transformed to meet the demands of the cloud

IT leaders believe that their organization's ability to migrate apps to the cloud is hampered by the increased complexity of their network infrastructure.



# 82%

feel hindered by network complexity

# 40%

say their network only satisfies some of their needs<sup>1</sup>

# Solving with a unified app-delivery strategy

Today's organizations are increasingly motivated to reassess their current network infrastructure. According to IDC, some 79 percent of worldwide enterprises plan to address disruption through a unified application delivery strategy — one that extends from on-premises data center(s) out to the public cloud and across the WAN to your branch offices and remote sites. And a trusted SD-WAN provider is key to a solution that works in concert with your cloud initiatives.

## 4 ways SD-WAN readies your network for every phase of the cloud journey:

1. Supporting SaaS apps and Internet use
2. Migrating apps to the cloud
3. Creating a hybrid, multi-cloud environment
4. Making the Internet available to customers

## What organizations perceive are the top benefits of a unified app-delivery strategy:

1. Increased IT efficiency
2. Risk reduction to the organization from any potential security breaches
3. Freeing IT staff to focus on more strategic initiatives

- **Security and compliance**

- **Cost**

What organizations feel are the top inhibitors a unified strategy would address when migrating apps to the cloud<sup>1</sup>

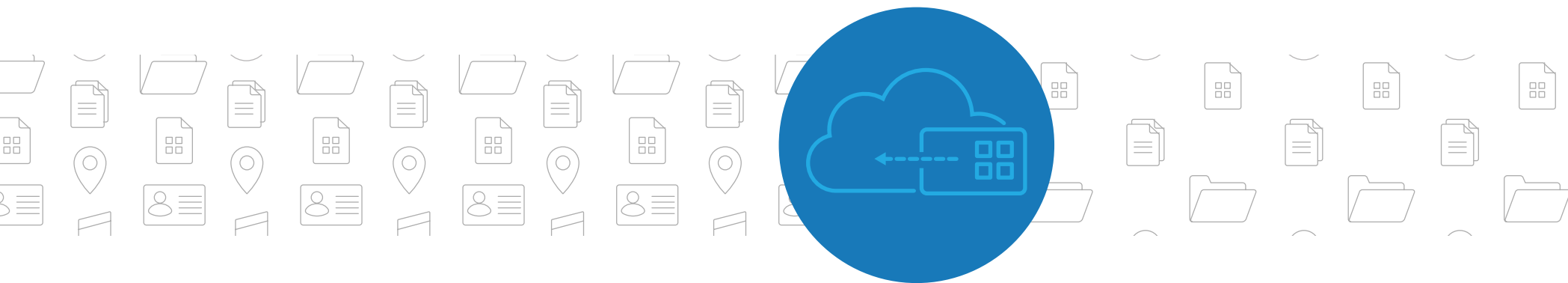
# SD-WAN, SaaS apps and Internet

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

It brings new flexibility and control to the modern enterprise network, making it easy to securely connect your branches directly. As a result, you no longer have to backhaul remote and branch site traffic, potentially over long distances, to the central data center. Instead, you can maintain cost-effective, secure connections directly to the Internet and SaaS applications from every location in your organization.

SD-WAN automatically recognizes Internet sites and individual SaaS applications with deep packet inspection, thus allowing you to define policies for how individual applications or families of applications are handled. You can choose what application traffic should immediately break out of the branch to the Internet or SaaS and which should be sent back to the data center. You even have a say in which applications are blocked or logged for all users or a subset of users.

And by making your network application-aware, 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. Then it can be protected using contextual security policies designed around the specific requirements and risk profile of each app and real-time context of each user. The integrated SD-WAN firewall can work with the secure gateway of your choice in the cloud and automatically block undesirable traffic by policy. You have the option to block or redirect SaaS traffic from the branch to the data center or SWG for every user or a subset of users. What's more, PSec or GRE technologies can be used to build a secure tunnel to a Secure Web Gateway for firewall, URL filtering, and usage tracking data.



# SD-WAN and migrating apps to the cloud

## Solving for latency

As you begin moving business apps from your data center to the cloud, SD-WAN ensures LAN-like 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 rapidly and seamlessly to backup links for always-on reliability and uninterrupted productivity.

Using a 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.

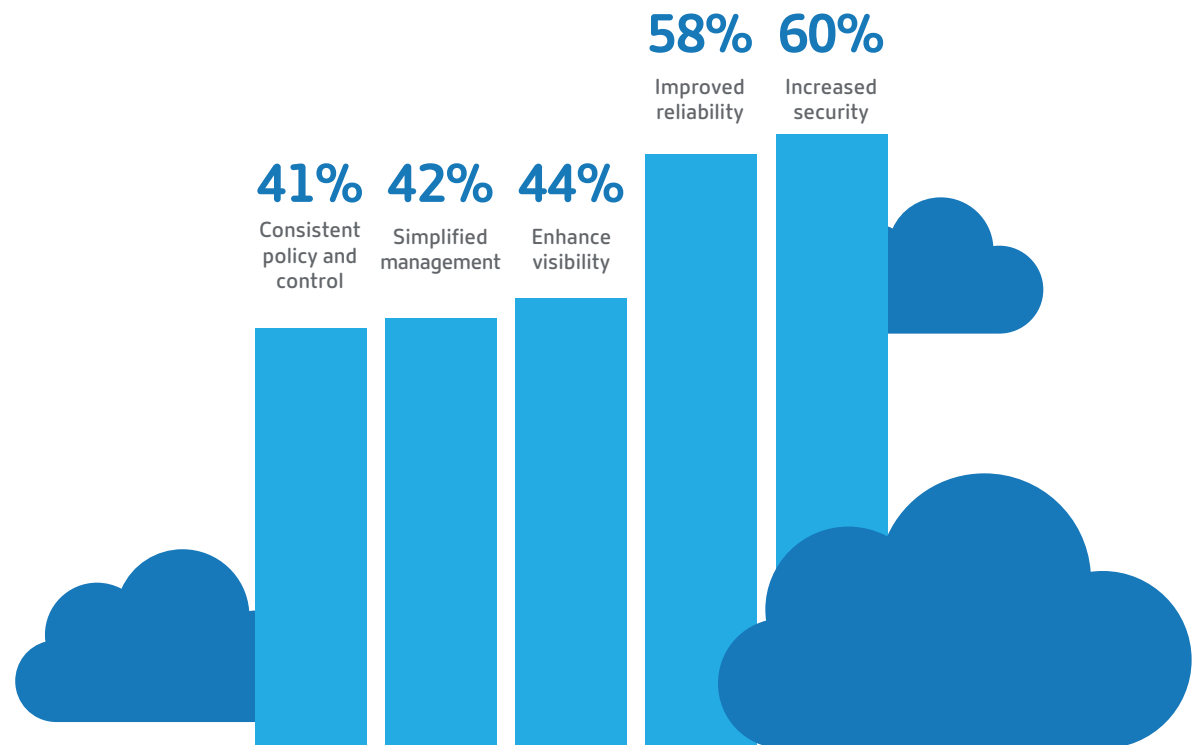
## Boosting user productivity

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.

## Simplifying security

As with SaaS and web apps, 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.

What organizations say matters most for cloud-based app delivery<sup>1</sup>

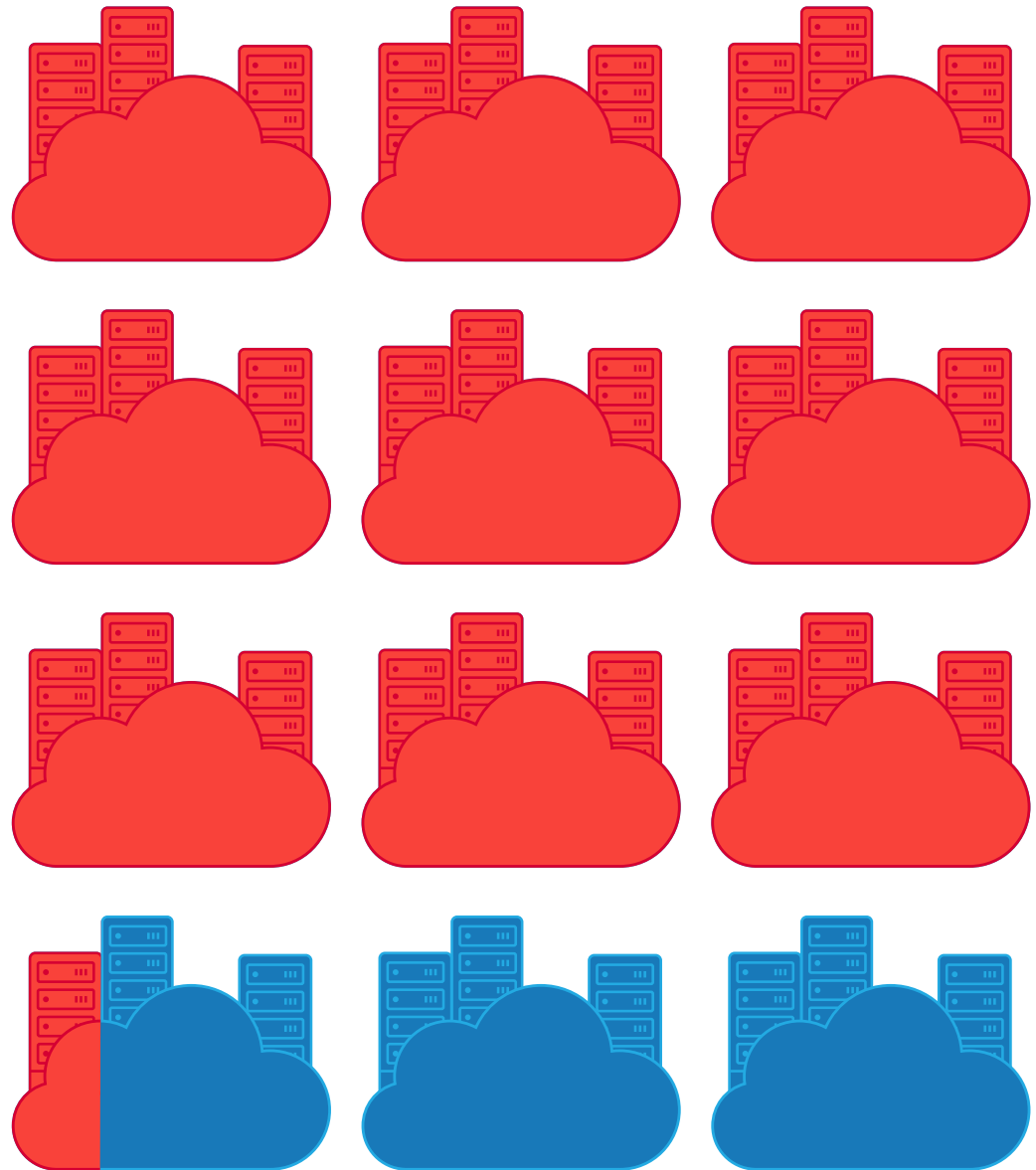


# Creating a hybrid, multi-cloud environment through strategic partnerships

If you're pursuing this type of hybrid strategy, SD-WAN makes it simpler to support multiple cloud topologies. And so does having strategic partnerships with an interconnection data center company. That will allow you to use SD-WAN to take advantage of its hybrid interconnection model for providing high-speed, low-latency connectivity between multiple cloud providers and enterprise networks.

This combination enables companies like yours to support a variety of application delivery strategies and select technologies based on what works best for you now and in the future.

Only **24%** of organizations believe their networks satisfy their hybrid-cloud app delivery<sup>1</sup>



# 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.

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.

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.







## How prepping your network pays off

### Reliability

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.

### Enhanced user experience

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

### Greater efficiency

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.

### Security

To support your move to the cloud, 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.

To learn more visit [citrix.com/networking](https://citrix.com/networking)

Source:

1. IDC InfoBrief, sponsored by Citrix, "How do Organizations Plan to Assure Application Delivery in a Multi-Cloud World?" October 2017

