



Citrix and Cisco:  
**DISCOVER**  
THE KEYS TO A  
MODERN DIGITAL  
PLATFORM



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# EXECUTIVE SUMMARY:



**WE LIVE IN A WORLD WHERE WORK IS NO LONGER A PLACE WHERE YOU GO.** It's what you do — a dynamic activity that people expect to accomplish anywhere, anytime, on any device. Supporting today's workforce requires a digital platform that empowers productivity and ensures security and management at scale everywhere: on site, on the road, or in the cloud.

According to IDC, by 2020, mobile workers will account for 72 percent of the U.S. workforce. And they won't be just checking email. These workers want to be productive 24/7. That means access to data, documents, and corporate apps anywhere, anytime, on any device. Enterprises, however, are struggling to allow more workers to use additional devices from a multitude of locations.

Meanwhile, the increase in devices and device types adds a higher level of business risk. To meet the increase in business needs while reducing the level of business risks, businesses have expanded or migrated their workloads into the public cloud. But public cloud presents its own challenges, as most public cloud providers cannot meet the layers of security required to protect confidential information and high business impact data or the data sovereignty or performance requirements of many businesses.

Connectivity to business data has become difficult to sustain and costly to scale. The job of providing the means to access data 24/7 in this complex environment sits squarely on IT's shoulders. Many are trying to solve application delivery, accessibility, and scalability through use of multiple public and private clouds. Managing multiple clouds and the growing population of devices is a tall order. The Citrix-Cisco relationship makes the IT manager's job easier, setting the stage for success with the hybrid and multicloud environments that are vital to innovation and agile operations.

Citrix and Cisco solutions work together to help you transform the way you work, realize the multicloud promise, and innovate with confidence. Modern, flexible, and automated networking, combined with next-generation security, allows IT leaders to focus on innovative, business critical strategy. In this eBook, you'll learn how to accelerate realization of a modern digital platform for your business and gain access to resources and information that will help you on your journey.

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## SECTION 1

# SHARED CUSTOMERS, COMMON VISION

**WHEN SHIPPING GIANT YRC FREIGHT DECIDED MODERNIZE ITS ENTIRE IT INFRASTRUCTURE**, the Kansas-based company turned to its long trusted partners Citrix and Cisco for help. YRC stands among the many customers that benefit from the Cisco-Citrix relationship cooperative efforts to automate and secure enterprise infrastructure spanning the data center, the edge, and the cloud. They share a common vision for network simplification and rapid network service provisioning.

In 2011, the two companies forged a relationship to provide integrated, scalable, and secure solutions designed to allow businesses to innovate with confidence. The relationship aimed to simplify and accelerate large-scale desktop virtualization deployments and help accelerate deployment of cloud services.

Cooperative efforts on data center solutions make it easier for organizations to deploy the infrastructure required to deliver IT as a service across multiple networks and geographies. Their work together quickly expanded to integrate Citrix's application delivery controllers (ADCs) with Cisco's data center and cloud networking solutions. Both companies support an application-centric approach that helps to address critical customer challenges in both traditional and next-generation data centers and the cloud.

Integration of Citrix ADCs with Cisco's Application Centric Infrastructure (Cisco ACI™) network fabric creates a single solution that provides total control and unprecedented application agility. Cisco ACI is Cisco's industry-leading software-driven solution for intent-based networking that facilitates application agility and automation across data center, cloud, and edge environments. Organizations are able to reduce deployment time to physical and virtual application network services on a data center fabric and better align network and services specific to application deployments using a centralized policy management and control point for the entire infrastructure.

More recently, the companies have collaborated on the Cisco HyperFlex™ multicloud platform. HyperFlex enables multicloud IT and powers any application on premises or in the cloud with the simplicity of hyperconverged infrastructure. Citrix desktop virtualization solutions on Cisco HyperFlex provide workers with a digital workplace that can be accessed from anywhere—with the performance expected of a physical desktop.

**“We each have many of the same customers and they are mostly looking for help with digital transformation and adopting multicloud environments. We understand, together, the common pain points customers have and their needs for automation, securing infrastructure from the edge to the cloud. With our joint network and analytics solutions, we can help customers gain full automation and help free them from operational issues, such as application delivery.”**

— Ravi Balakrishnan  
Senior Marketing Manager for  
Networking & Analytics, Cisco

## SECTION 2

# ENABLING SECURE WORK, ANYWHERE

**CLOUD SERVICES, MOBILE TECHNOLOGY, AND CHANGING WORK PATTERNS** are dramatically reshaping workforce activity. Many organizations are counting on IT to ensure that people can work from anywhere, on any device, without having to worry about security or compliance.

A 2018 [Forrester report](#) found that 80 percent of workers believe they need instant access to information from a wide variety of sources in order to succeed in their jobs. Many of those workers are located in branch and remote offices, adding to the challenge of connecting workers and managing their digital activities.

Furthermore, 77 percent of those surveyed by Forrester prefer technologies that give them the freedom to choose how and where to get their work done. Gallup's [State of the American Workplace](#) report indicates that 37 percent of workers would change jobs for one that offered them the ability to work where they want at least part of the time.

Clearly, IT and network organizations face many challenges in meeting the diverse needs of the distributed organization. Meeting the demands of workers and achieving business objectives requires both a contextual-aware, people-centric experience and simple and efficient IT management to ensure access, delivery, and security of apps and data across any device, platform, or cloud.

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—2018 Forrester report



Delivering an infrastructure that can improve productivity and empower the entire workforce requires an adaptive, flexible approach that simplifies management of applications, desktops, and mobile devices. Every workload is unique, and some users just need an application while others need the most powerful desktops.

Enterprises must be able to optimize network traffic for mission-critical workloads, whether the worker is located on a headquarters campus, at a remote office, or is accessing data center and cloud services from a hotel room, a coffee shop, or home. At the same time, they want to empower workers with greater self-service to reduce the need for IT intervention.

Security and compliance mandates require an ability to precisely control access to applications based on user role, user location, and user device posture, among other factors. Organizations need affordable app and desktop virtualization environments, with centralized and automated desktop management, that can be efficiently deployed, maintained, and leveraged by existing IT staff.

Citrix desktop virtualization solutions on Cisco HyperFlex give employees a digital workplace that can be accessed from anywhere—with the performance expected of a physical desktop. Cisco ACI integrates Citrix ADC appliances to reduce deployment complexity and better align applications with dynamic business requirements.



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## SECTION 3

# MANAGING THE MULTICLOUD NETWORK

**ACCORDING TO 451 RESEARCH**, 90 percent of organizations are using some type of cloud service, and it is estimated that 69 percent have moved to hybrid and multicloud environments. Those organizations are taking advantage of on-demand access to more capabilities than they can provide within traditional data centers, but also encountering greater complexity in provisioning and managing the growing choices available to them.

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—451 Research



## Citrix and Cisco: Redefining Networking

**CITRIX AND CISCO ARE WORKING TOGETHER TO REDEFINE NETWORKING BY ENABLING ELASTIC, AUTOMATED NETWORK INFRASTRUCTURES.**

Cisco ACI provides a policy-based automated network fabric, covering the translation and activation phases of the intent-based network framework. Cisco ACI uses a common policy-based operating model across network, computing, storage, and security elements, overcoming isolated infrastructure and drastically reducing cost and complexity. Citrix ADC integration enables best-in-class use of Citrix ADC services tightly coupled with the network.

Hyperconverged infrastructure simplifies the complexity of multicloud management by integrating networking, high-performance computing, and a purpose-built, high-performance, low-latency distributed file system. Cisco HyperFlex is a flexible hyperconverged platform that adapts to support an organization's application portfolio, from enterprise applications with industry-leading performance to multicloud-native, containerized applications that deploy in a private cloud and across public cloud services.

[Cisco HyperFlex for Citrix Cloud Services](#) provides a hybrid cloud application and desktop virtualization solution on top of the HyperFlex infrastructure with scalability, simplified infrastructure, and virtual desktop infrastructure (VDI) management in a fully integrated and fully supported solution. IT can keep workloads and data safely on premises, while consuming an enterprise VDI platform as a service (PaaS), with the Citrix Virtual Apps and Desktops Service from Citrix Cloud. Automation built into Cisco HyperFlex management delivers hybrid-cloud flexibility, without having to install, maintain, or upgrade the infrastructure.

Cisco UCS® Manager supports the entire Cisco UCS server and Cisco HyperFlex Series hyperconverged infrastructure portfolios. Organizations can use UCS Manager to automate routine tasks to increase agility, simplify daily operations, and to reduce management and administration expenses. It enables server, fabric, and storage provisioning as well as, device discovery, inventory, configuration, diagnostics, monitoring, fault detection, auditing, and statistics collection.

According to [IDC](#), most cloud adopters utilize multiple public cloud services. Organizations are using cloud to enable innovation, improve business agility, and speed time to market. They may rely on different providers to handle different needs, such as infrastructure, development, business processes, security, and cloud management. These services are seen as essential to speeding digital transformation.

Many organizations are also operating private clouds, either from their own or co-located data centers or from those of a service provider. Businesses can increase agility by integrating cloud with their existing IT environment, creating a hybrid cloud infrastructure that most likely also incorporates multicloud services.

Distributing workloads across multiple clouds is a challenge in terms of both security and manageability. Users may be accessing data, applications, and services from multiple parts of the multicloud environment, sometimes using different devices appropriate for different locations, such as in the office, at home, or on the road. Organizations must be able to ensure security across this environment while also enforcing policies and ensuring availability in addition to providing routine maintenance.

This new reality overwhelms the capabilities of traditional data center and wide area networking (WAN) infrastructure, tools, and staffing expertise. Cloud providers generally don't provide customers with the monitoring and troubleshooting capabilities that enterprises are accustomed to when managing network outages and monitoring network usage. Organizations may also be managing hundreds of discrete on-premises or hosted servers, thousands of virtual machines, and any number of hosted virtual desktops.

IT has to juggle many applications and multiple platforms, and ensure security, compliance, and user satisfaction, with budgets that are often stagnant, if not reduced. When the IT environment spans public clouds, private clouds, and on-premises infrastructure, the management challenge can quickly escalate to a crisis when trying to troubleshoot where a problem lies so it can be quickly mitigated.

Confronting these challenges requires working smarter and ensuring the right solutions are in place to control cloud applications and manage the network everywhere. Cisco and Citrix share a multicloud vision and collaborate on developing solutions to ensure that organizations can better provide reliable user access to applications at scale in hybrid and multicloud environments.



## SECTION 4

## INNOVATE WITH CONFIDENCE

**AS BUSINESSES TRANSFORM DIGITALLY**, it is clear that innovation can't be restricted to the walls of the data center, which is costly to maintain and upgrade. Mobility, virtualization, and cloud are busting out of the traditional silos enforced by legacy data center infrastructure. According to *CIO*, 88 percent of CIOs surveyed in its [Annual State of the CIO report](#) say their role is becoming more digital- and innovation-focused.

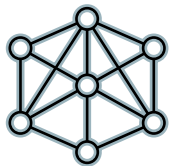
"IT's primary function will be to enable the business to be more agile, to enter new markets more quickly, to deliver services closer to the customer, and to position specific workloads based on business, regulatory and geopolitical impacts," writes [Gartner's Dave Cappuccio](#).

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—Annual State of the CIO Report

## Citrix and Cisco: Application Aware Network Provisioning



**CISCO'S APPLICATION POLICY INFRASTRUCTURE CONTROLLER (APIC) PROVIDES A CENTRALIZED APPLICATION-LEVEL POLICY ENGINE FOR PHYSICAL, VIRTUAL, AND CLOUD INFRASTRUCTURES.** The controller provides policy enforcement spanning the entire application lifecycle from development to production. Citrix ADC leverages the Cisco APIC to programmatically automate network provisioning and control based on application requirements and policies for both data-center and enterprise environments.

Organizations also need to ensure that growing reliance on hybrid and multicloud doesn't result in costs spiraling out of control. In addition to deployment and monitoring of applications across multicloud environments, IT must be able to identify performance trends and application dependencies early on to control cloud spend. Cisco's Cloud Consume solutions are designed to optimize cloud applications by aligning end-user performance and business metrics and provide visibility into resource usage and cloud costs before they impact the business.

Cisco's solutions help customers achieve end-to-end intent-based networking that will understand business intent and continuously align to it, using context and analytics to constantly learn and adapt to changing needs and conditions. APIC enables resources to be dynamically provisioned and configured according to application requirements while policy-based service insertion automates the routing of network traffic to the correct services based on application policies. As a result, core services such as firewalls and Layer 4 through 7 switches can be consumed by applications and made ready to use in a single automated step.



IT assets are located in multiple locations—inside the data center, in the cloud, and at the edge of the network in branch locations. The enterprise network is evolving to embrace the Internet of Things, where multitudes of connected devices that generate volumes of data can be analyzed in real time at the edge, rather than first transmitting it back to a data center or the cloud.

The expanded enterprise network presents a larger threat surface for potential cyberattacks. Upgrading IT and data security was the top priority for those surveyed in the CIO report, ranking just ahead of achieving specific business-revenue goals and leading digital initiatives.

People want access to mission-critical business data from a variety of locations and devices so they can do their job wherever and whenever they can be most productive. IT is expected to provide secure, user-based access to protected business data from any location, protecting company information on managed and unmanaged devices. That requires visibility and insight into risks across hybrid and multicloud environments.

“The unpredictable aspect of security is always the user,” says Citrix Solution Architect Allen Furmanski. “It’s not just a matter of if something may be compromised but when and if we can mitigate that. With Citrix and Cisco, we have the right level of visibility to do so. We can analyze user behavior based on algorithms.”

With native Cisco ACI security and Citrix ADC security services, organizations can defend their businesses using a multilayered, zero-trust, whitelist-based approach to security. Multiple layers of Cisco ACI security increases network defenses, and network visibility makes it possible for network and security teams to detect threats faster. Users can be protected with a solution that combines policy-based management with SSL, VPN, and application firewalls. Applications can be defended by provisioning Citrix ADC security services with the Cisco APIC.

Many organizations are racing to execute digital strategies, empowering business units, even at the departmental level, to initiate projects to grow the business and spur innovation. That could leave compliance and audit teams in the dark. Integrated solutions from Cisco and Citrix enable organizations to balance the flexibility, choice, and self-service needs of desktop and mobile users with the security, compliance, and scalability required by IT and the business.

IT teams can utilize those solutions to maintain compliance through policy-based control, micro-segmentation, and multitenancy services that simplify management and administration. Continuous policy monitoring makes it possible to anticipate, detect, and respond to compliance risks. Cisco and Citrix solutions work to enforce rules that allow secure, user-based access to protected business data from any location.

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—Allen Furmanski  
Citrix Solution Architect

## CONCLUSION

# SECURE ACCESS AND WORLD-CLASS SUPPORT

**MANY BUSINESSES HAVE TRIED TO SOLVE APPLICATION DELIVERY, ACCESSIBILITY, AND SCALABILITY** through the use of public and private clouds. However, stitching together point solutions has proven cost prohibitive, difficult to scale, and not secure enough to meet modern compliance standards. The challenge is to provide mobile and remote users with the ability to be productive from wherever they need to work, and to do so securely, while having the ability to flexibly and cost-effectively scale.

Together, Cisco and Citrix deliver a modern digital platform for every business to transform the way they work. With analytics optimized to support demanding workloads and improve agility, businesses can realize the multicloud promise with secure services and simplified management.

▶ To learn more, go to [www.accelerateandsimplify.com](http://www.accelerateandsimplify.com)



As proven leaders in networking, security, and cloud, Cisco and Citrix have forged a strategic partnership to ensure that their solutions will work together for your business. Through secure access and world-class support, we provide predictable outcomes, so you can focus on what really matters and innovate with confidence.



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