

Application Delivery and Security

Provide a flawless application experience on any infrastructure



Application Delivery and Security

Application Delivery and Security solutions are designed to ensure that business-critical applications perform well and remain secure. Centred around a comprehensive Application Delivery controller and advanced WAN, these solutions help companies succeed by ensuring an optimal user experience on any infrastructure.



Your customers and workforce always expect a flawless application experience. But as organizations transition to a mix of web, SaaS, legacy virtual and modern cloud-native apps, it is getting harder to meet those expectations with traditional service providers. With Application Delivery and Security solutions, the experience stays the same no matter where your users are located or which types of apps they are using—and IT maintains full visibility.

Application Delivery solutions not only enable a great user experience, but also give you holistic visibility into both that experience and your environment. Robust load balancing and flexible WAN edge features allow teams to optimize app performance regardless of app type and underlying infrastructure. The result is a consistently fast, flawless user experience.

How do Application Security solutions help you deliver a superior experience?

Application Security solutions simplify the process of protecting an increasingly susceptible ecosystem of apps and API. An integrated web application firewall (WAF),

volumetric distributed denial of service (DDoS) protection and bot management come together in a single pane of glass to automate and secure app connectivity.

Application Delivery and Security solutions from Citrix are built on a foundation of industry-leading application delivery and WAN edge features. In addition to providing operational consistency and deep visibility into thousands of apps, these technologies optimize application delivery based on network conditions and enable you to secure all your applications and your entire network.

Citrix ADC enables IT to simplify the process of optimizing performance for SaaS, cloud-hosted and on-premises applications. From a single pane of glass, organizations gain operational consistency and holistic visibility across multi-cloud and maintain a consistent application security posture.

Citrix SD-WAN uses a built-in control engine to identify more than 4,500 apps and automatically adapt network conditions to ensure all application traffic is delivered seamlessly. Advanced WAN edge features let IT put Zero Trust security policies in place, without inhibiting network performance.

With Application Delivery and Security solutions, the experience stays the same no matter where your users are located or which types of apps they are using, and IT maintains full visibility

Application Delivery and Security solutions are designed to ensure that business-critical applications perform well and remain secure

What can you do with app delivery and security solutions?

Thousands of organizations across industries rely on app delivery and security solutions to stay agile and provide a flawless application experience. The main benefits of this type of solution are as follows:

Improve the application experience

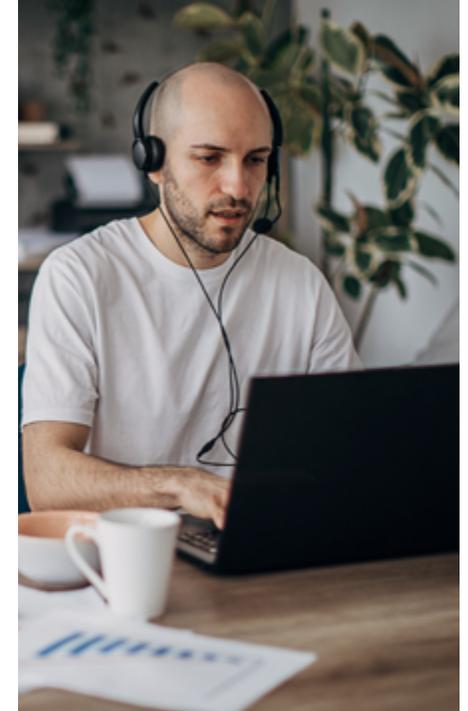
- **Deliver consistent performance**—Keep your apps running at peak performance, even during unplanned and planned disruptions.
- **Ensure consistent connectivity**—Drive workforce productivity with an always-on network that will not let you down.

Maintain a consistent security posture

- **Protect your apps and APIs everywhere**—Implement consistent security policies across all your apps and APIs for comprehensive threat protection.
- **Protect resources at the WAN edge**—Take a security approach that supports zero trust—while ensuring a better cloud and SaaS experience.

Simplify IT application delivery

- **Accelerate your microservices journey**—Move to a cloud-native, microservices-based application strategy at the pace that works best for your business.
- **Streamline multi-cloud Application Delivery**—Simplify Application Delivery with operational consistency across on-premises and cloud.
- **Keep apps up and running no matter what**—Always ensure application availability, even during disruption.





5 Steps to ensuring business continuity for app delivery

Disruptions are often unpredictable and can have a major impact on your business. During unpredictable times, your users and customers need reliable access to applications to maintain productivity, connect with peers, and ensure that business-critical functions can be performed.

These are the [five principles of business continuity](#) and how Application Delivery solutions help you achieve and maintain a better business continuity plan:

- Ensure Workforce Productivity, Application Availability, and an Optimal End-user Experience.
- Scale IT Infrastructure During Unforeseen Demand.
- Respond Faster to Restore the Ability to Service Customers.
- Maintain Visibility and Control.
- Remain Secure and Compliant Always.

[Five principles of business continuity](#)

[App Delivery and Security](#)

[Citrix ADC](#)

[Citrix SD-WAN](#)

Protect your digital workspace with cloud-delivered security

From transitioning to the cloud to managing an increasingly distributed workforce, it is more important than ever to secure users, apps, and data—without compromising the employee experience. With Citrix Secure Internet Access, your company get a full cloud-delivered security stack with global reach. So, you can protect all users, in any location, for every application—without the complexities and expense of datacenter-based security.

With intelligent, cloud-delivered security, Citrix Secure Internet Access enables your users to access applications using direct internet access (DIA) without compromising on performance. Protect every user, including remote and mobile users, against all threats—with the simplicity and scale of a single solution.

Citrix Secure Internet Access and Citrix SD-WAN are key components of a Secure Access Service Edge (SASE) solution with the reliable, high-performance connectivity to support employees everywhere. The main benefits of this type of solution are as follows:

- **Unified Management**—Configure policies for security and SD-WAN, and leverage intelligent bandwidth control with real-time reporting in a single, cloud-managed interface.
- **Secure Remote Workers**—Protect users from all threats, and secure access to both sanctioned and unsanctioned applications.
- **Maintain Compliance**—Cloud architecture that segregates your data based on customers and locations to ensure privacy without compromise.

7 Key Considerations for Microservices-Based Application Delivery

Citrix ADM

Citrix Web App and API Protection

Citrix Secure Internet Access

Citrix SD-WAN: A secure network built for the cloud

The pandemic has accelerated the migration to the cloud resulting in the need for IT to rethink how applications are delivered to protect the employee and customer experience. This shift of applications out of the datacenter to the cloud combined with a more distributed workforce is challenging businesses to find solutions that can securely connect branch and home users to applications in the cloud while protecting against the onslaught of cybersecurity threats.



IT complexity is increasing as hardware-based legacy network and security infrastructure moves to the edge without unified or centralized management. IT must provide a consistent operational approach to delivering conventional on-prem apps along with SaaS and cloud apps.

A hybrid-cloud model, in conjunction with application evolution into microservices, has seen a rise in fragmentation and complexity making management more difficult. The attack surface has expanded beyond the traditional security perimeter increasing risk. What is more, a myriad of point solutions leaves security gaps due to lack of integration and add operational complexity.

At the same time, businesses are increasingly using customer experience as a differentiator. The public face of business is through their customer service experience and web site, so the application experience is a huge determinant of the overall customer experience.

Improving application delivery and performance is vital

ADCs have evolved from simply load balancing and web traffic routing to managing every aspect of application migration and cloud

operations including security, performance, scaling, resource capacity, monitoring, and troubleshooting. Today's ADCs connect the user to the application, providing the best experience possible.

Citrix ADC goes much further. It simplifies the inevitable hybrid multi-cloud straddle. It enables customers to deploy any application (monolithic or microservice-based), where they want (on-premises, public cloud, or hybrid). ADC optimizes not only the user experience but also the operational metrics in delivering it, at dynamic scale, securely from any device.

In traditional WAN architectures, all traffic is backhauled to a datacenter. This can result in additional latency and congestion over the WAN which degrades the application experience. Direct internet access to SaaS and cloud applications is a widely accepted alternative to backhauling. It provides an optimized application experience while leveraging lower-cost network connectivity including broadband and cellular. Local use of the internet introduces a new attack surface, however, which requires firewall protection from internet-bound threats. Citrix SD-WAN increases scale and agility by enabling secure resilient access directly to cloud and SaaS applications.

IT must provide a consistent operational approach to delivering conventional on-prem apps along with SaaS and cloud apps

The Citrix SASE Approach to Secure Access

IT is struggling to maintain security policies across users, networks, and clouds that now reside outside the network perimeter. Coupled with the increasing sophistication of cyberattacks, there is a need to enforce and maintain a consistent security posture across a hybrid workforce without compromising the application experience.

Citrix breaks down networking and security infrastructure silos and accelerates the journey to SASE, a framework that provides a secure access service edge. The Citrix approach to SASE offers integrated SD-WAN and security cloud-delivered service called Secure Internet Access (SIA). This unified approach is built on a global cloud architecture with PoPs across the globe. Citrix combines comprehensive, cloud-delivered security with Zero Trust network access (ZTNA), SD-WAN, analytics, and secure internet access.

Citrix SD-WAN's integrated firewall has global policy control, supports zone-based policies so that you can implement granular micro-segmentation of traffic and enforce uniform

policy consistently. Citrix SD-WAN can also intelligently track the fast-changing open ports from SaaS and IaaS apps as trusted traffic and directly breakout the traffic to the internet, enhancing application performance. It marks all other traffic, such as web browsing, as untrusted and forwards it to the full security stack. Citrix SD-WAN also encrypts all branch egress traffic, even when it is transported over a private MPLS line.



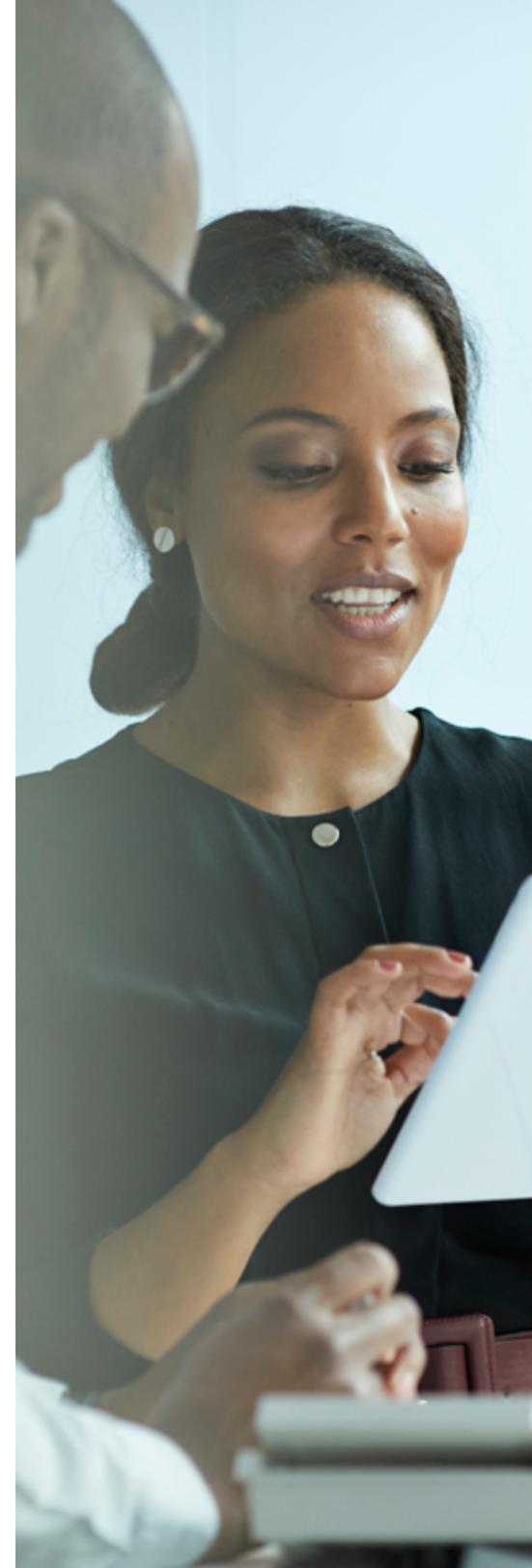
Holistic Visibility Across Clouds

As applications are deployed across multiple clouds, the disparate environments require multiple tools, which leads to fragmented visibility and management. The lack of holistic visibility leaves blind spots on network and application performance, application utilization across deployments, makes it hard to plan capacity and licenses effectively, and makes it challenging to ensure a consistent security posture.

Citrix ADM with Citrix ADC provides a single-pane-of-glass view across all your environments. Citrix ADM highlights the health, usage, and performance of your applications. Further, Citrix ADM's intelligent analytics uses machine learning to understand application behavior characteristics across all your

deployments to automatically spot anomalies to reduce the turnaround time for troubleshooting issues and improving the overall application uptime. Citrix ADM lets you define, enforce, and monitor a common security posture for all your applications across all your environments.

Citrix SD-WAN Orchestrator, a cloud-hosted single-pane-of-glass tool, helps your organization to manage both SD-WAN and security from a central location so your IT department can focus on app experience and performance without compromising on security. It does not matter where your apps reside — in your datacenter or in the cloud — or whether you access them via the local internet path or by backhauling traffic over the WAN. You can now have a world-class app experience and an always-on network while addressing your security needs.





Auto-Scale to Meet Unforeseen Demand

When selecting the right ADC for public cloud deployments, scale and performance are important factors. Right sizing your infrastructure on demand is even more important in the public cloud where over provisioning is costly.

Citrix ADCs integration with AWS Lambda provides mutually coordinated scaling – so that crossing utilization thresholds in either the back-end servers or front-end load balancing will trigger automatic scaling for the whole system. In addition, Citrix’s content compression and...saves bandwidth and AWS server resources.

Rapid Capacity Shifting

With the advent of usage-based or pay-per-use licensing models software consumers are keen to have more control over how much they spend on their IT assets. Investment in one public cloud is not transferrable to another.

Citrix ADC is available with flexible licensing models that offer customers a choice of perpetual or subscription options such as bring-your-own licensing model including the ultimately flexibility: pooled capacity licensing. Pooled capacity licensing aggregates all throughput capacity into a single pool and enables you to shift ADC capacity where you need it immediately.

Citrix SD-WAN

Citrix ADC for Public Cloud App Delivery

Businesses are more reliant on applications than ever and are increasingly delivering them from public cloud infrastructure. While many organizations have moved completely to the public cloud, many are still straddled between public cloud apps and on premises data. This hybrid or distributed model, in conjunction with application evolution into microservices, has seen a rise in fragmentation and complexity which makes apps more difficult to manage.



At this same time, businesses are increasingly using customer experience as a differentiator. The public face of business is their applications or web sites. App experience is frequently synonymous with customer experience which means that agile, secure application delivery is vital for business.

Application Delivery is about connecting the user to the application, providing the best experience possible. [Application Delivery controllers \(ADC\)](#) are a key fixture in the enterprise to help applications adapt to the different networks and protocols over which they must travel. They ensure that applications are always available, perform optimally, and protection against security risks to the user and apps.

Citrix ADC enables you to deploy any application (monolithic or microservicesbased), where you want (on-premises, public cloud, or hybrid), and be confident that your users will have the best experience possible on any device. Some of the world's largest web sites, as well as many thousands of enterprises, rely on Citrix ADC to deliver their applications every day to both users and customers.

But the question is, why is Citrix ADC the best choice for public cloud deployments?

Achieve Operational Consistency Across Clouds.

The first driver for Citrix ADC is the operational consistency. Organizations are increasingly moving towards public cloud as it provides more freedom for innovation. The move is often hindered by the lack of knowledge and the requirement to learn new features and functionalities of cloud-based services. This learning curve can reduce the speed of new app deployments, while slowing down application migration to the cloud. An organization's digital transformation migration can take a multi-year journey which impacts the ability of the business to innovate. Only Citrix ADC ensures a seamless migration from on premises to cloud and among public clouds by providing a single code base between all form factors and consistent APIs. You can migrate applications easily and quickly without the need to learn new application delivery configurations or rewrite automation scripts from a single management pane of glass with Citrix Application Delivery Management (ADM). By using the Citrix ADM tool to deploy new Citrix ADC instances into single or multiple public clouds quickly, for example to ensure business continuity, provides

the consistence between all your deployments. Similarly, you can use Citrix ADM to look at applications holistically across clouds which lets you troubleshoot issues more quickly ensuring the consistency organizations need.

Gain Holistic Visibility Across Clouds

As applications are deployed across multiple clouds, the disparate environments require multiple tools, which leads to fragmented visibility and management. The lack of holistic visibility obscures the utilisation of the applications across your public cloud deployments, makes it hard to plan capacity and licenses effectively, as well as make it challenging to ensure a consistent security posture across your apps.

Leveraging Citrix Application Delivery Management (ADM)

If with Citrix ADC businesses can get a single-pane-of-glass view across all their environments, [Citrix ADM](#) provides a holistic view of your application and delivery infrastructure irrespective of where it is

deployed. You can treat individual applications as a single entity and gain valuable insights and troubleshoot issues much more effectively. Citrix ADM highlights the health, usage, and performance of your applications. It also enables you to monitor your application delivery and network infrastructure. You can drill down into specific applications to investigate app and network issues. Global service graphs offer you a graphical end-to-end vision of both your monolithic and microservices-based applications in a single view. Enabling you to look at the health and performance of application servers or containers in the cloud, the network usage and even the user experience. Further, Citrix ADM's intelligent analytics uses machine learning to understand application behaviour characteristics across all your deployments to automatically spot anomalies to reduce the turnaround time for troubleshooting issues and improving the overall application uptime. With Citrix ADM it is easy to compare the performance of your applications before and after migration to the cloud or after a migration to a new public cloud. Similarly, Citrix ADM lets you define, enforce, and monitor a common security posture for all your applications across all your public cloud and on premises environments.



Ensure Consistent and Comprehensive Security

Consistent security is a top barrier or concern to cloud adoption for most IT security professionals. While security is a shared responsibility between the cloud provider who protects the infrastructure and the customer who are responsible for the applications, it is difficult to attain common security policies across clouds that behave differently. Coupled with the increasing sophistication of cyberattacks, there is a need to enforce and maintain a consistent security posture across your deployments in the public cloud. Citrix ADC provides a comprehensive, layered security solution for all your applications from Layer 3-7, including an integrated bot mitigation solution, Web application firewall and API protection and best in class TLS encryption performance. Moreover, as an integrated solution there are fewer devices and services to consider, deploy and manage, which reduces complexity and lowers your TCO. Citrix ADM also provides holistic visibility to view the type and volume of attacks against your applications wherever they reside. It even lets you know which apps are most at risk so you can prioritize remediation accordingly. Citrix

ADC, in conjunction with Citrix ADM, enables you to define and enforce a consistent security posture across all your applications and across all your public cloud environments. More than that, it provides you with the analytics engine to ensure it is followed. You can track things like config drift and using the powerful SSL governance and enforcement tools included in Citrix ADM and ADC, you can be confident that you are taking the right actions to protect your business from attack and always remain compliant with your defined policies.

Auto-Scale to Meet Unforeseen Demand

When selecting the right ADC for your public cloud deployments, scale and performance are important factors. There is always a need to scale applications in response to fluctuating demand. Under provisioning may lead to lost customers, reduced employee productivity and lower revenue. Right sizing your infrastructure on demand is even more important in the public cloud where over provisioning is costly. In response to the need for greater performance and scalability in the public cloud, Citrix ADC remains the best option.

**Businesses
are
increasingly
using
customer
experience
as a
differentiator**

Allocate Capacity Where You Need It Faster

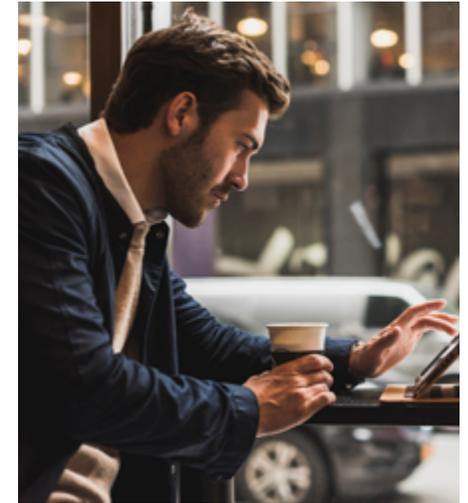
With the advent of usage-based or pay-per-use licensing models software consumers are keen to have more control over how much they spend on their IT assets. Investment in one public cloud is not transferrable to another. Citrix ADC is available with flexible licensing models that offer customers a choice of perpetual or subscription options such as bring-your-own licensing model including the ultimately flexibility: pooled capacity licensing. Pooled capacity licensing aggregates all throughput capacity into a single pool and enables you to shift ADC capacity where you need it immediately. This means that if you shift an application from one public cloud to another or from on premises to the cloud, you can simply transfer the ADC license with it. Similarly, you can automatically scale your licenses to meet changing demand in the public cloud. These flexible licensing options mean that only Citrix ADC offers investment protection between on premises deployments and cloud through license portability across both traditional and microservices-based applications.

Get a Simple and Predictable Bill

Every business' journey to modern infrastructure and applications is unique but all businesses seek to minimize costs. The consumption model of many cloud services contains excessive metrics, which adds complexity and unpredictability. This can lead to difficulties in forecasting and budgeting, with some unexpected surprises in billing. With Citrix ADC in the public cloud there are only two metrics - throughput and feature edition. You choose the edition based on the functionality you require and the capacity you need based on your throughput. This simple and predictable mechanism makes it easy to understand and plan accordingly.

Conclusion

In an application economy where applications are synonymous with business productivity, growth, and customer experience, it becomes indispensable for organizations to stay competitive, innovate rapidly and scale to meet customer demands while minimizing downtime and to prevent revenue losses.



[Citrix ADC](#)

[Citrix ADM](#)

[Citrix ADC VPX
Performance vs. F5
BIG-IP Virtual Edition](#)

[Tolly Group Validates
Citrix ADC CPX
Performance over
Envoy Proxy](#)

“

We offer an integrated solution approach covering all applications our customers would use”

Darren Fields

VP Application Delivery & Security , EMEA Citrix



Click on image to watch the interview





Business Continuity with Citrix Application Delivery Controller and Microsoft Azure

Disruptions can be unpredictable, impacting your workforce and business operations at a moment's notice. It is the harsh reality of today's global business climate. Whether you are responding to a global pandemic, cyberattack, or a simple construction project at HQ, your organization's ability to thrive in the face of disruption—keeping employees productive, customers satisfied, and supply chains intact—before, during, and after is what will leave a company rising above the chaos, or treading water to keep up.



Whatever the cause, your organization needs a plan in place to ensure teams can react quickly and continue operating remotely. This plan must extend beyond traditional business continuity, also considering workforce continuity by ensuring your distributed team members have reliable access to the resources they need. This is not a play, but the way you should build your application delivery infrastructure. At the same time, your organization must ensure that applications perform as customers expect regardless of where they are being accessed, while preserving security, compliance, and control.

Principles of Business Continuity

Before providing IT guidance on how to build a business continuity plan, it is important to discuss a few foundational principles.

These five fundamental concepts guide our approach to business continuity, so you can be confident that your workforce and business operations are ready to function, faced with any disruption:

1. It does not matter how good an application is, if it is not available.

When forced to contribute remotely, your workforce needs predictable access to applications and data. They simply cannot be productive if your applications are unavailable or functioning poorly.

2. If you can't autoscale your IT, you can't scale your business.

During unforeseen events, you need to be able to scale rapidly and meet unpredictable demand. If you can't, productivity suffers, and your customers can't transact with you.

3. When your customers can't get what they need fast, they look for other options.

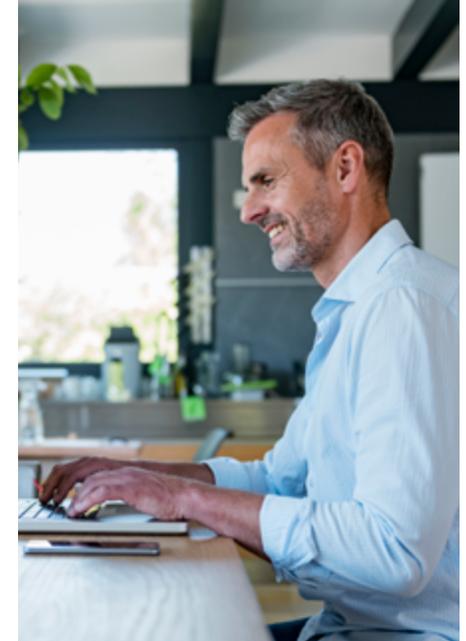
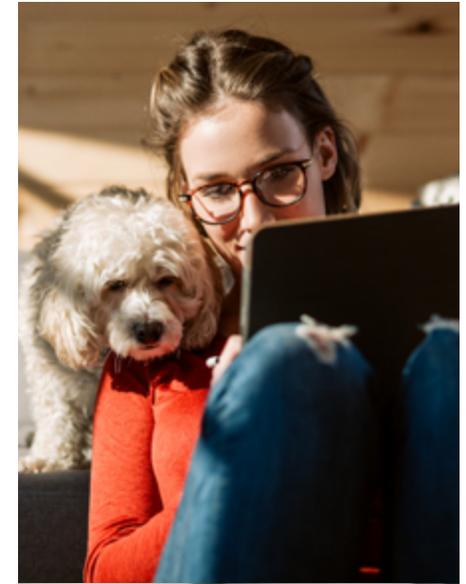
Just because you face a disruption does not mean customer expectations change – they still expect highly responsive applications and web sites. Those that can respond quickly during disruption are better positioned to separate themselves by delivering top-notch experiences.

4. If you can't see it, you can't fix it. It is difficult to maintain visibility and control over a multi-cloud environment on an ordinary day.

Without holistic visibility over Application Delivery infrastructure, recovering from a disruption becomes virtually impossible.

5. You are more vulnerable to cyberattacks during unforeseen events and disruptions.

During a crisis, bad actors become more aggressive in exploiting security vulnerabilities because they expect your attention to be elsewhere. To preserve operations and your customers' trust, you must always be ready to protect critical assets.



Achieve Business Continuity with Citrix ADC and Microsoft Azure

With over half a million joint customers, Microsoft Azure and Citrix ADC together are uniquely positioned and aligned to empower a cloud-enabled, mobile workforce. These 30-year partnership and shared vision ensures best-in-class security, scalability, management, and performance of enterprise software and online services.

Citrix Application Delivery Controller (ADC) works together with Citrix Application Delivery Management (ADM) to provide simplified application delivery of applications to your customers, quickly and securely from a hybrid, multi-cloud deployment.

With Citrix ADC, you can control the applications at the heart of your business and take advantage of the benefits of the cloud. Citrix ADC, along with a management and orchestration platform, provide complete visibility into your entire application infrastructure. To ensure fast application delivery, and reliable performance in

a hybrid cloud environment, the differentiating factor is the combination of Citrix ADC and Microsoft Azure.

At their most basic level, the objectives of business continuity are to keep essential functions up and running during a disruption and to recover with as little productivity loss as possible. Citrix ADC and Citrix ADM, integrated with Microsoft Azure, help your organization fulfil these efforts by protecting workforce productivity and application availability, ensuring you can continue serving customers quickly.

With Citrix ADC on Windows Azure and Citrix ADM, you can achieve business continuity in four key areas:

- Ensure workforce productivity, application availability and an optimal customer experience.
- Scale IT infrastructure up or down based on demand.
- Holistic visibility and control.
- Integrated security.

[Business Continuity con Citrix Application Delivery Controller and Microsoft Azure](#)

Customer Stories



QNB Group creates workplace flexibility

Citrix enables Qatar's leading bank to provide users with a consistent work-from-home experience through the COVID-19 pandemic.

Read the [full story](#).

Changing the accepted concept of the workplace

DICTU and Citrix build flexible, personal, and productive environments.

Read the [full story](#).



Remote work adds up for Kreston Reeves

Many organizations in the accounting and CPA services realm were caught off-guard by the far-reaching effects that the COVID-19 outbreak would have.

Read the [full story](#).

In the face of natural disasters, the City of Corona builds business continuity with Citrix

The City of Corona is a local authority 45 miles southwest of Los Angeles. Its 168,000 population is contained within just 39 square miles.

Read the [full story](#).

Customer Stories



Citrix enables QBE to move to hybrid cloud and rapidly set up 1000s of remote workers

In the final stage of a Citrix Transformation Project, QBE pivots to enable a great work-from-home experience for thousands of employees during the coronavirus pandemic.

Read the [full story](#).



Canara HSBC Oriental Bank of Commerce Life Insurance relies on Citrix as India navigates COVID-19 lockdown

Capitalizing on the Citrix platform, the insurer promotes remote work, delivers exemplary customer service, and eyes cloud computing in the not-too-distant future.

Read the [full story](#)

Cloud-first global energy company gains scalability and sustainability

Centrica plc is an international energy services and solutions company with locations all around the world, ranging from customer contact centers to energy traders working in the financial markets.

Read the [full story](#).

Coleg Gwent transforms student learning experience

One of Wales' largest further and higher education colleges uses Citrix to improve the learning experience and to better support students.

Read the [full story](#).

Customer Stories



Citrix Helps Bajaj Allianz General Insurance Enable Secure WFH for 10,000 Employees in One Day Amidst COVID-19

Citrix ADC helps Bajaj Allianz General Insurance keep the business running even in the middle of the lockdown by enabling its country-wide remote workforce to access the corporate network securely.

Read the [full story](#).

Italarchivi eliminates network disruptions and reduces costs thanks to software-defined WAN

Italarchivi's success is due to its capacity to ensure compliance with specific Service Level Agreements (SLAs) regarding the security of storage and digitization timescales, as well as complete nationwide coverage with five operational hubs located in Milan, Naples, Palma, Rome, and Venice.

Read the [full story](#).

Want to read more customer stories?
Don't forget this [link](#).



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