

Higher education: Ensuring continuity during a disruption

Provide anytime, anywhere access with a secure, cloud-ready digital environment



This white paper presents a strategy for providing higher education services during planned or unplanned local, national or global business disruptions. Best practices for a continuity strategy are included along with information about digital technology that provides secure access to apps and data on any device, over any network, at any time. By ensuring seamless operations no matter what happens, the right digital technology solution helps protect your institution from consequences such as gaps in students' education, damaged institutional reputation, and financial implications.

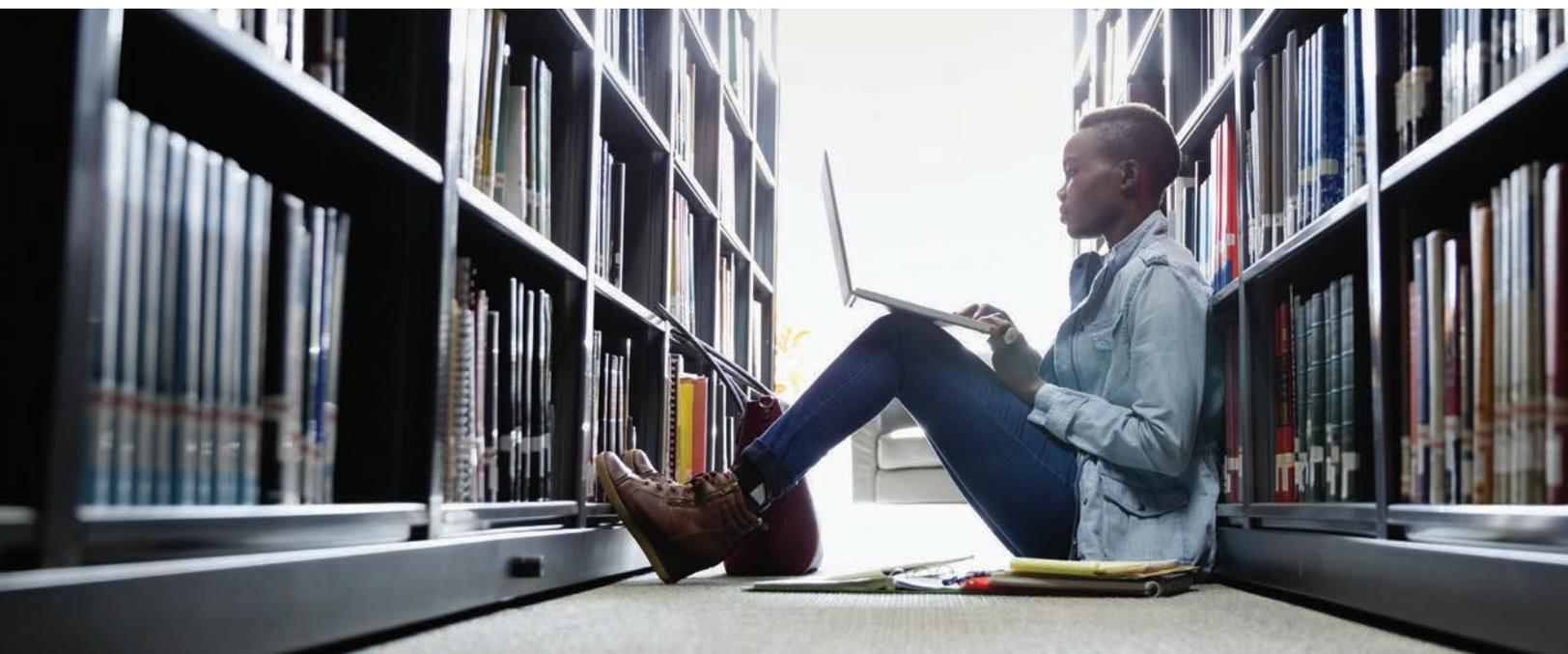
Every organization faces the possibility of major and minor disruptions of all kinds:

- **Unplanned events** that strike without warning, such as earthquakes, tornadoes, terrorism and fires
- **Looming emergencies** such as hurricanes, blizzards and pandemics
- **Planned events** such as IT maintenance and facility relocations

Even relatively small incidents like a water shortage, power outage, or the seasonal flu can have a major impact. And, in cases where the institution itself isn't directly affected, taking on additional students to help ease disruption in a neighboring school can have an indirect impact.

To address the specific concerns of higher education populations, a comprehensive approach that meets the needs of students, faculty, staff and the organizational leadership is needed. Technology solutions must minimize disruption, maintain security, and support uninterrupted education. A continuity strategy should address team structure, planning, disaster recovery and testing, crisis communications, support for students, and safety and awareness programs.

By allowing students and faculty to access secure digital education tools from anywhere on any device, a cloud-ready digital environment provides opportunities for continuous learning. These digital education tools allow communication, collaboration, and testing over any network, hosted on-premises or in a public cloud, or in a



During the 2019–2020 school year, bush fires, local flooding and the COVID-19 virus caused havoc for the University of Sydney, which serves 80,000 students and staff across 22 locations. By teaming with Citrix, the University of Sydney quickly created an online learning environment for students who were unable to return to campus locations to study. In seven days, the innovative IT team designed, procured, implemented, tested and rolled-out an enterprise global solution to provide remote students with education alternatives.

– University of Sydney Case Study¹

combination of the two. Such an environment provides both embedded security and flexibility. In addition, a cloud-ready digital environment offers analytics and insights that enable IT to gauge the health of the environment and detect any anomalies that may signal threats.

The importance of continuous higher education

Whether planned or unplanned, disruptions that aren't managed effectively come at a high cost. Missed class time can have a devastating impact on students; particularly those in programs such as nursing, engineering, and counseling that require mandatory amounts of lab or learning time. Following the disruption, students, faculty, and staff can find it difficult to get back on track due to being disconnected from the in-person campus routine and way of doing things, in addition to the personal impact the event may have had on them.

Recovering from a disruption can be a complex and time-consuming process. With a continuity strategy in place before disruptions occur, deviations from the educational calendar can be minimized. An effective continuity plan greatly simplifies and accelerates both response to and recovery from natural and human disasters.

A team approach for your continuity plan

A solid continuity plan provides a framework of standard procedures and guidance for who is responsible and accountable for what in the event of a disruption. Of course, each emergency is unique, so some decisions will have to be made on the fly. Successful continuity programs require everyone involved to play an active role in developing, communicating, and testing the plan. To be effective, the plan needs to include the following essential elements:

- **Emergency response** – provides overall direction for preparation, response, and recovery
- **Communications** – ensures that students, faculty and staff know what to do and what is expected of them during a disruption
- **Campus security** – keeps people safe; secures buildings and grounds; leads evacuation procedures when necessary
- **Department readiness** – provides tactical response and direction for department-specific needs

Flexibility and agility are essential to providing a seamless learning experience

In the event of a planned or unplanned disruption, interactions with the institution need to be secure, responsive, and agile. Keeping IT operations up and running with high availability is crucial. Students must be able to complete coursework even when they're off campus.



With Citrix, we can deliver services and capabilities we either couldn't do at all before or were very costly and time consuming to provide. It's helping students become more successful because they have access to high-end resources... anywhere, anytime."

– Craig Woolley

Assistant Vice President of IT Support Services, University of South Florida²

Provide access anytime from anywhere on any device. Students and faculty need to be able to access applications, data, and services, regardless of their location, device, or network. Cloud-ready digital technology enables IT to centrally manage and monitor the entire digital IT environment and provision services remotely as needed. Digital technology also ensures the security of apps and data because information lives in the data center rather than on student or faculty devices. Digital technology often provides better performance, delivering complex scientific or technical apps in a fraction of the time required on physical hardware.

With Citrix, a cloud-ready digital environment lets people connect with apps and data in both everyday and emergency situations, using any device, network, or cloud.

With cloud-ready digital education tools in place, everyone benefits:

A solid continuity plan provides a framework of standard procedures and guidance for who is responsible and accountable for what in the event of a disruption. Of course, each emergency is unique, so some decisions will have to be made on the fly. Successful continuity programs require everyone involved to play an active role in developing, communicating, and testing the plan. To be effective, the plan needs to include the following essential elements:

Students have a seamless learning experience even away from campus.

Faculty can easily adjust courseware and deliver testing through a virtual desktop.

IT doesn't have to worry about imaging dozens or hundreds of machines; the entire environment is managed centrally, and fixes or updates are provisioned automatically from a single image.

Administrators can rest assured that students continue to receive the education services that the institution has contractually committed to provide.

Governing boards can easily invoke their continuity plan with less disruption to students. As a result, schools are often more willing to take measures proactively and allow everyone to leave campus in advance of a looming emergency such as a wildfire, flood, hurricane, or pandemic. A continuity plan is much more effective when it is part of an overarching IT strategy.

Indiana University (IU) runs Citrix Virtual Apps and Desktops across more than 300 servers. Citrix Gateway (formerly NetScaler Gateway) ensures secure access regardless of user location. With Citrix solutions, IU students, faculty, and staff have access to all mainstream IT resources with fast log-on times and optimized session performance. Users download Citrix Workspace App for their devices and connect to the apps and desktops they need within minutes from any location over any network connection.³

Advantages for your institution extend beyond disruptions

Implementing a cloud-ready digital environment is much more than an emergency preparedness backup plan. This agile, flexible environment transforms the education experience for students, faculty, and staff. Everyday operations can benefit greatly.

Positively impact the student experience

Provide an engaging, collaborative experience at the student's convenience. Well-designed flexible learning spaces use virtualization to deliver all apps—even heavy, 3D and graphically intensive ones—to thin clients or personal devices so that students don't have to attend in person or get a seat in a lab.

Reinforce student success. Using a digital environment to prompt students with tasks and activities encourages productivity and efficiency.

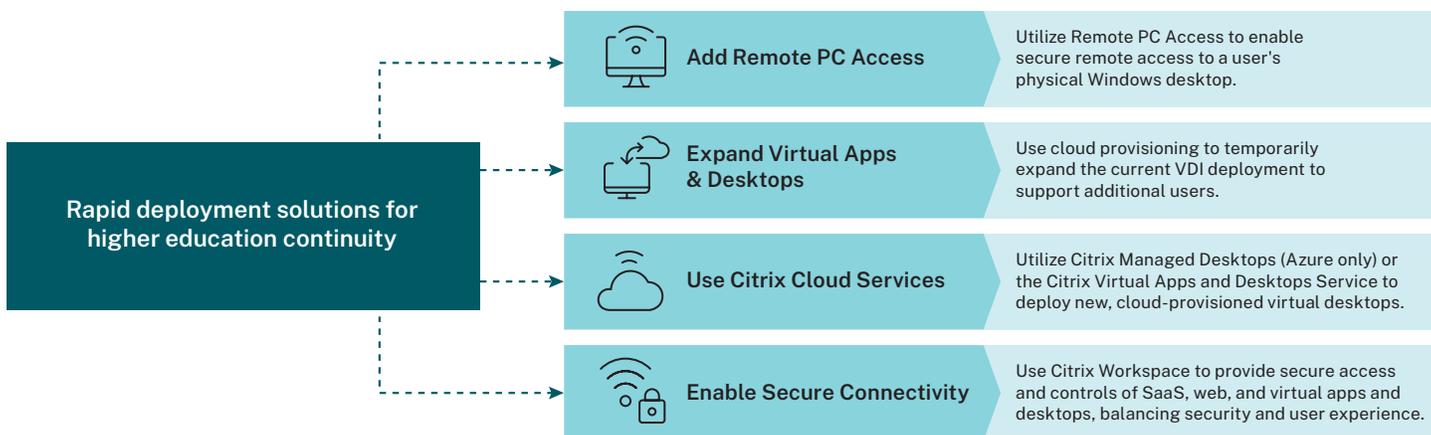
Simplify file sharing. Students, faculty and staff no longer have to worry about remembering which device or folder they used to save an important document. With a secure data file sharing tool, files and projects are saved and synced across devices and locations. Thanks to digital technology, even large graphics and video files can easily be shared between peers and faculty.

Attract and retain top students and faculty

The ability to use any device anywhere is a serious consideration for both students and faculty as they compare higher education institutions for study or employment.

Ensure continuity with Citrix digital technology

Industry-leading Citrix solutions, including Citrix Virtual Apps and Desktops and Citrix Workspace, enable IT to securely deliver all Windows, web, SaaS, and mobile apps as well as data and services from any device, over any network or cloud. Citrix supports continuity through comprehensive, integrated technology that simplifies security operations and reduces risk.



Deploy quickly

Ideally, a continuity plan is set up and tested before a disruption occurs. However, Citrix solutions can be easily deployed even after students, faculty, and administrative staff have left the campus.

The best option to maintain availability during a disruption will vary depending on the current infrastructure. People can continue using online communication tools they're familiar with, such as Zoom, Skype, and Microsoft Teams; and optimize them with Citrix Virtual Apps and Desktops. The following solutions can be deployed quickly to provide continuity.

Organizations that already operate in a hybrid cloud model have more than one data center and can rely on the cloud for scale and redundancy. If one data center or cloud comes offline for any reason—planned or unplanned—students, faculty, and staff should be able to access resources via another data center or cloud resource, either active or backup, until the affected data center or cloud comes back online. It's important to make sure that the associated infrastructure can support this response, from rapid, automated failover to load balancing and network capacity.

When responding to disruptions, organizations that rely on traditional desktop PCs for primary access to data and resources are often at a disadvantage. With Citrix Remote PC access, Citrix Virtual Apps and Desktops customers can rapidly enable access to individual machines inside their physical workplace. During an unplanned business disruption event, admins can quickly deploy an MSI installer package to desktop PCs and give users secure access to those devices from anywhere.

Secure sensitive data

Instead of worrying about providing special access methods during a disruption, IT can allow people to access their secure digital workspaces over any available connection without the need for additional VPN software. Users can connect from the school LAN



A physical computer might take up to two minutes to load one of our statistical programs. Running it on the Citrix Cloud management platform, we can see responsiveness in 20 seconds.”

– Jordan Catling

Associate Director of Client Technology,
University of Sydney⁴

or WAN, consumer broadband, satellite, public hotspot or mobile with full security, access control, and compliance monitoring and tracking.

Centralized application management and enterprise grade file sync and sharing make it easier to keep staff and student data secure and prove regulatory compliance. Citrix Content Collaboration offers a secure content collaboration solution. Citrix Gateway service provides a unified management framework for IT to secure, control, and optimize access to apps and data used by the school, including:

Student Information Systems (SIS) – private information about the students, their parents, and other topics.

Learning Management Systems (LMS) – information critical to the scheduling of classrooms, services, and resources.

Intellectual property – courseware, content, conceptual information, related collateral, and research data.

Flexible storage options, policy-based control, reporting, data encryption, remote wipe, information rights management (IRM support), and data loss prevention (DLP) integration help keep content secure even when disruptions occur.

Make managing the environment easier, and improve performance

Cloud-ready digital technology eases management for IT both during a disruption and in everyday, routine activities. Citrix solutions offer many advantages for students, faculty, staff and researchers. What’s more, IT sees many benefits too, including faster onboarding, automated provisioning for easier fixes and upgrades, and the ability to analyze the digital environment for performance and cybersecurity threats. If they choose, IT can even implement thin clients that serve up app and desktop workloads and enable environments to be run in the cloud.

Ensure availability

When it comes to Learning Management or Student Information Systems, minutes of downtime can have a serious detrimental impact on student and faculty safety and a significant financial impact on the education institution. Citrix solutions help IT ensure that essential information resources remain available and accessible for everyone.

With Citrix ADC, IT can effectively manage the institution’s various on-premises and cloud resources, providing load balancing and ensuring application availability even if one site may be experiencing a disruption. With Citrix SD-WAN, administrators can significantly improve application performance even to remote locations.

Citrix solutions are used by

Over **400,000**
educational institutions

100 million
students, faculty,
and staff worldwide

100% of the top 10
highest-ranked universities

All US “Big 10”
Universities

By optimizing bandwidth across any type of public or private network, all users can enjoy a consistent experience that’s identical to what they have on campus.

Citrix Hypervisor is a leading platform for cost-effective cloud, server, and desktop virtualization. It provides tools for managing comprehensive site-wide disaster recovery, including live migration to move workloads from one physical server to another, and automated high availability, which redistributes virtual machines from a failed host to other physical hosts and restarts them to protect critical workloads from localized events.

Citrix Cloud services aid resiliency by providing a single dashboard for IT to manage resources in multiple enterprise data centers, public clouds, and private clouds. IT can easily reassign users to alternate sites as needed to reduce the load on challenged resources and ensure performance and availability. Citrix Cloud services run on a highly available, globally distributed platform designed for continuous operation regardless of local disruptions.

Implement a proven continuity solution with Citrix

An effective continuity strategy minimizes the impact of disruptions on students, faculty, staff, and the IT resources they rely on. By incorporating Citrix solutions into your continuity strategy, you can protect your school far more effectively against the risks posed by planned and unplanned disruptions.

Don’t wait until the next event occurs. Plan for the worst and deliver the best now. Contact Citrix to learn more about cloud-ready digital continuity solutions for higher education institutions.

Sources:

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3. www.citrix.com/blogs/2019/10/07/revolutionizing-how-students-faculty-staff-and-it-get-work-done/
www.citrix.com/customers/indiana_university_en.html
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