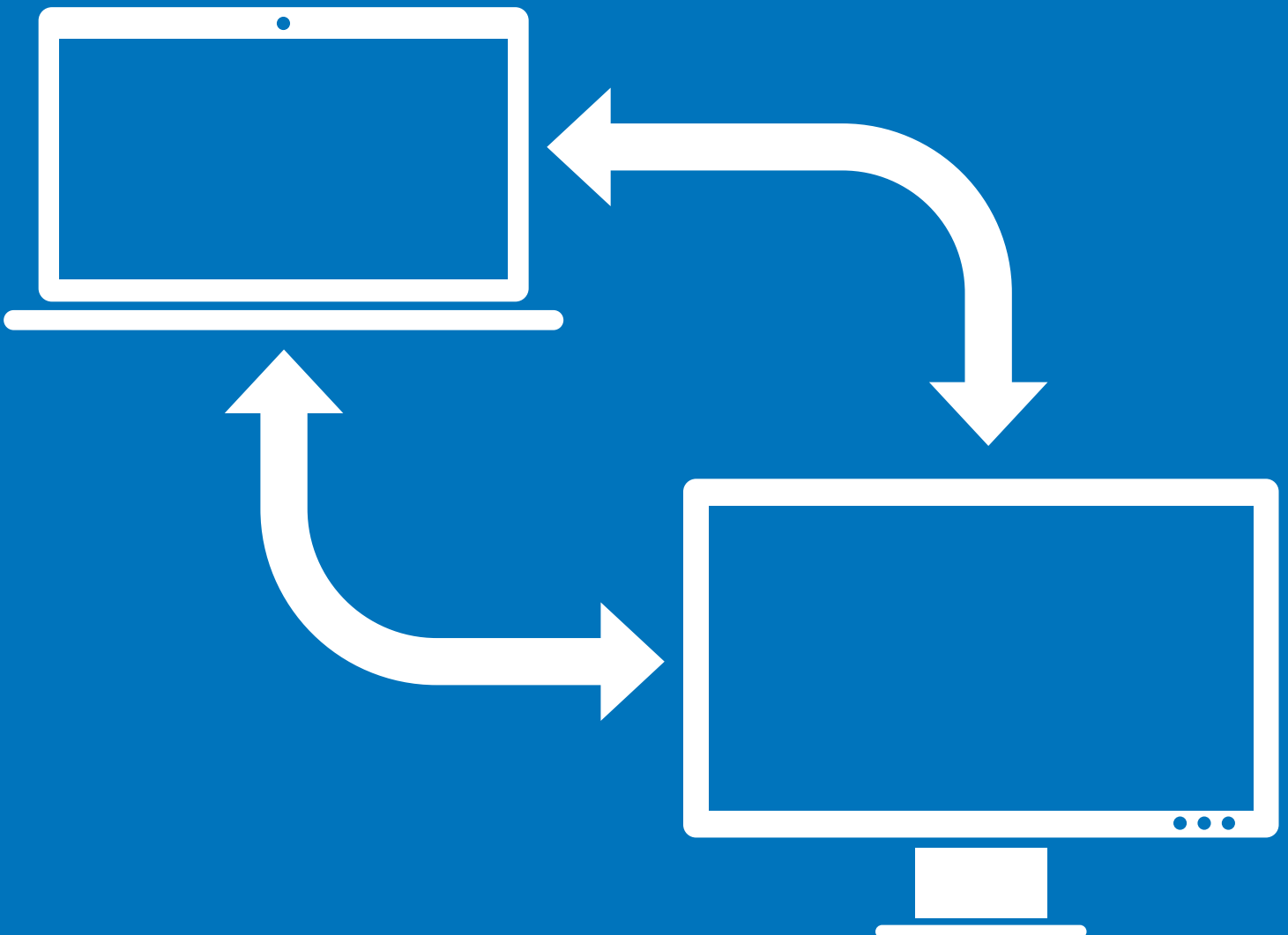


Making the Move to Desktop as a Service (DaaS): Aligning Security with Productivity

Based on user reviews of Citrix Virtual Apps and Desktops



ABSTRACT

Desktop as a service (DaaS) helps stimulate productivity. However, without effective security, this newfound productivity may come at too high a price in terms of risk. This paper looks at DaaS security, based on reviews of DaaS as a part of Citrix Virtual Apps and Desktops on IT Central Station. Key issues include secure support for remote users, security analytics, support for policies like zero trust and endpoint security.

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INTRODUCTION

Desktop as a service (DaaS), the cloud-based iteration of the virtual desktop, offers a number of compelling productivity benefits. Making the move to DaaS involves aligning security with productivity, however. Security is what makes DaaS-driven productivity feasible. Taken from reviews on IT Central Station, this paper explores the security features IT managers find beneficial in a DaaS solution. It is based on their experiences with DaaS as a part of Citrix Virtual Apps and Desktops cloud services. For one thing, it is essential to ensure security for remote, DaaS-based users. As these real users have also found, critical security factors include security analytics, support for policies like zero trust and endpoint security.

DaaS Use Cases

IT Central Station members are putting DaaS to work in a variety of use cases. For example, a Manager of Virtualization Services at a university with over 10,000 employees offers DaaS to [all faculty, staff, and students](#) at the university – comprising 130,000 potential users on eight campuses. In their medical school, they use DaaS to virtualize access to their clinical offerings. A Sr. System Engineer at a tech services company with over 10,000 employees utilizes DaaS as part of its program of [publishing internal resources](#) for its clients. In their case, he said, DaaS “saves costs by allowing users from branch offices to reach centralized resources rather than needing those resources in every branch.”



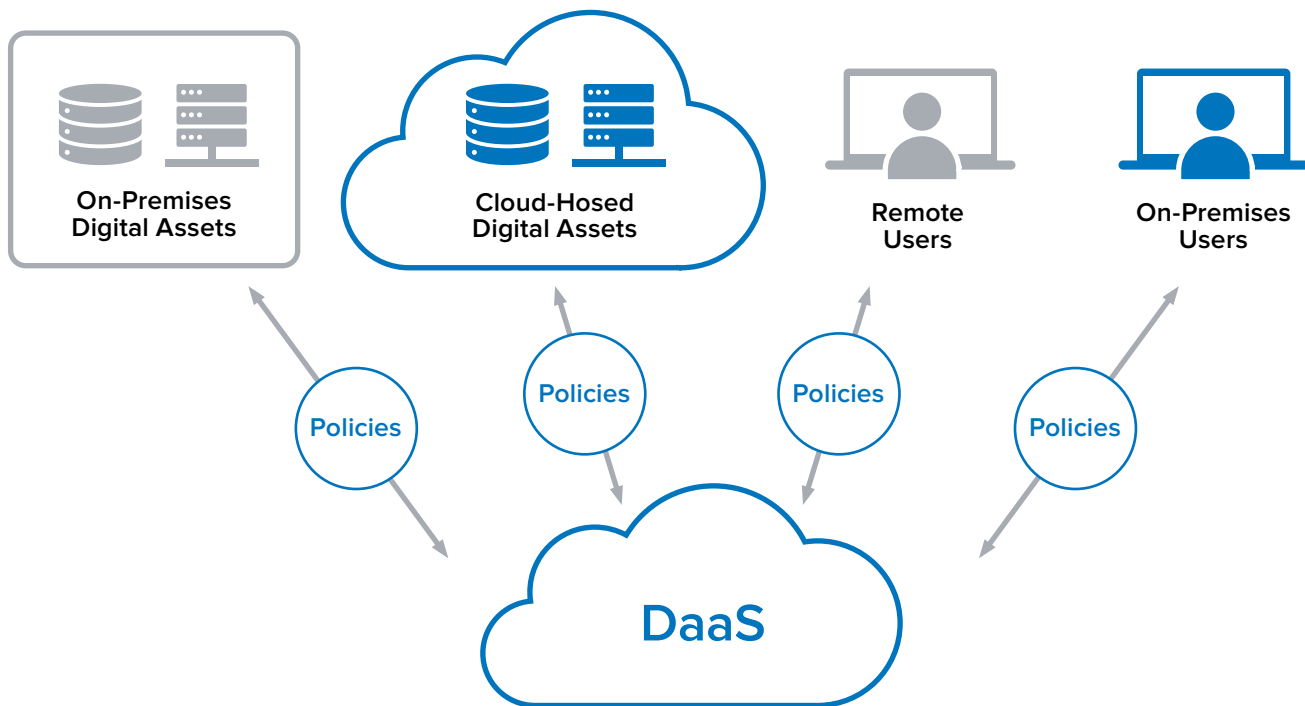


Figure 1 – Simple reference architecture for DaaS. On-premises users and remote users can access digital assets either in the cloud or on-premises through the virtual desktop experience.

“We use this solution to solve [issues related to bandwidth](#) when Oracle forms are used remotely,” said an IT Operations Service Delivery Senior Manager at e-finance, a company with over 1,000 employees. He added, “Also, upgrading or adding any other user application is extremely easy. Oracle E-business Suite is a resource intensive application and database system, which is customized in order to fulfill the government’s needs.” Figure 1 offers a simple reference architecture for DaaS. On-premises users and remote users can access digital assets either in the cloud or on-premises through the virtual desktop experience.

[Remote access](#) is where a Manager – IT/ Telecommunications at Banco Galicia is finding a purpose for DaaS.. His company is a financial services firm with more than 5,000 employees.

In particular, his team was fielding complaints

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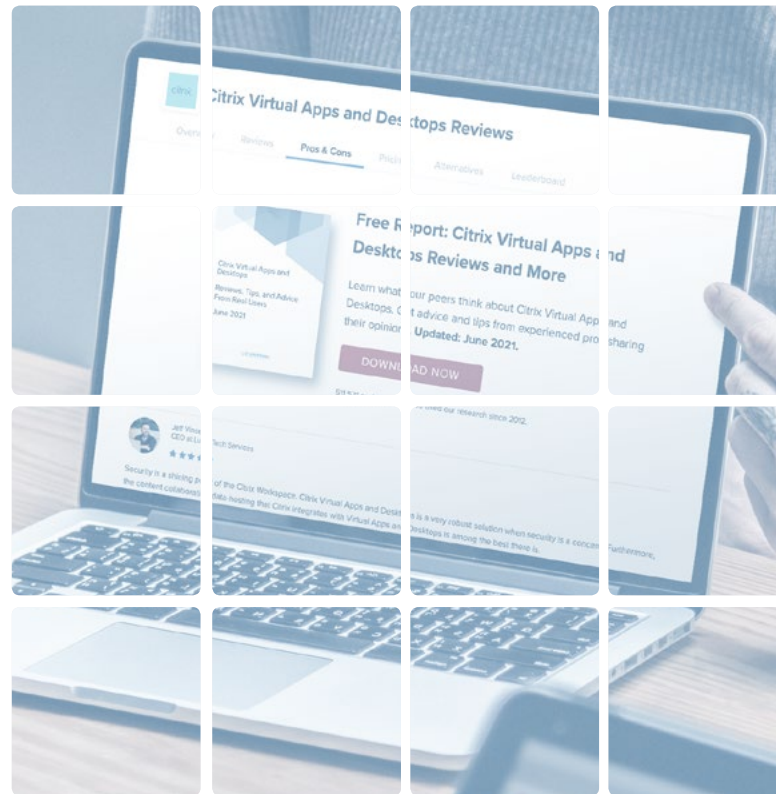
about virtual desktops that were difficult to troubleshoot. It turned out that 90 percent of the issues were related to the local connection with the Internet and traffic problems with the ISP, which were not related to Citrix or the company’s infrastructure. With DaaS, as he revealed, “We know exactly what each one of our 7,000 users is doing with the platform and how their sessions are performing. It has helped us to give better support and recommendations to our employees regarding the use of the product and their requirements for their welcome networks and Internet access.”

DaaS and Productivity

DaaS should facilitate secure, productive “work anywhere” capabilities. As a Senior Manager of Engineering at Mechanics Bank, a financial services firm with over 1,000 employees put it, “It [DaaS] has allowed us to provide network/application resources to anyone anywhere, no matter what kind of device the end user had, we were usually able to find a compatible Citrix receiver app. That gave our user base flexibility to be anywhere and [still be productive.](#)”

“This solution has [improved user productivity](#) all over Egypt serving the Government financial system,” said e-finance’s IT Operations Service Delivery Senior Manager. In addition, the bandwidth used by their applications dropped from 60K to 8K per user with DaaS. This reduction in bandwidth cut their connection costs for the whole project.

The CIO of West Suffolk NHS Foundation Trust, a healthcare company with over 1,000 employees, echoed this finding, noting that DaaS “affects the [employee experience](#) in a very positive way because of the way in which we have combined the remote connectivity with the Citrix tools.” He shared, “As long as you have the right level of authorization, you can access a great deal of information from anywhere.”



A computer software company with over 10,000 employees deployed [Citrix Cloud Virtual Apps and Desktops](#) to enable users to work remotely. One of their Senior Engineers said, “It has given us the ability for people to access the apps that are on-premise, allowed the business to carry on like it did before COVID. As a result, COVID hasn’t had an impact on the productivity of our users while they’re working remotely.”

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Security with DaaS

IT managers who deploy DaaS have to be confident in its security, and they're generally finding that the product lives up to this requirement. A Managing Director at a tech services company said, "We've set up access according to [security group](#) so it's very secure. We can lock down the environment completely."



Banco Galicia's Manager similarly noted, "[Security is the key to everything](#) right now. With Citrix, you don't have to focus only on delivering virtual apps on your desktops or remote access because there is no trade-off between user experience and security or speed of deployment and security."

Staying secure with virtual desktops takes staying on top of security for remote users. It also means having security data and analytics for DaaS, along with policy support and endpoint security. Ultimately, security should be part of the overall Return on Investment (ROI) picture for DaaS in an organization that deploys it.

Securely Supporting Remote Users

Remote DaaS users are exposed to more risks than those who use the technology on-premises. DaaS addresses these concerns, however, as IT Central Station members describe in their reviews. As the tech services Sr. System Engineer put it, “When remote users are using the solution, it [provides security](#) for the organization’s intellectual property and data.” The tech services Managing Director concurred, stating, “[It’s secure](#) and makes it easy to work from anywhere, and it makes it easy to lock down the environment.”

Security Analytics

Analysis of security data is a key element in ensuring security for DaaS users, as well as for the systems and data they access. As a Technical Team Lead at an energy/utilities company with over 1,000 employees explained, “Citrix Virtual Apps and Desktops, its analytics, and [security policies](#) will allow us to quickly identify any anomalies in an automated type of fashion using AI, which will allow the technology to act upon those anomalies without any human intervention.”

DaaS provides intelligent analytics for proactive detection of [malicious user behaviors](#), according to the software company Senior Engineer. He related, “We’re using the security analytics from Citrix and it improves our security operations because we’ve made central rules. If somebody breaches the rules, the analytics will kick in and stop that user from working.” He added, “It has enabled us to detect breaches both before and during their occurrence. It has saved us a lot of time because it automatically blocks malicious users.”

This user also pointed out that DaaS provides access control based on device, location, end-user device, or application. In his view, “That

improves our security posture because if you don’t want somebody from a malicious location to access things, it will block them.” The utilities Technical Team Lead described a similar approach. He said, “[Anybody connecting to Citrix](#) today flows in through a Citrix ADC environment. Through that, we are able to monitor all the traffic, where they are coming from, and how often they come through. Therefore, any bad actors or anomalies get quickly identified, then they get quickly actioned by our operational team as soon as IT security makes us aware of them.”



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“The value that the security analytics bring is to ensure that there are no malicious attacks,” remarked the software company Senior Engineer. He elaborated, saying, “In addition, the solution’s user behavior analytics for [detecting anomalies](#) and enforcing security policies works. When you put rules in place, they are enforced and the solution will immediately prevent unwanted activity from happening. You enable the product and you don’t have to worry about it.”

Policy Support

Security for DaaS encompasses security policy definition and enforcement. The utilities Technical Team Lead put it this way: “I would describe the solution’s [centralized policy control](#) and distributed enforcement as robust and agile. I would describe the policies around it as being super secure and well-thought-out. They have the ability to implement policies, getting those policies applied to the sessions and devices that we need them to in a super quick time, which is critical.”

User experience and ease of deployment are what differentiated Citrix in policy support for Banco Galicia’s Manager. He shared, “We evaluated Cisco, Fortinet, and Check Point. The main differences between these products and Citrix were the user experience, ease of deployment, and end-to-end solution. With other products, when you try to [enforce your security policies](#), the experience turns difficult and messy for the end user.” Figure 2 shows where DaaS security policies fit into the reference architecture.

For DaaS users, an increasingly important requirement appears to be support for the Zero Trust security model. This is the case for the software company Senior Engineer, who is implementing [Zero Trust](#) as a security strategy. He said, “Citrix is excellent as an end-to-end solution for implementing Zero Trust principles. We are able to use security analytics to determine whether a device or a user has been compromised and we can actually then log the user off or block the user from accessing our Citrix environment.”

Specifically, for this user, DaaS policy support comprises securing intellectual property and data when remote employees are using the solution. He can realize this goal with DaaS, because, as he noted, “Data does not leave the business thanks to Virtual Apps and Desktops.” In contrast, he pointed out that “our previous solution was a full VPN, and that gave users the ability to leak data. With Virtual Apps and Desktops, it’s a lot more difficult to do that.”

“**Citrix is excellent as an end-to-end solution for implementing Zero Trust principles.**”

“Our organization supports Zero Trust as a [security strategy](#),” said Banco Galicia’s Manager. He then commented, “Even with the simplest Citrix deployment, you have all its features available without additional products so you can provide safe access to your apps and infrastructure.”

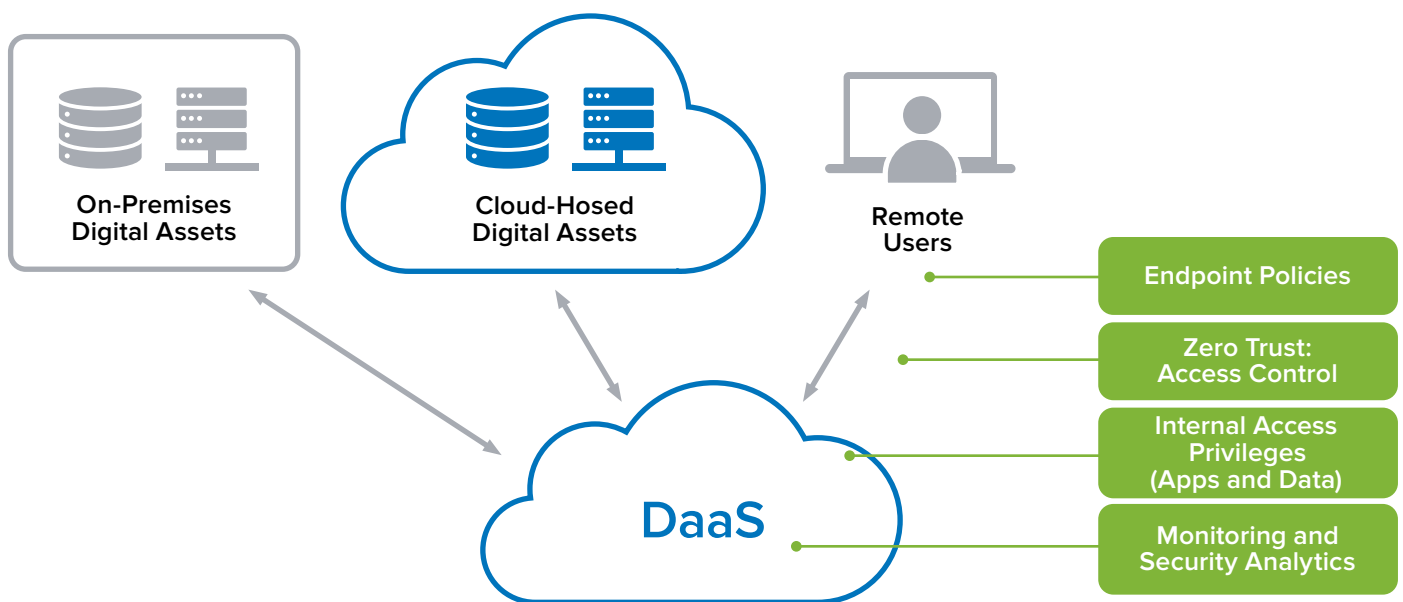


Figure 2 – Where DaaS security policies fit into the reference architecture.

DaaS and Endpoint Security

Even though it's a virtual desktop, DaaS still functions on a real endpoint device. As a result, endpoint security is a significant aspect of securing DaaS users and the organization that deploys DaaS. A Citrix Engineer at a legal firm with over 1,000 employees offered insights into how this works. He said, "The [security of your intellectual property](#) and data when remote employees are using Citrix, is very high because, with Citrix you can limit access to the local device and access to the network." Users cannot copy files if policies prevent that action between the Citrix session and the endpoint. It is also possible to prevent printing or block any data from leaving the virtual desktop.

The utilities Technical Team Lead also implemented policies that [prevent any user from copying data](#) from the data center, application servers, and network share drives to their client device, then back the other way. He observed, "We have that ideal perfect segregation between corporate data and personal endpoint devices.

So, we have had no concerns in regard to security, because of these policies, features, and security are inherently built into Citrix Virtual Apps and Desktops."

Security and the ROI of DaaS

IT Central Station members are finding that security contributes to ROI for DaaS. For instance, Banco Galicia's Manager related, "We have [seen ROI](#) using Citrix from time savings, employee satisfaction, and security." The tech services Managing Director had a comparable observation. He said, "Our clients have seen [return on investment](#) with Citrix in the security and through work-from-anywhere."

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The security ... is very high because, with Citrix you can limit access to the local device and access to the network.

CONCLUSION

DaaS must be secure for it to be a viable technology. In practice, a DaaS solution has to support secure remote use. In addition, security analytics and monitoring provide the ability to spot anomalies that could indicate the presence of a threat or an attack in progress. Policy support is critical, as well, with IT and security managers increasingly looking to implement policies like Zero Trust, along with rules that prohibit copying of data to endpoints. With security, DaaS enables gains in productivity and remote work.

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