



# Top three reasons to deliver web apps with application virtualization

Securely deliver browser-based apps while improving manageability and user experience

Web browsers can cause many of the same headaches as any Windows app, from frequent updates to compatibility issues. Application virtualization provides a simple way to deliver web apps painlessly and securely.

A decade ago, moving applications to the web promised easier development cycles, fewer compatibility issues, enhanced security, simplified ongoing maintenance and a consistent user experience from any device. However, the reality is that those promises never held true. Over the years, IT organizations developed a litany of web apps for specific browsers or plug-ins that may now be outdated or pose security threats—many of them being turned off by vendors whether IT likes it or not. Even web browsers that do remain viable pose some of the same issues as any other standard desktop application, including frequent updates that allow developers little time to debug. Multiply that challenge by the multiple web browsers now in common use—Internet Explorer, Firefox, Safari and Chrome, not to mention Microsoft's new Edge browser—and the test matrix becomes overwhelming.

Application virtualization offers a way to realize the benefits of web-based apps without the drawbacks. By virtualizing a web app on a single browser version and configuration, and then delivering it the same way to every user, IT can solve compatibility issues while enhancing security and manageability.

This whitepaper introduces the top three benefits of delivering web apps with Citrix Secure Browser:

- Decrease development and support costs of your browser-based apps
- Reduce common security risks
- Delight users with a simple, transparent remote access experience

### **Why web apps often fail to live up to expectations**

The appeal of web-based applications is easy to understand. By moving from legacy client/server apps to lightweight apps accessed using a web browser, the dream was to eliminate the need to develop and deploy a unique client for each app or to test across multiple operating systems. Instead, people would be able to access most of their apps from a web browser, including users on non-Windows platforms. Benefits like these have made web-based apps a mainstay of many organizations' IT strategy—but in practice, significant drawbacks remain.

While you no longer have to worry about multiple operating systems, you do have to worry about ensuring the compatibility of your web apps with the various web browsers people use. Often, organizations are forced to continue to support outdated browser versions because of the web

apps written to them—an approach that's especially problematic for legacy web browsers that are no longer supported. Even if you write to the latest standards, you'll still need to test against Internet Explorer, Google Chrome, Mozilla Firefox, Apple Safari and now Microsoft Edge, which differ significantly from each other. Each of these browsers is frequently updated as well—even more often than traditional thick-client Windows apps—adding back much of the development overhead you'd sought to eliminate.

Web browsers can also expose the organization to security risks such as the interception of network communications, the loss or theft of information downloaded to the local computer, and unauthorized access to the web apps bookmarked in a given browser. From a user perspective, security requirements can pose barriers to productivity, as the need to use a VPN for remote access undermines the convenience that web apps are supposed to provide.

The solution to these challenges isn't to abandon web-based development—the virtues of this approach remain fundamentally sound. Instead, IT needs a way to zero in on the management, security and performance problems of web apps so they can deliver full value for the organization.

### Three reasons to deliver web apps with application virtualization

Application virtualization has transformed IT by providing a streamlined way to deliver Windows apps. A single, centrally managed app supports users in any location, on any OS, increasing IT efficiency as well as performance. Sensitive information remains protected within the datacenter rather than on endpoint devices, aiding security and compliance. By delivering web apps with application virtualization, IT organizations can extend the same benefits of centralized delivery to this important type of applications as well.

#### 1. Decrease development and support costs related to browser compatibility issues

Browser virtualization enables you to reduce web app management costs significantly by streamlining app deployment and lifecycle management. Centralized app management and rapid provisioning help you consolidate laborious tasks such as regression testing and pushing out app updates to align with each browser release. This makes it much easier to distribute updates to the entire workforce, with a consistent user experience across any device and browser, and can considerably reduce help desk calls as well. Just as importantly, virtualization allows the freedom to update web apps without forcing expensive device-side upgrades to support the requirements of the web app operating system. As business needs change, IT can scale up and down more fluidly and cost-effectively.

#### 2. Address common security risks

The centralization of applications and data within the hardened datacenter adds layers of security. Only screen updates, mouse click and keystroke commands cross the network to the user's endpoint device, greatly reducing the risk of data exposure or exfiltration. No data resides on the device, and nothing is left behind when the network connection is terminated, aiding security and compliance. Granular access policy enforcement lets you eliminate unnecessary VPN holes and reduce the risk of data loss or intrusion through unsecured connections.

### 3. Delight your users with transparent secure remote access

Traditional remote access via VPN can get in the way of seamless productivity, delaying and annoying users. The same is true for the need to use a specific browser and version to run a given web app. Application virtualization eliminates the need for people to concern themselves with technical details—they can launch any web app in any modern browser without the need for a VPN and get right to work, as there is no need to install anything on the endpoint. The web app simply renders in a browser tab, just like a traditional web app. Meanwhile, all data remains secure within the datacenter, including cached data, and is never exposed to risk on the endpoint. Corporate apps and data remain separate from personal content, helping IT maintain security and policy control without interfering with the user's own apps and data on corporate and BYO devices. The ability to host browser apps in redundant datacenters helps ensure uninterrupted productivity by simplifying business continuity.

*“We never have to worry about browser compatibility, so we can allow people to choose the experience they prefer without increasing complexity for IT.”*

**Joel Hagans**  
Director, Citrix IT

#### **Illustrating the benefits of Citrix Secure Browser**

More than 330,000 organizations worldwide rely on Citrix® solutions to help their 100 million combined users become more productive while improving the manageability, security and mobility of their IT environment—including Citrix itself. As in many enterprises, browser-based apps play an important role in the Citrix corporate IT environment, including both internally developed apps and third-party SaaS solutions. While the number of such apps is growing quickly, the decision to virtualize the browsers used to access them is far from a recent development. In keeping with the company's vision for business mobility, Citrix has long virtualized every app used in its environment, with only network connectivity, security and the Citrix Receiver® client installed locally on endpoints. Today, virtualizing the browser with app virtualization delivers extensive benefits for both the Citrix IT organization and our thousands of users around the globe.

#### **Browser compatibility**

With application virtualization, Citrix can allow users to choose any browser they prefer—Internet Explorer, Firefox, Safari, Chrome, etc.—without the need for IT to test every browser and version on the market. This is especially significant as a broader range of devices enter the workplace, including both Windows and Mac laptops—each with their own versions of each browser—and mobile devices equipped with native browsers that often break web apps. Central management of patches and updates reduces the number of versions in the environment and ensures that all the latest fixes are applied in a timely manner. “We never have to worry about browser compatibility, so we can allow people to choose the experience they prefer without increasing complexity for IT,” says Joel Hagans, director of Citrix IT.

#### **Security**

“For someone in our global security office, security would be the top benefit of browser virtualization,” says Hagans. “For those of us in IT, it's about being able to do things in a secure manner while remaining focused on a good user experience.” The centralization of apps and data in the datacenter transforms security by eliminating the risks posed by data residing on the endpoint. A lost or stolen device contains no corporate content—not even cached data. Similarly, no data can leak between corporate and personal apps on a device, and a compromised endpoint can't put corporate apps or data at risk.

### Transparent, secure remote access

The security provided by app virtualization doesn't come at the expense of user experience. Users can securely open web and SaaS business apps in their local browser of choice simply by entering or clicking on a specified URL. This opens a Citrix Receiver for HTML5 session that transparently displays the web application in the pre-defined virtual browser, seamlessly integrated into a new tab in the local browser. With no need to deal with a VPN, users can work remotely with web apps as easily and conveniently as they would with a locally installed Windows app.

### Summary

Although web apps were introduced as a way to avoid the deployment and maintenance challenges of traditional client/server apps, web-based app development often ends up substituting one set of problems for another. After all, an app is an app, whether web-based or Windows. That means that the well-established benefits of virtualization for Windows apps can extend just as effectively to web apps, allowing IT to simplify app development and increase accessibility without incurring new challenges for manageability, security and user experience. With Citrix Secure Browser, a single instance of the browser can be hosted centrally and delivered on-demand to any computer, providing a simpler, more cost-efficient way to manage browsers and the apps that run in them. A centralized architecture, complemented with secure communications and granular access control, close the security gaps that can be introduced by browser-based apps. Users enjoy a simple, transparent experience whether working in the office or offsite, without the barriers to productivity posed by traditional VPN-based remote access. As the experience of Citrix itself demonstrates, Secure Browser has an essential role to play in making web-based app development successful and effective for today's organizations.

Citrix customers can deploy virtualized browser apps in two ways: on-premises with XenApp, or as a fully hosted cloud-based service with Citrix Secure Browser Service—whichever best suits your business needs.

### Additional Resources

[Citrix XenApp Overview](#)

[Compare Citrix XenApp and VMware Horizon](#)

[Try Secure Browser Service](#)

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