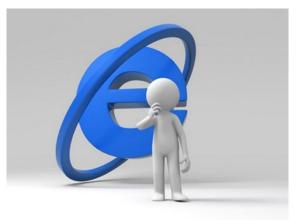# *IE11 Migration in the Enterprise*

Choosing the best web application remediation approach

Overview

Today, most line-of-business applications run in the browser. Because of this, web application incompatibilities caused by a browser migration can be catastrophic to a business. Pressure has increased to migrate quickly, as Microsoft will only support the most current version of Internet Explorer available for each supported operating system beginning in 2016. That means all enterprises using Windows 7 must migrate to IE11 by next January. Unfortunately, the traditional tools to remediate critical web applications and manage browsers have not kept pace. Recently new browser management solutions have been introduced specifically to address these needs. This solution sheet will overview each of these approaches.

Three remediation approaches to achieve web application readiness for IE11

When enterprises find their migration blocked by critical web applications that cease to function properly in the new browser, they typically consider readying incompatible applications with one of two approaches – modifying (rewriting, upgrading, or replacing) the applications or using a virtualization solution. However, a third approach called "browser management" is often the best option. Here is a look at each of these approaches to better understand why they are considered and which choice provides the best path to IE11 migration.

Modifying Applications

Because most enterprises utilize hundreds, if not thousands of web applications, the cost to rewrite, upgrade, or replace every incompatible application is substantial. *Rewriting* web applications can only be considered if the original in-house or third-party custom application developers are available and the technology is still supported. Even then, the costs are often prohibitive. Engaging in web application *upgrades* isn't always as simple as it may seem. It requires the arduous process of installing new software, customizing required workflows, reintegrating legacy data, testing all scenarios, and retraining users, which is costly, time consuming, and can expose the enterprise to application downtime and lost productivity. *Replacing* web applications is an expensive, complex, and exceedingly time-consuming process which should be driven by a business need, not a browser migration. If any component in a new application is delayed, it can have a large ripple effect capable of delaying an entire operating system or browser migration. In the end, modifying applications typically only achieves functional parity, adding little business value at great cost.

Virtualization

There are a variety of virtualization options, including multi-user terminal servers, server-based or client-side virtual operating systems, or application virtualization. These can be simplified into two categories: *operating system virtualization* and *application virtualization*.

With *operating system virtualization*, it's important to remember the virtualized infrastructure needs to run legacy versions of Internet Explorer which will reach end of life by January 2016. Therefore, the virtual environment will be unsupported. There are several other considerations as well. Server-based virtualization does not scale cost effectively for browser-based applications which involve a high memory footprint and large bandwidth, increasing costs. Expensive server hardware must be purchased, powered, cooled, and maintained over many years. Client virtualization is resource intensive, often requiring RAM upgrades and multiple core CPUs, increasing hardware costs. Overall, the expense and technical challenges of operating system virtualization are not viable if this solution is used simply for web application compatibility.

> ## Web Application Remediation Approaches
>
> ### Modify Applications
> - ✓ Rewrite
> - ✓ Upgrade
> - ✓ Replace
>
> ### Virtualization
> - ✓ Operating System
> - ✓ Application
>
> ### Browser Management
> - ✓ Enterprise Mode
> - ✓ Browsium Ion

While *application virtualization* may seem attractive, it is not really a viable option for web browsers, as the Microsoft's Windows license does not allow components such as Internet Explorer to be virtualized. In addition, with this approach, challenges are often found while printing and interfacing with hardware devices.

Browser Management

The concept behind remediation via browser management is to control the browser environment to enable legacy applications to work in a modern browser. Application remediation actions can range from a simple setting like changing the document mode and user agent string, all the way to injecting new content into the web page to make it function properly. Browser management is easy to deploy and manage in a large organization, is highly cost-effective, provides an exceptional user experience, and can deliver significant value beyond compatibility. There are two browser management solutions available, Microsoft Enterprise Mode and Browsium Ion.

Enterprise Mode

With the release of IE11, Microsoft introduced Enterprise Mode to address compatibility issues found in static websites and simple web applications found throughout an enterprise. For these breadth applications, Enterprise Mode provides IT with an easy-to-use solution that can be configured and deployed seamlessly with existing enterprise management tools. By contrast, mission critical business applications, such as ERP, CRM, and HR systems, are typically very complex and highly customized. Applications like these aren't broken simply because of a user agent string or a CSS expression button, which Enterprise Mode is designed to address. They are made up of a variety of productivity applications and reporting tools, and each may be broken by a range of issues that require a different set of changes to fix them. This is where the majority of defects surface in complex applications. For mission-critical web applications in enterprise IT environments, Enterprise Mode is often insufficient. And without these applications working in the new environment, the migration project cannot proceed. Therefore, a browser migration in a large enterprise requires a more powerful remediation solution.

Browsium Ion

Browsium Ion was developed specifically to enable legacy IE-dependent line-of-business web applications to run in modern versions of Internet Explorer, such as IE11. It is a software solution that achieves application compatibility by giving enterprise IT granular control of their browser environments, optimizing both legacy and modern web application compatibility and security. Ion goes far beyond Enterprise Mode, enabling IT to change Internet Explorer document modes, inject HTML, CSS, and JavaScript on the fly, set custom registry entries, and swap in the required legacy versions of Java, at the web application or even web page level. This maximizes compatibility for all business-critical applications while simultaneously maximizing security for Internet browsing.

This is all done within a single-browser solution that is completely invisible to end-users. By managing the browser environment directly, IT gains control over the timing and sequencing of web application upgrades. Ion does this by running legacy IE-dependent web applications side-by-side with more current applications. This enables easy migration to the most current release of Internet Explorer on each Windows platform, with confidence that business-critical applications will continue to run.

Using this browser management solution enables enterprises to avoid the cost and complexity of virtualization – but Ion can also seamlessly complement virtualization solutions when they're deployed to meet broader IT objectives. Ion extends the ROI of already deployed and purchased applications by allowing those applications to run on a modern browser platform with no server-side code changes.

The Future of Browser Management

The rapid evolution of operating system and browser technologies will continue. Browsium Ion gives enterprise IT the flexibility to granularly control the browser and maintain application compatibility as these technologies change. This makes Ion a robust and long-term browser management solution ready to meet the needs of any organization with a mission to support legacy web applications while upgrading to the latest version of Internet Explorer quickly and efficiently.

Learn more about streamlining enterprise migration to IE11 by visiting www.browsium.com/ion. Here you'll find whitepapers, demo videos, and a link to download the Ion Evaluation Kit.

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