

# ***Solution Comparison: Browsium Ion vs. Enterprise Mode for Internet Explorer (EMIE)***

Today, many line-of-business applications run in a browser. Because of this, web application incompatibilities caused by a browser migration can greatly impact the success of the migration, as well as business productivity. Traditional tools to remediate these critical web applications and manage browsers have not kept pace. Recently, new browser management solutions have been introduced to address these needs. This document compares two solutions, Browsium Ion and Microsoft Enterprise Mode for Internet Explorer (EMIE).

**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.

**Microsoft's Enterprise Mode for Internet Explorer** was introduced 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.

The following chart provides a more granular comparison of Browsium Ion and Microsoft EMIE.

### Remediation

Capability	Description/Benefit	Ion	EMIE
Modify or inject JavaScript, HTML, and CSS in web applications via the client (no server-side code changes)	<p>Web applications use a combination of code types to create visually compelling and functional workflow experiences. The browser components required to interpret the various coding types are versioned with each browser release, and even minor modifications to the definition types can cause a web application to become visually or functionally unusable.</p> <p>Ion gives IT pros the ability to granularly target the required adjustments to ensure only the essential 'broken' web application components are adjusted. This approach ensures the ability to correct any unusable elements while avoiding extra modifications that may cause unintended impacts to web applications.</p> <p>EMIE does not offer the granular and surgically targeted modification capability, only an 'all or nothing' switch which introduces extra changes and requires more QA testing to ensure other portions of the web application have not been impacted.</p>	✓	N/A
Sends legacy Internet Explorer User Agent (UA) strings to server	<p>Web application developers have long used 'version targeting' as the preferred technique to ensure their web application performs as expected based on the browser used. While version targeting has given way to feature targeting in web development, many applications still rely on version strings for core functionality and to ensure compatibility.</p> <p>Both Ion and EMIE offer the ability to send a modified User Agent (UA) string value to the web application, but Ion goes a step further by separating the UA string value from other settings. EMIE uses the 'all or nothing' approach which limits the ability to make the necessary targeted and granular changes without introducing potential issues elsewhere in the web application or related components.</p>	✓	✓

## Java and ActiveX Management

Capability	Description/Benefit	Ion	EMIE
Java version management	<p>Many legacy web applications require old versions of Java to run. New versions of Java contain critical security fixes, but are often incompatible with these legacy applications. This is further complicated by Internet Explorer's Java loading behavior – only invoking the most current version installed on the PC, thus creating a very difficult security vs. compatibility tradeoff.</p> <p>Browsium Ion delivers granular Java management to enable isolated and secure side-by-side Java versioning. By giving IT administrators the ability to specify which version of Java loads for which sites, Ion enables organizations to avoid compromising security for compatibility. Users can continue to perform their internal critical business functions while accessing websites as they normally would, but IT limits exposure to external threats by using the most current, secure version of Java. And the Java management configuration process is simple with Ion's Java Version Manager.</p> <p>EMIE does not have any Java management capabilities.</p>	✓	N/A
Override ActiveX controls	<p>Web application coding languages offer a great range of capabilities for building web applications, but they are limited. To extend beyond the 'native' experiences available using HTML, CSS, JavaScript, etc. web application developers have relied on the use of ActiveX controls to literally 'do anything'.</p> <p>With this power comes risk, and many of those risks have resulted in changes to browser and OS security models to limit exposure. Many web applications require older versions of ActiveX controls to run. But those old versions are often insecure causing the organization to upgrade to a new, more secure, but also incompatible version.</p> <p>With Ion's Custom Files Manager, IT can swap in a legacy ActiveX control, such as an old version of Adobe Flash or Reader, but only for the legacy web application that needs it. All other applications and web sites will use the most current and secure version.</p> <p>EMIE does not have the capability to override ActiveX controls or substitute different versions for an application.</p>	✓	N/A

## Rule Targeting & Control

Capability	Description/Benefit	Ion	EMIE
String matching rules	<p>Targeting remediation solutions is critical to ensure only the necessary web applications, or portions of a web application, are impacted.</p> <p>String matches invoke targeted remediation based on a simple keyword matching a string in the URL. Both Ion and EMIE support string matches, but Ion provides a much more comprehensive user experience via the Ion Configuration Manager than the experience provided by the EMIE Site List Manager.</p>	✓	✓
Zone-based rules	<p>Zone-based rules enable IT to target remediations for a complete Internet Explorer security zone. This provides more flexibility than just using URLs for designating which applications are targeted for remediation. For example, a remediation can be targeted to the entire Local Intranet zone, while default Internet Explorer rendering and security settings can be used for the Internet Zone.</p> <p>Ion provides zone-based rules, with targeting of Local Intranet, Internet, Trusted Sites, or Restricted Sites zones.</p> <p>EMIE does not offer zone-based rules.</p>	✓	N/A
Regular expression rules	<p>A regular expression (regex or regexp for short) is a special text string for describing a search pattern. You can think of regular expressions as wildcards on steroids. You are probably familiar with wildcard notations such as *.txt to find all text files in a file manager. The regex equivalent is .*\.txt\$. Regular expressions are useful when it is necessary to narrow or broaden the rules that target a legacy application.</p> <p>With Ion, IT can create rules with regular expressions to target legacy applications.</p> <p>EMIE does not support regular expressions for targeting legacy applications, which can often result in mistargeted remediations.</p>	✓	N/A

## Deployment

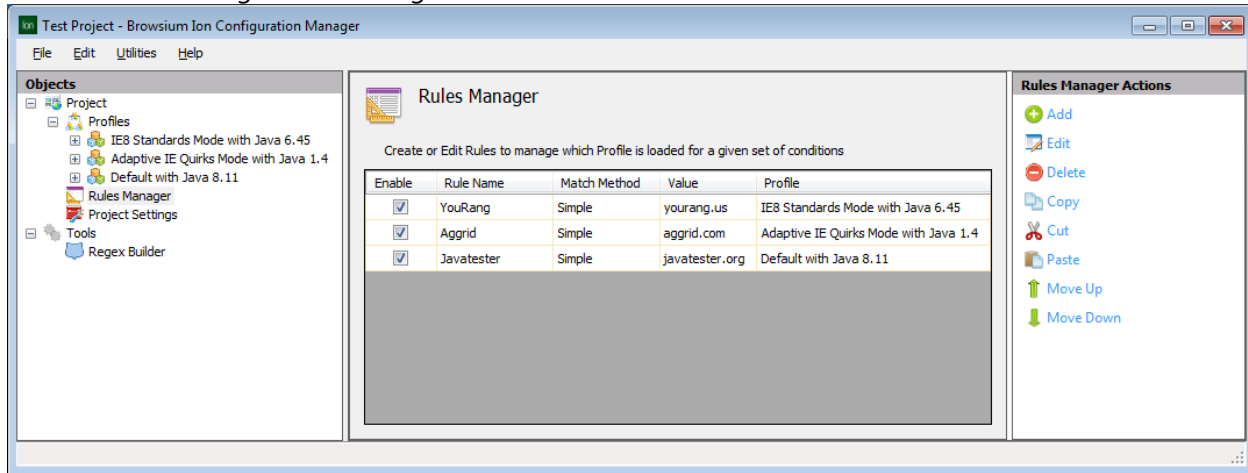
Capability	Description/Benefit	Ion	EMIE
Centralized deployment of configuration file	Both Ion and EMIE utilize a configuration file that can be centrally deployed – either on a file server, web server, or the end user PC file system. Both support Group Policy for deploying the pointer to this configuration on end user PCs, but Ion also supports any systems management tool that can remotely edit the registry on end user PCs.	✓	✓
Client-side caching of configuration file	<p>It's not uncommon for a laptop PC to boot up off the enterprise network, go into sleep mode, and then connect to the network at a later time without a subsequent reboot or even logoff/logon. This scenario requires robust configuration file in case the network is inaccessible during logon.</p> <p>Both the Ion and EMIE configuration files are cached on the local file system the first time they're read to ensure uninterrupted web application access even if the network resource hosting the file is temporarily available at logon time.</p>	✓	✓

## Security

Capability	Description/Benefit	Ion	EMIE
Specify required security settings, feature control keys, and other system registry values per web application	<p>As browsers have evolved, the threats they face have dramatically increased. To counter these threats browser vendors regularly update security settings and 'lockdown' the browser to limit potential vulnerabilities. These adjustments can cause web applications to break, but decreasing security settings is not acceptable.</p> <p>Ion uses the Custom Registry Manager to make granular changes to the security settings needed to run a given web application. This level of control ensures the application functions normally, but the reduced security environment is isolated from access by other web sites that may try to compromise those security settings.</p> <p>EMIE offers no options for controlling security settings, relying on the organization to modify Group Policies at the OS level, exposing insecure settings to every website the user visits.</p>	✓	N/A
Manage SSL and secure communications settings	<p>Some commercial and custom web applications require changes to the default certificate handling behavior to avoid application blocking or user error notifications.</p> <p>Ion enables system administrators and developers to control the behavior on a per application basis.</p> <p>EMIE does not have the ability to manage this behavior on a per application basis. Settings are generally managed for the entire enterprise or organizational unit.</p>	✓	N/A

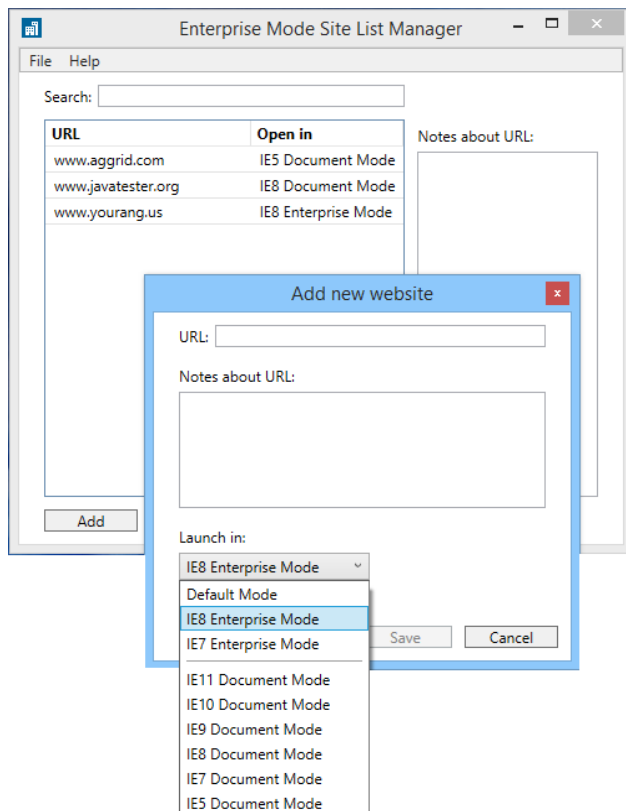
## Configuration UI

### Browsium Ion Configuration Manager UI



The Browsium Ion Configuration Manager is the interface IT uses to build profiles and rules that govern the behavior of specific applications within Internet Explorer. Each application uses a rule to invoke a specific profile within the configuration file.

### Enterprise Mode Site List Manager UI



The Enterprise Mode Site List Manager allows IT to select a URL, select the Document Mode, and add it to the site list.