



# Release Notes

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## **Browsium Ion 4.1**

Product Version: 4.1.0

Release Notes Updated: 16 October 2016

### **About this Release**

This document lists known issues and incompatibilities as of the release date. If you discover an issue, please review the Known Issues list below to determine if it has already been documented. If the issue is not referenced, please visit the [Browsium Support website](#) for troubleshooting tips, product documentation, and the option to submit support tickets.

### **What is Ion**

Browsium Ion is a web application remediation and browser management solution. Ion enables legacy web applications to run in modern versions of Internet Explorer, allows multiple versions of Java to run side-by-side, and provides granular control over Internet Explorer settings to allow incompatible applications to run seamlessly on the same Windows system.

### **What's New in this Release**

This section of the release notes is reserved for notable changes and new features since the prior version. See last section of release notes to view features of prior releases.

#### What's new in Ion 4.1.0

This section details changes to Ion since the prior version, Ion 4.0.1.

- Adds the ability to create new rules at any location in the Rules Manager list in Ion Configuration Manager.
- Combines the splash screens for all modules into a single splash screen displaying configuration information for each module.
- General improvements to Browsium Client in the areas of stabilization, robustness, and performance.
- Fixes a bug that allowed Ion Configuration Manager to launch URLs while elevated.
- Fixes a bug that caused Browsium Controller to crash on some systems while displaying the splash screen.

## Minimum System Requirements

<b>Operating System</b>	Windows XP * Windows 7 Windows 8 Windows 10 Windows Server 2003 * Windows Server 2008 R2 Windows Server 2012 R2
<b>Browsers</b>	Internet Explorer 8, 9, 10, or 11
<b>.NET Framework</b>	Version 3.5 SP1 or later
<b>Java Development Kit (JDK) and Java Runtime Environment (JRE)</b>	32-bit JDK 7u40 or later for Ion Configuration Manager ** Client PCs requiring Java remediation only need the appropriate 32-bit JREs
<b>Processor</b>	1 GHz or faster 32-bit (x86) or 64-bit (x64) processor
<b>Memory</b>	1 GB total system RAM, 2 GB for use on Windows Server

\* Browsium Client is supported on Windows XP and Windows Server 2003. Ion Configuration Manager requires Windows 7 or later.

\*\* Java Development Kit only required when using Java Version Manager.

## Installing and Using This Release

- You must install both Browsium Client (Browsium-ClientSetup.exe) and Ion Configuration Manager (Ion-Setup.exe) to develop Ion projects. End user PCs require only Browsium Client.
- Browsium Client 4.1 can be installed as an in-place upgrade for earlier versions of Ion Client 3.x.
- Browsium Client 4.1 installer will automatically close all browser windows. Enterprise deployments to end user PCs should be scripted to install at night or immediately following a reboot.
- Install Browsium Client in the 30-day evaluation mode by leaving the Ion License Key field blank on the "Client Configuration" screen during setup, unless Browsium has already provided you with an Ion license key.
- Ion Configuration Manager 4.0 cannot be installed if Catalyst Configuration Manager 3.x is already installed on the system. You must first uninstall Catalyst Configuration Manager 3.x. Upgrading Ion Configuration Manager 3.x to 4.1 is supported if Catalyst Configuration Manager 3.x is not present on the system.
- Ion project files deployed via a file or web server must be in a client-system-readable location, not user-readable as required for previous versions of Ion. See section 5.4 of the Ion Administration Guide for details.
- Read the [Ion Administration Guide](#) for more information on installing and using Browsium Ion 4.1.

## Known Issues

- Rules for Limited Java profiles are always evaluated in order from top to bottom after rules for full profiles, regardless of the order displayed in Rules Manager. This is by design. A future release of Ion will always place rules for Limited Java profiles below rules for full profiles in Rules Manager.

- If Java is installed for the first time after Browsium Client is already installed and running, you must restart the Browsium Management Service (or reboot the computer) before it will become aware of the Java installation and begin to manage Java versions.
- If a user is logged in as a non-administrative user with UAC enabled and then elevates Internet Explorer (using the Run As command) with an account that does have administrative privileges, the result is Internet Explorer is running as a different user than the desktop user and the Browsium Client extension will crash on browser startup.
- Find function does not search the active project when Tools node (or Regex Builder) is selected. Change the selection to any node in the active project to complete the search.
- Projects with a legacy Custom Files-based Java remediation that has not yet been migrated using the new Java Version Manager will display System Default in the Java Version field in Profile Properties, even though the project will remediate Java using the entry in Custom Files Manager. It is recommended that all legacy Java remediations (for Java 1.4 and later) be migrated to the new remediation architecture using Java Version Manager.
- A change to Java introduced by Oracle in Java 7u71 and Java 8u25 and above creates an incompatibility in the Java cache between the current version of Java and the version being remediated by Browsium Ion when invoking Java 6 versions below 6u10 (e.g., Java 6u7, 6u6, 6u5, and 6u4). This may result in Java failing to load in Ion-managed instances of Internet Explorer on Windows 7 or later. To work around this issue, follow the guidance to create a Custom Files entry for Java's deployment.properties file as detailed in the [Ion Knowledge Base](#).
- Internet Explorer may crash when attempting to override Java 7 or Java 8 with specific early versions of Java 6 (6u0 - 6u3) due to a bug in Java that was fixed in Java 6u7. Therefore Browsium Ion does not support profiles using Java 6u0, 6u1, 6u2, or 6u3. Contact Browsium Support for more information.
- When navigating between Ion-managed and unmanaged instances of Internet Explorer, the source webpage may navigate to a blank page or close the tab entirely if the navigation crosses between Internet Explorer zones. This is due to an issue with how Internet Explorer exposes its History to Browser Helper Objects (BHOs).
- On IE8 and IE9, attempts to load some Java 1.6 updates may throw an "object expected" error or the applet may not load at all. Refer to the [Ion Knowledge Base](#) for the appropriate workaround.
- Start Test Configuration fails to populate the registry and restart the controller if the project file is located on a read-only location. Place the project file in a location with read-write privileges before using Start Test Configuration. Note that Browsium Client runs properly in an enterprise deployment with the project file in a read-only location.
- Ion 4.0 and later writes its logs in Event Viewer under the application name "Browsium". Some prior versions of Ion wrote logs under the application name "Ion" or "Browsium Ion". These old log entries may remain visible after installing Ion 4.x, though all new log entries are written to "Browsium". The "Ion" and "Browsium Ion" log entries can be manually deleted if no longer needed.
- Installing Browsium Client 4.x with a license key as an in-place upgrade for the evaluation version of Ion Client will result in installation of the evaluation version of Ion Client 4.x. If this occurs, the license key can be manually configured in the Windows Registry by following the instructions in Section 2.6 of the [Ion Administration Guide](#).
- On any system except Windows XP, the Browsium Internet Explorer Extension only logs when Protected Mode is disabled for the zone in which the web page loads. This functionality is by design. As a workaround, turn off Protected Mode if you need to capture logs for troubleshooting the Browsium Internet Explorer extension.
- Uninstalling the Browsium Client via Command Line may fail to complete successfully if an Internet Explorer window is open during the uninstall process. Rebooting the system after uninstall will complete the process.
- Pinned Site shortcuts created by Internet Explorer fail to respond to Ion rules and do not open in an Ion-managed window of Internet Explorer. Pinned Site shortcuts should not be used with web sites that require Ion remediation.

Internet Shortcuts on the desktop or Start menu will work properly. See the [Ion Knowledge Base](#) for information on disabling Pinned Site shortcuts via Group Policy.

- The address bar in an unmanaged Internet Explorer window may continue to show the URL that was redirected and opened in an Ion-managed window. The content of the web page in the originating window is not affected.
- On systems with IE10 or IE11 installed, selecting "Auto" for each Profile's "Examine Web Requests" property will default to the "Always" behavior.

## **Contact**

For technical support, please visit the [Browsium Support website](#) for a list of contact options.

# What's New in Prior Releases

## What's new in Ion 4.0.1

This section details changes to Ion since the prior version, Ion 4.0.

- Fixes an issue that causes case-sensitive URLs invoked from outside a browser to be changed to lower case when Browsium Catalyst is set as the default browser.
- If you're using Catalyst, you'll need to install Ion Configuration Manager 4.0.1 to run it on the same system as Catalyst Configuration Manager 4.0.1.

## What's new in Ion 4.0

This section details changes to Ion since the prior version, Ion 3.7.2.

- The new, unified Browsium Client includes the agent functionality for Proton, Ion, and Catalyst, resulting in a simple client deployment that works with all modules in the Browsium browser management suite.
  - Browsium Client includes browser extensions for Internet Explorer, Chrome, and Firefox.
  - Browsium Client installs a new Browsium Service (BrowsiumService.exe) to handle client operations that require administrative privileges at runtime.
  - Browsium Controller (BrowsiumController.exe) and Browsium Monitor (BrowsiumMonitor.exe) replace Browsium Ion Controller (BrowsiumIonController.exe) and Browsium Ion Monitor (BrowsiumIonMonitor.exe) from prior versions. These new processes provide functionality for Ion, Catalyst, and Proton if configured, reducing the overall memory footprint and number of processes required to run the Browsium suite.
- Limited Java profiles build on Oracle Java Deployment Rule Sets (DRS) and control the version of Java within the native instance of Internet Explorer.
  - Ion Configuration Manager provides a GUI to create the remediation. The Ion XML project file deployed to client systems handles all the overhead of creating and signing the DRS JAR files.
  - Client systems can be upgraded to the latest JRE version and the Ion Limited Java profiles will continue to work as originally created. The Browsium Controller maintains the integrity of the DRS files on each client system, ensuring Java swaps, and Java blocks, always work as expected. This contrasts with Oracle DRS which requires manual editing of XML files, manual certificate-based signing of JAR files, and repackaging/redeployment of the DRS JAR file every time a new JRE is released
  - Because Ion uses Oracle DRS for Limited Java profiles, they can only be used with Java 6 update 10 and later. Java remediation for earlier versions of Java requires a full Ion profile.
- The new Block Unmanaged Java feature also uses Oracle DRS to block Java globally for all websites unless specifically allowed in an Ion profile (limited or full) and associated rule.
- Ion Configuration Manager now runs with administrative privileges (UAC prompt on launch) as it writes to the HKLM registry hive and Windows system32 directory to enable DRS-based Java management functionality.

## What's new in Ion 3.7.2

This section details changes to Ion since the prior version, Ion 3.7.1.

- Improves performance of Ion-managed instances for Ion configurations that utilize custom files and custom registries.
- Ion now uses the SHA2 algorithm to create certificates needed for remediating HTTPS traffic.
- Ion-managed instances of Internet Explorer no longer use Ion's proxy when there is no Document Mode, HTTP Header Replacement, String Replacement, or Content Override settings in an Ion profile.

### What's new in Ion 3.7.1

This section details changes to Ion since the prior version, Ion 3.7.

- Provides a solution to a bug introduced in recent versions of the Java Runtime Environment (JRE) that causes older versions of the JRE to fail to properly register after installation. With this change, Java swaps managed by Ion work with all supported JRE versions.

### What's new in Ion 3.7

This section details changes to Ion since the prior version, Ion 3.6.1.

- Adds support for Enhanced Protected Mode in Internet Explorer. The Ion add-on for Internet Explorer is now 64-bit compatible, so Ion can run in 64-bit Internet Explorer tab processes.
- Adds support for managing Java Web Start applications using Ion's Java Version Manager.
- Enables new Ion configurations to be loaded on the fly without restarting the Ion Controller (which typically requires a reboot or logoff/logon of the client computer). Can be set to load the new configuration immediately, at a scheduled time, or upon next Controller restart (the default). Note: All Ion-managed instances of Internet Explorer will be closed automatically when the new configuration is loaded.
- New Find function searches for strings in profiles, rules, and settings in an Ion project.
- New Project History feature provides a comment log so Ion project developers can annotate changes each time the project is saved.
- Adds description boxes under every node in Ion Configuration Manager.
- Consolidation of User Agent String as a single string value on each profile sheet in Profiles Manager and deprecation of User Agent String Manager. Note: All projects created with older versions of Ion will be automatically converted to the new format.
- Adds the ability to Change Rendering Mode in a profile after it has been created. This makes it easy to quickly test various rendering modes (combinations of document mode and user agent string) when remediating a web application.
- Adds functionality to embed custom text or binary files directly into an Ion project via the Custom Files Manager. Prior versions only supported files already located on, or accessible from, client PCs running the Ion configuration.
- Ion now supports Internet Explorer instances that are run with Administrator privilege, which is required by certain enterprise web applications. Prior versions only supported instances running with User privilege.
- Internet Explorer cache is now cleared when stopping Ion Controller with Ion Configuration Manager, making it easier to test the effects of string replacements and other project settings.
- Ion Configuration Manager no longer expands all other profiles when adding a new profile.
- Ion now only evaluates rules on HTTP, HTTPS, and File protocols, ignoring all others.
- Ion no longer buffers MP4 Videos when played in an Ion-managed instance of Internet Explorer.
- Move up or Move Down action now automatically scrolls the list view with the item that is being moved.
- Switching between profiles no longer causes an orphaned navcancl.htm window to be opened.
- Fixes a bug in Ion's IgnoreRules Advanced Flag that caused a crash in the Ion Client if the number and string length of ignore rules exceed Ion's internal buffer. With this change, there's no practical limit to the number or length of ignore rules that can be used in a configuration.

### What's new in Ion 3.6.1

This section details changes to Ion since the prior version, Ion 3.6.

- Fixes an issue with proxy server logons when an Ion-managed instance of Internet Explorer is launched from an Office application.
- Adds a new Run As Administrator property that assists in auto-elevating Internet Explorer from an account in local administrators group.
- Fixes a transport layer bug that caused the Ion Controller to hang when non ASCII characters are present in a URL.

#### What's new in Ion 3.6

This section details changes to Ion since the prior version, Ion 3.5.

- Adds support for Windows 10 (IE11 only; Ion does not work with the Edge browser which has no legacy support or extension model).
- Adds custom configurations to Java Version Manager to override of the default permission value and remediate multiple versions of Java in one Ion profile.
- Java Version Manager now detects the presence of the 64-bit Java Development Kit (JDK) and instructs the administrator to install the required 32-bit version.
- Fixes an issue where Java Version Manager reset the already-selected Java version to System Default when cancelled.
- Improves rule evaluation to handle very long URLs.
- Improves rule evaluation to correctly process 302 redirects from a web server.
- Fixes an issue in the user agent string in certain profiles, properly setting the Trident value.
- Fixes an issue with PAC files incorrectly processed by Ion.

#### What's new in Ion 3.5

This section details changes to Ion since the prior version, Ion 3.4.2.

- Redesigned Java Version Manager uses the Oracle Java Development Kit (JDK) to provide more robust Java remediation. The following are the major Java remediation enhancements and changes in Ion 3.5:
  - 32-bit Java Development Kit must be installed on systems running Ion Configuration Manager to use the Java Version Manager.
  - Ion now supports multiple versions of Java 8 running side-by-side.
  - Ion now enables current Java 8 to be upgraded without affecting legacy Java remediation.
  - Eliminates need to create or manage Custom Files entries for Java remediation for JRE 1.4 and above.
  - Displays version of Java used in each Ion profile in Java Version field of the Profile Properties page.
  - Ion Configuration Manager 3.5 automatically migrates legacy Java remediations (which used Custom Files Manager) by running the new Java Version Manager and selecting the version of Java required for the profile.
- New, lightweight file virtualization mode improves performance for Ion-managed instances of Internet Explorer that use custom files or Java version remediations, but no custom registry values.
- Fixes an incompatibility between Ion and Sophos web filtering.

#### What's new in Ion 3.4.2

This section details changes to Ion since the prior version, Ion 3.4.1.

- Provides improved handling of an incomplete chunk response from certain web servers. (Chunked transfer encoding is a data transfer mechanism in version 1.1 of HTTP in which data is sent in a series of "chunks".)

- Fixes an issue which causes Ion to periodically crash on systems also running AppSense software (e.g., Application Manager or Environment Manager) to manage the desktop environment.
- Fixes an issue in which Ion may crash on a system with certain Ion registry keys configured for roaming. Ion previously relied on those keys to determine whether to rebuild local cache files. On affected machines with a roaming profile, the registry key would be present, but the cache files would be missing – causing the crash in Ion.
- Fixes an issue in which Ion certificates for HTTPS sites are not properly recreated during Ion version upgrades.
- Fixes an issue in which Ion fails to properly parse file names containing a space for .htm or .html pages accessed from the local file system.
- Fixes an issue which causes Ion to fail to run properly on the Turkish version of Windows.

#### What's new in Ion 3.4.1

This section details changes to Ion since the prior version, Ion 3.4.0.

- Fixes an issue that arises when a server sends an incorrect Content-Type. For example, if JPEG files are sent using Content-Type – text/html, Ion will now properly handle the file.
- Fixes an issue where Ion-managed instances of Internet Explorer may corrupt image files as a result of a bad whitelist value in the Ion configuration.
- Fixes an authentication issue for non HTTPS traffic in Ion-managed instances of Internet Explorer.

#### What's new in Ion 3.4

This section details changes to Ion since the prior version, Ion 3.3.1.

- Adds support for Zone-based rules, enabling Ion rules to be triggered by the Internet Explorer Zone of the target web application.
- Renamed Ion Configuration Manager installer to Ion-ManagerSetup.msi (from Ion-AdminSetup.msi in prior versions).
- Increased default window size of String Replacement Editor so all fields are visible with no scroll bars.
- Changed Show Splash Screen on Start default to 'Disabled' in Project Settings for new projects (from 'Enabled' in prior versions).
- Enabled specification of HTTPS protocol version in the Ion proxy layer via Custom Ion Preferences. This change allows customers who have trouble connecting to a server in their environment with the default HTTPS protocol to specify a version of the protocol to use. Typically, this is used to specify an earlier, more widely compatible protocol version (e.g. CONFIG.oAcceptedServerHTTPSProtocols = Ssl3).
- Enabled specification of HTTP encoding character set in the Ion proxy layer via Custom Ion Preferences. This allows customers to fix a problem in which Ion may corrupt HTTP content containing certain characters during string replacement. This problem happens when the HTTP server does not specify the character set for content that contains data that is incompatible with UTF-8.

#### What's new in Ion 3.3.1

This section details changes to Ion since the prior version, Ion 3.3.0.

- Fixed an issue in the Content-type Whitelist property in Ion configurations that can cause Ion to corrupt images and other binary files present in remediated web applications.



### What's new in Ion 3.3

This section details changes to Ion since the prior version, Ion 3.2.3.

#### Ion Configuration Manager enhancements:

- Streamlined code to improve speed and enable more rapid addition of new features.
- Support for high DPI monitors enables project development at any screen resolution.
- New design enables multiple projects to be edited side-by-side, simplifying project development.
- Copy/paste Rules and Profiles between projects, and configuration items (String Replacements, Custom Files, etc.) within projects, for faster configuration development.
- Improved configuration testing functionality uses XML files instead of serialized registry entries, with automatic saving of project files and simplified menu options.
- String Replacements can be enabled/disabled, saving time, easing project development.
- String Replacements now include a description field with metadata to ease project development.
- New, syntax-aware text editor for complex text entry fields (e.g. String Replacements, Content Overrides, etc.).
- Support for Java 8 as default version of Java in Java Version Manager.
- Logging to Event Viewer.

#### Ion Client enhancements:

- Enhanced logging to improve supportability, including unique entries on multi-user servers.
- Improved performance for Profiles with Custom Registry entries.
- Fixes issue with local intranet authentication when using .NET Framework 4.5 on Windows 8.
- Resolved issue where Microsoft Office documents were loading in Protected View.
- Fixed issue with setting 'Default' value for Custom Registry entries.

#### Deployment enhancements:

- Simplified configuration hierarchy, based on XML-formatted configuration files to ease deployment.
- New ADM/ADMX templates for easy Group Policy deployment of configuration file pointers available at <http://www.browsium.com/wp-content/uploads/Browsium-Group-Policy-Templates.zip>.
- New command-line switch displays registry and file location of active Ion configuration via the command "BrowsiumIonController /WhichConfig". Similar functionality available by pressing 'Ctrl' while displaying the Ion Configuration Manager About Box.
- Improved robustness to handle scenarios where browser process starts before Ion Controller after PC reboot
- Configuration caching to enable offline Ion process initialization when deploying configuration file on a server.
- Ion process names have been updated to be more consistent and more easily identified:

*Prior → Current*

CovManager → BrowsiumIonManager

CovController → BrowsiumIonController

CovBroker → BrowsiumIonBroker

CovMonitor → BrowsiumIonMonitor

CovCertificateSetup → BrowsiumIonCertificateSetup

CovLauncher → BrowsiumIonLauncher

### What's new in Ion 3.2.3

This section details changes to Ion since the prior version, Ion 3.2.

- Fixes an issue with an unexpected error message during Ion Controller initialization on certain PC configurations.
- Added a new feature to provide the ability to launch URLs directly into managed instances of Internet Explorer.

- Added the ability to implement Session Isolation between managed instances of Internet Explorer using the same Ion profile.
- Addresses an issue while trying to set registry values with no name (also referred to as default registry value) in Custom Registry Manager.

### What's new in Ion 3.2

This section details changes to Ion since the prior version, Ion 3.1.

- Support for Windows 8.1 and Windows Server 2012 R2 with IE11, and IE11 on Windows 7.
- Added support for Custom Files, Custom Registries, and Java management on Windows Server 2003.
- Ion Controller and Ion Monitor processes only run when a valid Ion configuration is present on client systems.
- Internet Explorer cache is cleared only when the Ion configuration changes, not every time the Controller starts.
- Examine Web Requests setting moved from main Profile Settings page to Advanced Profile Settings page.
- Ion Client and Ion Configuration Manager installation screens now look crisp on high-DPI displays.
- New capability to allow Ion to remediate site resources that do not match the site's rule.
- Fixed issue where Ion incorrectly launched new managed IE instance on rule matching POSTs.
- Fixed issue where subsequent request was not handled by Ion following a 401 response from server.
- Improved logging to Event Viewer for configuration load errors.

### What's new in Ion 3.1

This section details changes to Ion since the prior version, Ion 3.0.1.

- Default for Examine Web Requests changes from Auto to Always to improve efficiency.
- Improved performance of Ion-managed instances of Internet Explorer for Profiles without Custom Registries or Custom Files.
- Added support for Windows Server 2003 for Profiles without Custom Files and Custom Registries. "Examine Web Requests" must be set to "Always" (the default setting) for Windows Server 2003.
- Simplified the architecture and implementation of Ion by using newer .NET 3.5 framework class libraries.
- Fixed issue with duplicate entries in ADML files when exporting to ADMX.
- Improved logging to reduce noise from non-critical entries.
- Added support for in-place version-to-version upgrades.
- Interoperability between Ion 3.0.1 Configurations and the Ion 3.1 Client. However Browsium recommends keeping Configuration and Client versions aligned.

### What's new in Ion 3.0.1

This section details new features and architecture changes since the prior major released version, Ion 2.

- Ion 3 is a major upgrade to Ion, delivering dramatic improvements in ease of use, scalability, and reliability.
- Ion 3 simplifies remediation with smarter defaults and new wizards to automate complex tasks.
- The new Java Version Manager provides a wizard that automatically detects all versions of Java installed on the system, and enables easy selection of the desired Java version to be invoked to override the default.
- Ion 3 is built on a brand new architecture, developed by Browsium, called "Covalence". The Covalence architecture delivers powerful web application remediation and browser management capabilities with no adverse impact on non-remediated applications and the Windows system in general.
- The Covalence architecture invokes and controls Ion-managed instances of Internet Explorer, with admin-specified document modes and user agent strings, HTML, JavaScript and ActiveX Control overrides, and custom registry

settings. An unlimited number of custom configurations can be created, and all are isolated from the default instance of Internet Explorer to deliver maximum performance and reliability.

- Ion 3 utilizes N+1 instances of Internet Explorer, where N is the number of Ion Profiles in use on a client system and "+1" represents the native, unmanaged instance of Internet Explorer. A new Internet Explorer window will be launched as each Profile is invoked. Multiple websites sharing the same Profile will open in tabs within a single Internet Explorer window. This experience maximizes performance and reliability for remediated applications, and ensures that Ion doesn't interfere with any non-remediated applications.
- Ion 3 adds support for IE10 on Windows 7 and Windows Server 2008 R2