



# **Aras Innovator 14**

## **Release Notes**

*Document #: 14.0.02019051501*

*Last Modified: 11/10/2021*

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## Send Us Your Comments

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Aras Corporation welcomes your comments and suggestions on the quality and usefulness of this document. Your input is an important part of the information used for future revisions.

- Did you find any errors?
- Is the information clearly presented?
- Do you need more information? If so, where and what level of detail?
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# Document Conventions

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The following table highlights the document conventions used in the document:

Table 1: Document Conventions

Convention	Description
<b>Bold</b>	Emphasizes the names of menu items, dialog boxes, dialog box elements, and commands. Example: Click <b>OK</b> .
Code	Code examples appear in <code>courier</code> font. It may represent text you type or data you read.
Yellow highlight	Code highlighted in yellow draws attention to the code that is being indicated in the content.
Yellow highlight with red text	Red text highlighted in yellow indicates the code parameter that needs to be changed or replaced.
<i>Italics</i>	Reference to other documents.
<b>Note:</b>	Notes contain additional useful information.
<b>Warning</b>	Warnings contain important information. Pay special attention to information highlighted this way.
Successive menu choices	Successive menu choices may appear with a greater than sign (-->) between the items that you select consecutively. Example: Navigate to <b>File --&gt; Save --&gt; OK</b> .

# 1 Upgrading from Previous Releases

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Aras provides tools and services related to upgrading to the latest software release. These tools and services are provided to customers as a benefit of the Subscription. Customers should use the guidelines below to determine the path to upgrading to the latest release.

## 1.1 Upgrading to Aras Innovator 14

Customers may request upgrade services from Aras Support if they meet 3 criteria.

- 1) Customers must have an active Subscription for Upgrade Services
- 2) Customers must be in production with Aras Innovator
- 3) Customers must be running on a version of Aras Innovator released no more than 30 months ago

If these 3 criteria are met, the Subscriber may email [support@aras.com](mailto:support@aras.com) to initiate an upgrade services project.

**Note:** Customers with an active Subscription running a version of Aras Innovator released more than 30 months ago should still contact Aras Support at [support@aras.com](mailto:support@aras.com) to discuss the available options.

## 2 Key Enhancements

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The Aras Innovator 14 Key Enhancements are outlined below.

### 2.1 .NET Framework to .NET Core Transition

The primary focus of Aras Innovator 14 is transitioning the Aras server components from .NET Framework to .NET Core. .NET Core has some significant advantages over .NET Framework, such as cross-platform support and better scalability.

Some customer developed Methods may require modification. Subscribers should consider the need for modification of method when evaluating the upgrade to Release 14 with Aras.

### 2.2 Server Logging Updates

To make development, testing and troubleshooting easier, the following server logging enhancements have been implemented:

- Aras Innovator Server, Aras Innovator Web Client, OAuth server, Vault Server, Conversion Service and Agent Service have unified logs configuration in server's appsettings.json file. Default configuration is also unified and is the same for all servers and services after installation. Only fatal errors are logged by default.
- ASP.NET Core native logging mechanism (ILogger and ILoggerFactory) is available in CallContext public object. This mechanism uses server's log configuration and writes server methods logs along with other server's logs. Developers of server methods should use this mechanism for new development. Old public log API in CallContext is deprecated with appropriate messages and will be removed in the future.

### 2.3 Styling and Controls

#### 2.3.1 Web Client and Controls

Styling and controls for many elements of the Aras web client have been updated for improved usability and consistency. This includes primary navigation, such as the login screen, the header and the navigation panel, item forms, the simple search data entry row, and grid rows.

With form styling, previously if you defined a custom style on a required field, the styling of required fields (blue) would override this. Now if you define a custom style on a required field, it overrides the required fields styling (which is now yellow).

#### 2.3.2 Tree Grid View

The toolbar and context menu for Tree Grid Views have been updated to standard styling for consistency throughout Aras Innovator.

## 2.4 New Table of Contents (TOC) Editor

A new graphical editor has been introduced to enable administrators to configure the Table of Contents (TOC) in one place. New functionality includes the ability to define TOC buttons and categories, configure custom labels and icons for TOC buttons, and customize the sort order of TOC entries. Additionally, administrators can preview the TOC for specific identities within the TOC Editor. Refer to the Aras Innovator 14 - Configurable User Interface Administrator Guide for step-by-step instructions for using the editor and configuring common use cases.

The TOC Editor creates Configurable User Interface (CUI) objects to define and render the TOC in the Aras Innovator web client. This approach replaces the old TOC Access and TOC View relationships on ItemTypes. Customers taking advantage of the Aras Upgrade subscription service will no longer need to update any packages that are included in the scope of an upgrade project. The process to update existing packages that are not in the scope of an upgrade services project requires three simple steps.

- Import the old package into 14
- Use the TOC Editor to define any TOC buttons or categories required for the package
- Export the package using the package export utility.

Refer to the Aras Innovator 14 - Configurable User Interface Administrator Guide for more details.



## 3 Bug Fixes and Known Issues

### 3.1 Issues Fixed in Aras Innovator 14

#### 3.1.1 Platform

Issue #	Description
083419, 083311, 048909, 087360	Extended mail configuration in InnovatorServerConfig with new attributes. The system has been enhanced to allow administrators to configure mail to enable ssl through a configuration file.
085020, 022544, 026564, 090335, 081690, 037056	Extended mail configuration in InnovatorServerConfig with new attributes. The system has been enhanced to allow administrators to specify a username and password to use for authentication with the SMTP mail server.
F-000084	Tree Grid View toolbar and context menu are updated to use the new layout.
F-000144	Styling and controls within the simple search data entry row (the "blue row") have been updated for improved usability and consistency.
F-000147	Styling and controls within forms have been updated for improved usability and consistency.
F-002997	Aras Innovator Server, Innovator Web Client, OAuth Server, Vault Server, Conversion Service and Agent sService have unified logs configuration in server's appsettings.json file. Default configuration is also unified and is the same for all servers and services after installation. Only fatal errors are logged by default.
F-004030	Introduced the TOC Editor, which is now used for editing the Table of Contents for all users. The former approach of using TOC Access and TOC View from the ItemType definition is no longer used.
F-004297	ASP.NET Core native logging mechanism (ILogger and ILoggerFactory) is available in CallContext public object. This mechanism uses server's log configuration and writes server methods logs along with other server's logs. Developers of server methods should use this mechanism for new development. Old public log API in CallContext is deprecated with appropriate messages and will be removed in the future.

Issue #	Description
F-004430	Styling of the login screen has been updated. The background image of the login screen will be changed on each release going forward, as a visual cue to what release is in use.
F-004433	Styling within grid rows has been updated for improved usability and consistency.
F-004434	Styling and controls for primary elements of the Aras web client, such as the header and the navigation panel, have been updated for improved usability and consistency.
F-004493, F-004499	<p>The Federated data type for property definitions has been removed and replaced with a new Federated Boolean attribute. All Federated properties on existing types have been converted to Text properties with the new Federated attribute set to true. Currently only Text properties can be federated.</p> <p>All Properties in Customer databases that were defined as Federated will be converted to Text with the Federated Boolean attribute set accordingly during upgrade.</p>
F-004737	XML/XSL reports can now be generated on Linux OS Innovator Server.
I-015106	Addressed an issue in which the layout of the context menu was displayed incorrectly in the Relationship Grid. The Relationship Grid context menu layout now correctly displays the full context menu.
I-026992	The 'Standard' Document Type for a Technical Document has been updated to include an Item Property Mapping example for the 'ItemInfo' Document Element. This change provides an example use of Mapped Properties.
I-031313	Addressed an issue when the image size may have been incorrectly changed after rotating a manually zoomed image. The viewer state rotation and scale information is now properly maintained when the Image is rotated.
I-033435	The server methods compiler has been updated to support C# 8.0.
I-034020	Corrected an issue in which the background color was not applied to the Formatted Text property field in a form. The background color is now properly displayed in the form fields.

### 3.1.2 Product Engineering

Issue #	Description
022708	Addressed an issue in which the system would incorrectly allow duplicate Affected Items in an Express ECO change. Add Item(s) to Change action now prevents the same Affected Item from being added twice to the same parent Change Item.
F-001485	The Authoring Tools list in Aras Innovator has been updated to reflect the latest supported industry tools and connectors.
F-004166	Icons have been introduced for the "CAD Files", "Models", and "Goals" Relationship ItemTypes.

## 3.2 Known Issues in Aras Innovator 14

### 3.2.1 Platform

Issue #	Description	Workaround
006830	Cannot change a text property from "not required" to "required."	A workaround has been provided in the Aras Innovator on-line help.
007281	Vault server cannot resolve host name.	The vault URL computed by Aras Innovator can fail to calculate when based on DNS settings. If you encounter a problem, please contact Aras support.
011985	On-line help is incomplete.	Not all new features in Aras Innovator have been documented in the on-line help section of Aras Innovator. Please contact Aras support if you are having difficulty with a new feature.
023511	The OnBlur and OnFocus events are not fired for properties of type Boolean when using Firefox on the client. This applies to all radio boxes and checkboxes.	
023879	The functionality outlined in the Aras Innovator – Login Security document is not certified for use with Aras Innovator.	

Issue #	Description	Workaround
024442	Integrated Web Services are not certified for use with Aras Innovator. Aras Innovator is still compatible with Web Services. Only the integrated UI for creating and managing web services is not certified.	
033559	The standard integration with Microsoft SharePoint is not certified for use with Aras Innovator.	
038190, 038295	Self-Service Reports created prior to Aras Innovator 11.0 SP4 will generate an error message and do not execute after upgrade.	Please contact Aras Support.
046252	An error that occurs when loading a Reporting Services report in Tabs viewing mode could load error text over the main toolbar.	Close the report and reload the main grid.
048590	Tree Grid View does not support the display of all Property Item data types.	The issue relates to the display of Float Cell View Types. Changing the Cell View Type to Decimal addresses the issue
052666	Users must type a space character after any @mention reference in collaboration messages or else further @mention references in the same message may be ignored.	
052753	Color List properties can fail to display color on client machines running the MAC OS and using the Chrome browser.	Use Firefox browser.
052912	When a File has several File Representations available only the first representation file returned is available to the user in Viewer.	
052958	Icons in the table of contents can fail to display. The root cause is the use of an SVG file in the ItemType definition that is not compatible with the size constraints of the TOC images.	The SVG file must be identified and altered to be compatible for rendering.

Issue #	Description	Workaround
053864	Unexpected search results can occur if Boolean or Color data types are used with invalid conditions in the Query Builder.	Use correct static values for Boolean and Color values
054514	Action can_execute is not called on UpdateTearOff State.	
054883	Session Timeout while in the relationship grid may cause errors and require a new login.	Close the browser window and login again.
055070	ItemTypes that have more than 23 characters cannot be added to an xClassification tree.	Use a name that is less than 23 characters.
055587	Freeze pane does not fully work in RTL languages. Grid layout can become corrupt when using the freeze pane feature.	
056154	The Get Value Method currently cannot return a Null value. An incorrect data type error appears.	
056310	Users can lose information if they change the "Dynamic Content" Setting in the ItemInfo element of Technical Documents.	This is expected functionality associated with 'dynamic content'. Technical Document Administrators should take care when reconfiguring a Document Type when existing content may have been created
056836	CSS is not applied to Item properties in the main grid.	
057701	Cannot create an xProperty for Type item with a datasource file.	
059094	Using the same xProperties in different xClasses within an xClassification tree results in an error message. The Item associated with xClassification tree cannot be saved.	
059181	A new Tree Grid View Definition (TGVD) containing a mapped element cannot be copied using the 'Save-As' Function.	

Issue #	Description	Workaround
059692	<p>xClassification Trees cannot be updated after renaming the polysource ItemType associated with the xClassification tree. This problem can be related to other implicit polysource ItemTypes in Aras Innovator. The user sees the standard error message, but because the error occurs in the database layer due to inconsistencies in the data, it contains low level information about the SQL exception. At the same time, the secured function is too large to fit into the error dialog box.</p>	<p>Trigger the update of the xPropertyContainerItems ItemType by locking it and then clicking Save, Unlock, and Close. The server rebuilds the SQL view, considering the new polysource names.</p>
060246	<p>Focus is lost from the Reply button if the cursor is moved to the middle of the Reply button and the snapshot checkbox is selected.</p>	
060454	<p>If the WebDAVModule is installed on the server, it throws a 405 error when running a DELETE action on an item.</p>	
060477	<p>Extended Classification functionality is broken after importing auto-generated relationships using the Import tool.</p>	<p>Export the created package definition:</p> <ol style="list-style-type: none"> <li>1. Select the desired package.</li> <li>2. Select the Don't Remove checkbox for references to Unknown Packages.</li> <li>3. Export selected Import package definition that was exported.</li> <li>4. Select the exported package,</li> <li>5. Import the selected package (if DB is clear, use the Import tool default settings).</li> </ol>
061681	<p>Editing comments is only supported in the default SecureMessageViewTemplate. If this template is modified, editing comments results in an error message.</p>	<p>Use the default SecureMessageViewTemplate for editing comments.</p>
062451	<p>In Chrome v67, the Tree View is not displayed in the Editor for a Quality Planning item or for any document created from a content type.</p>	<p>Use an alternate browser or contact Aras Support (support@aras.com) for hotfix availability.</p>

Issue #	Description	Workaround
062877	An error may occur if saving an item when many xProperties exist (e.g., 2300).	
063022	View_restriction_type list is not yet available in gn_GraphViewDefinition ItemType.	
063702	The Aras Innovator Server allows setting is_current=0 for non-versionable items through AML.	
064108	The order of requests with a ChangeSet in OData is significant. The service will process the requests within a ChangeSet in the order of the requests.	
064243	Reference to an item is lost after applying @aras.action=purge in ChangeSet in OData.	
065154	Component onChange event is fired constantly (Chrome) and may hang the browser session.	Use a different browser.
065445	Passwords with non-Latin characters are not supported.	
069664	When updating a Graph Visualization and a single NVD is specified in a GVD, it is applied to all nodes instead of only the ones that are defined by the query item.	
070139	Newline characters are being added in the middle of text content that is cut and pasted from a Word document in the Technical Documentation Framework.	
077386	Form elements overlap each other in German localization.	
078110	Potential memory issues with xProperties search returning more than 10,000 results per page.	
078137	Cannot create an item with 150 properties of type item.	

Issue #	Description	Workaround
078230	The value of an xProperty is not displayed in the grid.	Click Refine Search and check "Select All" checkbox. (When all values are selected, all values are displayed correctly).
078373	Fields on Report form overlap each other in Japanese.	
078583	Relationship does not work if exclusion is used.	
078628	Fields on a Property form overlap each other in German.	
078630	Fields in User ItemType overlap each other in German.	
078645	OAuthServer/AuthenticateService and other OAuth related functions do not proxy SMSESSION cookies.	
084173	Status item icons are not rendered when exporting the grid to PDF.	
084175	Export to PDF displays Restricted items as blank instead of displaying "Restricted" text.	
087994	An error is displayed if the administrator views the History Container ItemType.	Close the error windows. The data is properly displayed.
088147	If an ItemType is set as RelationshipType and the RelationshipTypes Tab is open, ItemType fields other than Name and Singular Label in the form will be cleared after updating any field.	Save the ItemType. The fields will display the correct data after saving.
F-000574	The command bars associated with Effectivity Expression ItemTypes do not use the default item command bar. The Effectivity ItemTypes are: <ul style="list-style-type: none"> <li>- effs_scope</li> <li>- effs_expression</li> </ul>	
F-000591	The Relationship and Paging toolbars should be removed from the Query Definition parameters dialog box. The custom toolbar can either be retained as is or updated to the new UI.	



Issue #	Description	Workaround
F-000592	The Relationship and Paging toolbars should be removed from the Tree Grid View Map parameters dialog box. The checkmark and X buttons should be replaced with the standard UI OK and Cancel buttons.	
F-001881, 056625	Exporting a Tree Grid View definition does not result in the export of custom CUI components that have been associated with the Tree Grid View definition (or relationships associated with it).	The CUI components will need to be exported separately. The user will need to export Command Bar Item, Command Bar section, Presentation Configuration and ItemPresentationConfiguration items associated with the custom CUI components that have been added.
I-001831, 072506	When uninstalling Aras Innovator, the system can indicate that a file cannot be deleted because another program is still using it.	In IIS, cycle the OAuth App pool (stop the service and then restart it). Once this process is complete, the uninstall will finish successfully without any further error messages.
I-002519, 072008	Windows authentication may display a "You are disconnected" error if the server MemoryCache removes HttpServerConnection from the cache.	
I-003734, 059772	Multilanguage translations are missing from Effectivity Services.	
I-007920	Query Definitions that include query items such as CAD[Exists(Native File)] in conjunction with a Dynamic 3D Viewer Query Definition result in slower processing times.	
I-009836	Checkboxes in the Extended Classification relationship grid are the wrong size. They should be 16x16.	
I-010552	Using Chrome with the NonVisual Desktop Access application may cause the browser to close after the dialog window appears.	Update to the latest version of Chrome or do not use the NonVisual Desktop Access application in combination with the older version of Chrome.
I-010576	Cells in some specialized relationship grids may not display correctly after zooming.	

Issue #	Description	Workaround
I-010655	Quickly clicking the “New Part” button on the relationship toolbar may result in the same sequence number being used for multiple rows in the list when using Edge.	Do not click too fast in Edge or use a different browser.
I-010951, 073231	Workflow process may result in SQL Deadlocks, if <200 Workflow Related items and users trigger workflows in parallel. An OnAfterAddActivityAssignment server-side method executing GetItem/AddItem against "Activity Assignment", "Activity Variable", etc. ItemTypes can cause SQL Selects and Inserts in one transaction that may cause SQL Deadlocks.	
I-011102	Type Ahead may fail for unsaved changes to Keyed Name in Item cell.	Item properties can be edited after the last save.
I-011278	When using Export to Word/Excel, the background color in relationship properties cells is not exported along with the data.	
I-012619	Including 0s in the decimal part of an Unsigned Big Integer number is not truncated after changing focus, which makes the value invalid.	
I-012655	Using spaces in an Unsigned Big Integer cell property does not trigger an error message.	After focusing out all the spaces are truncated in Unsigned Big Integer property.
I-012681	Subtitle of a Technical Document cannot be edited if selected directly in the Structure Tree.	Edit the Subtitle in the Editor instead of the Structure Tree.
I-012933	The Relationship grid does not automatically scroll down to a new row after it has been added.	Scroll to the bottom of the grid if the newly added rows are not visible in the Relationship container.
I-013120	When using Export to PDF from an item, radio buttons are not exported correctly in the document.	
I-013368	Vote list dropdown contains no items in Activity Completion form, if Activity is opened using Ctrl+Enter shortcut.	If User opens this Activity by double-click or click on "Complete Task", the form is displayed correctly.

Issue #	Description	Workaround
I-013468	Certain HTML report tabs (such as ItemType Definition Report) do not work with Tear Off Tab function.	
I-013576	After adding items in a relationship tab of an item, when the user scrolls to the top items in the tab, the scrolling can freeze	Scroll to the top of the overall item view, which activates the relationship grid scrolling
I-013898	Properties that are disabled on a Form can be edited when mapped into a TDF document.	
I-013995	Undo/Redo within the TDF editor does not work for content modified in Mapped Document Elements	Modified content must be changed back manually when edited in the Technical Document Editor
I-014045	If user loses access to an item they are editing when they do a save, the update cannot be saved and a "No items of type {itemtype} found" error is returned by the server.	No workaround. User must get access after a change if the change is to be saved.
I-014055	Part save can fail with a "Exception in Goal Basis refresh" error if user does not have needed permissions	No workaround. If goals are not being used, the Part form may be modified to eliminate the Form Event calling the Show Goal Basis method.
I-015194	If Append Results is enabled, there may be inconsistent behavior with paging commands.	
I-015585	When the browser window zoom is set, for example to 90% (in zoom out direction) in Edge, the relationship grid cannot be scrolled up after scrolling all grid down.	Use a different browser, "zoom in" browser window to 100%, or locate the 1st row using the "Up Arrow" on your keyboard.
I-018002	Query Builder Editor becomes unusable if a Query Item which is referenced by another Query Item using either a count, min, or max condition is removed, and the Query Definition is then saved.	Remove the references from any Query Item. Then the target Query Item can be removed, and the Query Definition saved.
I-019172	If ItemType is set with Default Structure View = Tabs Min, items are opened with the second accordion section minimized, but then after opening it the accordion height is too small.	Reduce screen height, and the accordion height will be corrected.

Issue #	Description	Workaround
I-019494, 057648	Incorrect access controls based on Boolean properties/xProperties where value = NULL. NULL values are incorrectly treated as 0.	Do not use logic for NULL in the Boolean properties of access controls. Use a defined Boolean value or 1/0. The target value should have a default of 0.
I-019902	If the method referenced by an Environment Attribute returns a different data type than the one originally called out, an error is returned on the save of the Environment Attribute and it cannot be used.	Log in as Administrator and delete the Environment Attribute.
I-020725, 064829	User Login will succeed, but the user will be unable to perform any actions if a JavaScript method was assigned to a server event by mistake.	Disable the incorrectly assigned method directly in the database.
I-020825, 053303	When a Query definition is configured to reuse a root Query Item in both a Parent and a Child Query Item, the result is endless recursion when executing the Query Action.	Do not include referenced and related ItemTypes in a Query Definition when the relationship between those ItemTypes is reused.
I-021333	Incorrect structure is shown in "Where Used" when viewed as the superuser.	View the "Where Used" structure as a member of the administrator group.
I-021734, 084121	In the Technical Document Editor, if the entire text of the Subtitle is selected and deleted, the text reappears after saving.	Place the cursor in the field and remove the text by backspacing or deleting the characters one at a time.
I-021884	It is possible to add query parameters to an unclaimed Query Definition item which results in the 'Unsaved Changes' dialog appearing and an error being triggered if an attempt is made to Save.	
I-022388, 056158	Creating a command bar section where the location is "TGV Toolbar" and the Classification=Method and Builder Method results in the method not executing and an error message being displayed.	
I-023064, 085092	ItemType forms may display no fields when using Firefox in an https environment with the server and Client OS set to German.	Use a different browser, different language or non-https connections.

Issue #	Description	Workaround
I-023336	MAC Policy appears to be editable but remains in a read-only state if the 'New Version' action is used on a currently displayed read-only policy.	Close and reopen the MAC Policy Form.
I-024473	Multi-select from search dialog using shift-click to select multiple items returns the selection in reverse order.	Select items using control key with click instead of shift-click.
I-024530	After editing a related item in a relationship tab of a source item, and clicking "Done Editing", the source item is incorrectly removed from any main search grid where it appears.	
I-024701	Context menu in Tree Grid View (with View, Grow, Trim, View Effectivity) is shown for 'Show More' line but an error is displayed if there is an attempt to use it.	
I-025109	Second file is not displayed when attempting to display two files in Comparison Viewer.	For Edge and Chrome users, click "Difference", after which both files will be displayed.
I-026236, I-026729	Activating more than one MAC Policy using the same xClasses and xProperties fails with an "Error during generate secured functions." message when the second MAC policy is saved/activated.	Create only one MAC policy and combine conditions using the AND operand.
I-026681	Activating a MAC policy with a Collection.Contains expression comparing to a constant fails with an error message - "Error during generate secured functions."  e.g., condition= Collection.Contains(CurrentItem.[Derived attribute of List Data type], 'constant').	Redefine MAC policy to compare with a property value, not a constant.
I-030315	The Viewer button is not displayed on the item sidebar if the Aras Subscription feature license key has been applied after adding viewable file to the item.	Apply licenses before attempting to use the viewer functionality. If viewer functionality has been used before the license(s) were applied, the browser cache must be cleared to reset the viewer button state. Server-side push is optional if more than one client is affected.

Issue #	Description	Workaround
I-030661	The text entries in the dropdown for the Claim column in search grids ("Claimed by me", etc.) are not localized.	
I-031486	Search criteria are lost when switching from Simple to Advanced search mode if using numeric properties with wildcards.	
I-032724	xProperties values are not shown in Search results when using a saved custom grid layout if the Default layout (as set in preferences) does not include these xProperties.	Add the desired xProperties to the Default Layout.
I-034375	If upgrading from a previous version of Aras Innovator, Aras 3D Visualization may encounter errors after the upgrade.	Reinstall Aras 3D Visualization after upgrading Aras Innovator. See Aras 3D Visualization Release Notes for more detail.
I-034296	If an item form of a relationship item is opened from a relationship tab, it cannot be closed if pending changes exist in the relationship tab.	Exit and re-start Aras Innovator.
I-037807	For TDF Enabled Documents in View mode, an error is displayed when the user opens the Attributes Dialog. After the error message is closed the system will only display a limited number of Attributes.	The error occurs only in View Mode. All the Attributes can be viewed in the Attributes dialog by opening the document in Edit mode.
I-014160	Aras.Net.RequestProviders section in configuration files are not applied in .NET Core.	It is possible to create file "project_name.dll.config" (like app.config) in output directory with configuration copied from the /configuration/Aras/Net/RequestProvider/providers section of the old web.config.
I-036933	Compilation warnings from the TreatWarningsAsErrors method are not displayed.	

### 3.2.2 Product Engineering

Issue #	Description	Workaround
021945	Baseline versioning on Part BOM is not compatible with the Impact Matrix.	
021946	Baseline versioning on Part BOM is not compatible with a multi-level BOM structure relationship.	
077889, 081257, 082197	When adding an item to an ECO/DCO, there is no check if the item is already in another active ECO/DCO.	
076383	A Released or Cancelled MCO floats versions of the affected items instead of using exact versions used as of release or cancel.	
076077, 084286	It is possible to add duplicate Affected Items to an Express ECO through multi-selecting items for Item Actions.	Assign Item Actions one by one for each Affected Item. If using multi-select, confirm the same item is not selected more than once.
I-006685	When creating a new generation of a Part that has a list of Manufacturer Parts, the AML tab under that new Part generation shows all AML states as "Preliminary."	

## 4 Aras Innovator 14 API Changes

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Aras Innovator 14 has declared the following APIs as Obsolete or Deprecated. As indicated below, we have suggested replacement functions and APIs for this code when necessary.

### 4.1 Aras.Net.dll

#### 4.1.1 Obsolete

- `M:Aras.Net.CookieContainerProviderFactory.GetContextBasedCookieContainerProvider(System.Uri)`

Use `CookieContainerProviderFactory.GetPerInstanceCookieContainerProvider()` instead.

### 4.2 Aras.Server.Core.dll

#### 4.2.1 Deprecated

- `M:Aras.IOME.Evaluator.#ctor(Aras.Server.Core.CallContext)`

Use `CallContext.Evaluator` instead.

- `M:Aras.Server.Core.Abstractions.IServerEnvironment.TransformUrl(System.String,System.Boolean)`

Use `CallContext.ServerEnvironment.TransformUrl(string)` instead.

- `M:Aras.Server.Core.Abstractions.IServerEnvironment.TransformUrl(System.String,System.Collections.Specialized.NameValueCollection,System.Boolean)`

Use `CallContext.ServerEnvironment.TransformUrl(string)` instead.

- `M:Aras.Server.Core.InnovatorApplication.ServerInfoXmlDom(Aras.Server.Core.CallContext)`

No usages expected

- `M:Aras.Server.Security.Permissions.GetAncestorIdentityIds(Aras.Server.Core.IInnovatorDatabase,System.String[])`

Use `CallContext.Permissions.GetAncestorIdentityIds()` instead.

- `M:Aras.Server.Security.Permissions.GetDescendantIdentityIds(Aras.Server.Core.IInnovatorDatabase,System.String[])`

Use `CallContext.Permissions.GetDescendantIdentityIds()` instead.



- `M:Aras.Server.Security.Permissions.GetIdentitiesList (Aras.Server.Core.IInnovatorDatabase, System.String)`  
`Use CallContext.Permissions.GetIdentitiesList () instead.`
- `M:Aras.Server.Security.Permissions.GrantIdentity (Aras.Server.Security.Identity)`  
`Use CallContext.Permissions.GrantIdentity () instead.`
- `M:Aras.Server.Security.Permissions.RevokeIdentity (Aras.Server.Security.Identity)`  
`Use CallContext.Permissions.RevokeIdentity () instead.`
- `P:Aras.Server.Security.Permissions.Current`  
`Use CallContext.Permissions instead.`
- `T:Aras.Server.Core.Abstractions.IStartup`  
Interface contains one method that can be replaced with `CallContext.Logger`.
- `T:Aras.Server.Core.Startup`  
Interface contains one method that can be replaced with `CallContext.Logger`.

#### 4.2.2 Obsolete

- `E:Aras.Server.Core.Configurator.ObservableList1.CollectionChanged``  
`ObservableList<T> has been replaced with List<T> in Aras.Server.Core.Configurator.ExpressionBase. Update your usages.`
- `M:Aras.IOME.Evaluator.get_method_config`  
`Use Evaluator.GetMethodConfig () instead.`
- `M:Aras.Server.Core.Abstractions.IDatabase.GetNextSequence (System.Xml.XmlDocument@, System.Xml.XmlDocument@)`  
`Use Innovator.getNextSequence () instead.`
- `M:Aras.Server.Core.Abstractions.IDatabase.GetUserAliases (System.String)`  
`Use CallContext.Identity.GetUserAliases (string) instead.`
- `M:Aras.Server.Core.Abstractions.IDatabase.GetUserWorkingDirectory (System.Xml.XmlDocument@, System.Xml.XmlDocument@)`  
`Use GetUserWorkingDirectory SOAP action in AML.`

- `M:Aras.Server.Core.Abstractions.IEmail.setup_smtpmail_server_and_send(System.Net.Mail.MailMessage)`

Use `SetupSmtpMailServerAndSend(System.Net.Mail.MailMessage)` instead.

- `M:Aras.Server.Core.Abstractions.IExportImport.RenamePhysicalFiles(System.Xml.XmlDocument)`

Apply Item with `RenameFile` action instead.

- `M:Aras.Server.Core.Abstractions.IExportImport.RestoreRenamedFiles(System.Xml.XmlDocument)`

Apply Item with `RenameFile` action instead.

- `M:Aras.Server.Core.Abstractions.IGetItem.ApplyItem(System.Xml.XmlDocument@,System.Xml.XmlDocument@)`

Use `CallContext.ApplyItem.ApplyItem()` instead.

- `M:Aras.Server.Core.Abstractions.IItemMethods.GetAffectedItems(System.Xml.XmlDocument, System.Xml.XmlDocument)`

Apply Item with `GetItemWhereUsed` action instead.

- `M:Aras.Server.Core.Abstractions.IPermissions.debuglog_user_info`

Remove usages.

- `M:Aras.Server.Core.Abstractions.IPermissions.error_if_not_superuser(System.String)`

Use `IPermissions.ErrorIfNotSuperUser(string)` instead.

- `M:Aras.Server.Core.Abstractions.IPermissions.GetIdentityIDByName(System.String)`

Use `CallContext.IdentityModule.GetIdentityIdByName(string)` instead.

- `M:Aras.Server.Core.Abstractions.IStartup.InnovatorServerMain`

No usages expected

- `M:Aras.Server.Core.Abstractions.IUtilities.GetLogsFolderPath`

Use `CallContext.ServerEnvironment.GetTempFolderPath()` instead.

- `M:Aras.Server.Core.Abstractions.IUtilities.IsPropertyNameValid(System.String@)`

No usages expected

- `M:Aras.Server.Core.Abstractions.IUtilities.transform_url(System.String, System.Collections.Specialized.NameValueCollection, System.Boolean)`  
**Use `CallContext.ServerEnvironment.TransformUrl(string)` instead.**
- `M:Aras.Server.Core.Abstractions.IUtilities.TransformUrl(System.String, System.Collections.Specialized.NameValueCollection, System.Boolean)`  
**Use `CallContext.ServerEnvironment.TransformUrl(string)` instead.**
- `M:Aras.Server.Core.Abstractions.IXmlProxy.CreateXMLDocument`  
**Use `CallContext.XML.CreateNewXMLDocument()` instead.**
- `M:Aras.Server.Core.Abstractions.IXmlProxy.CreateXMLDocument(System.String)`  
**Use `CallContext.XML.CreateNewXMLDocument(System.String)` instead.**
- `M:Aras.Server.Core.Abstractions.IXmlProxy.GetRequestItem(System.Xml.XmlDocument@)`  
**Use `SelectSingleNode("//Item")` instead.**
- `M:Aras.Server.Core.Abstractions.IXmlProxy.GetResponseItem(System.Xml.XmlDocument)`  
**Use `SelectSingleNode("//Item")` instead.**
- `M:Aras.Server.Core.ApplyItemProxy.ApplyMethod(System.Xml.XmlDocument@, System.Xml.XmlDocument@)`  
**Use AML with action that is set to server method name.**
- `M:Aras.Server.Core.ApplyItemProxy.EditItem(System.Xml.XmlDocument, System.Xml.XmlDocument)`  
**Use `CallContext.EditItem.EditItem(XmlDocument, XmlDocument)` instead.**
- `M:Aras.Server.Core.CallContext.#ctor(System.Web.HttpApplication)`  
**Do not instantiate `CallContext`. Use instance of `CallContext` from server method context, e.g. CCO variable.**
- `M:Aras.Server.Core.CallContext.#ctor(System.Web.HttpContext)`  
**Do not instantiate `CallContext`. Use instance of `CallContext` from server method context, e.g. CCO variable.**
- `M:Aras.Server.Core.CCProxy.AddItem(System.Xml.XmlDocument@, System.Xml.XmlDocument@)`  
**Use `CallContext.AddItem.AddItem()` instead.**

- `M:Aras.Server.Core.CCProxy.ApplyItem(System.Xml.XmlDocument@, System.Xml.XmlDocument@) "`

Use `CallContext.ApplyItem.ApplyItem()` instead.

- `M:Aras.Server.Core.CCProxy.CreateNewRelationship(System.String@, System.Xml.XmlElement@, System.String@, System.Xml.XmlDocument@) "`

Use AML query instead.

- `M:Aras.Server.Core.CCProxy.CreateXMLDocument "`

Use `CallContext.XML.CreateNewXMLDocument()` instead.

- `M:Aras.Server.Core.CCProxy.ExecuteMethodByName(System.Xml.XmlDocument@, System.Xml.XmlDocument@, System.String@, System.Boolean@) "`

Use `CallContext.ApplyItem.ExecuteMethodByName()` instead.

- `M:Aras.Server.Core.CCProxy.GetItem(System.Xml.XmlDocument@, System.Xml.XmlDocument@) "`

Use `CallContext.GetItem.GetItem()` instead.

- `M:Aras.Server.Core.CCProxy.GetItemProperty(System.Xml.XmlNode, System.String) "`

Use `CallContext.XML.GetItemProperty()` instead.

- `M:Aras.Server.Core.CCProxy.GetKeyedName(System.String@, System.String@, System.Boolean@) "`

Use AML query to get item keyed\_name by it's type and id.

- `M:Aras.Server.Core.CCProxy.GetLogsFolderPath "`

Use `CallContext.ServerEnvironment.GetTempFolderPath()` instead.

- `M:Aras.Server.Core.CCProxy.GetUserID "`

Use `CallContext.Variables.GetUserID()` instead.

- `M:Aras.Server.Core.CCProxy.MakeResponseMessage(System.Xml.XmlDocument, System.String) "`

Use `CallContext.XML.MakeResponseMessage()` instead.

- `M:Aras.Server.Core.CCProxy.RemoveItemProperty(System.Xml.XmlElement@, System.String@) "`

Use `XmlElement` methods instead.

- `M:Aras.Server.Core.CCProxy.SaveTextData(System.String, System.String, System.Boolean) "`

Use `.NET API File.WriteAllText()` instead.

- `M:Aras.Server.Core.CCProxy.SetItemProperty(System.Xml.XmlElement@, System.String@, System.String@) "`

Use `XmlElement` methods instead.

- `M:Aras.Server.Core.ClientLogOnPolicy.#ctor(System.String, System.String, System.String)`

Use `WindowsUserByNameClaimMapper` or `GenericUserMapper` plugins for OAuth Server instead.

- `M:Aras.Server.Core.Configurator.ExpressionCombinator.GetCombinations()` 3 No public usages are expected

- `M:Aras.Server.Core.Configurator.ExpressionSortComparer.#ctor`

No public usages are expected

- `M:Aras.Server.Core.Configurator.ExpressionSortComparer.Compare(Aras.Server.Core.Configurator.ExpressionBase, Aras.Server.Core.Configurator.ExpressionBase)`

No public usages are expected

- `M:Aras.Server.Core.Configurator.ObservableList1.#ctor``

`ObservableList<T>` has been replaced with `List<T>` in `Aras.Server.Core.Configurator.ExpressionBase`. Update your usages.

- `M:Aras.Server.Core.Configurator.ObservableList1.#ctor()`

`ObservableList<T>` has been replaced with `List<T>` in `Aras.Server.Core.Configurator.ExpressionBase`. Update your usages.

- `M:Aras.Server.Core.Configurator.ObservableList1.#ctor(System.Int32)``

`ObservableList<T>` has been replaced with `List<T>` in `Aras.Server.Core.Configurator.ExpressionBase`. Update your usages.

- `M:Aras.Server.Core.Configurator.ObservableList1.Add()`

`ObservableList<T>` has been replaced with `List<T>` in `Aras.Server.Core.Configurator.ExpressionBase`. Update your usages.

- `M:Aras.Server.Core.Configurator.ObservableList1.AddRange()`

`ObservableList<T>` has been replaced with `List<T>` in `Aras.Server.Core.Configurator.ExpressionBase`. Update your usages.

- `M:Aras.Server.Core.Configurator.ObservableList1.Clear``  
`ObservableList<T>` has been replaced  
with `List<T>` in `Aras.Server.Core.Configurator.ExpressionBase`. Update your usages.
- `M:Aras.Server.Core.Configurator.ObservableList1.Insert(System.Int32,``  
`ObservableList<T>` has been replaced  
with `List<T>` in `Aras.Server.Core.Configurator.ExpressionBase`. Update your usages.
- `M:Aras.Server.Core.Configurator.ObservableList1.InsertRange(System.Int32,``  
`ObservableList<T>` has been replaced  
with `List<T>` in `Aras.Server.Core.Configurator.ExpressionBase`. Update your usages.
- `M:Aras.Server.Core.Configurator.ObservableList1.Remove()```  
`ObservableList<T>` has been replaced  
with `List<T>` in `Aras.Server.Core.Configurator.ExpressionBase`. Update your usages.
- `M:Aras.Server.Core.Configurator.ObservableList1.RemoveAll()```  
`ObservableList<T>` has been replaced  
with `List<T>` in `Aras.Server.Core.Configurator.ExpressionBase`. Update your usages.
- `M:Aras.Server.Core.Configurator.ObservableList1.RemoveAt(System.Int32)```  
`ObservableList<T>` has been replaced  
with `List<T>` in `Aras.Server.Core.Configurator.ExpressionBase`. Update your usages.
- `M:Aras.Server.Core.Configurator.ObservableList1.RemoveRange(System.Int32, System.Int32)```  
`ObservableList<T>` has been replaced  
with `List<T>` in `Aras.Server.Core.Configurator.ExpressionBase`. Update your usages.
- `M:Aras.Server.Core.DB.GetNextSequence(System.Xml.XmlDocument@, System.Xml.XmlDocument@)`  
Use `Innovator.getNextSequence()` instead.
- `M:Aras.Server.Core.DB.GetUserAliases(System.String)`  
Use `CallContext.Identity.GetUserAliases(string)` instead.

- `M:Aras.Server.Core.DB.GetUserWorkingDirectory(System.Xml.XmlDocument@, System.Xml.XmlDocument@)`

Use `GetUserWorkingDirectory` SOAP action in AML.

- `M:Aras.Server.Core.Email.setup_smtpmail_server_and_send(System.Net.Mail.MailMessage)`

Use `SetupSmtMailServerAndSend(System.Net.Mail.MailMessage)` instead.

- `M:Aras.Server.Core.ExportImport.AddFileToRename(System.String, System.String, System.Xml.XmlDocument)`

Apply Item with `ReplaceFile` action instead.

- `M:Aras.Server.Core.ExportImport.RenamePhysicalFiles(System.Xml.XmlDocument)`

Apply Item with `RenameFile` action instead.

- `M:Aras.Server.Core.ExportImport.RestoreRenamedFiles(System.Xml.XmlDocument)`

Apply Item with `RenameFile` action instead.

- `M:Aras.Server.Core.GetItemProxy.ApplyItem(System.Xml.XmlDocument@, System.Xml.XmlDocument@)`

Use `CallContext.ApplyItem.ApplyItem()` instead.

- `M:Aras.Server.Core.GetItemProxy.GetItemConfig(System.Xml.XmlDocument, System.Xml.XmlDocument)`

Use `CallContext.GetItem.GetItem(XmlDocument, XmlDocument)` instead.

- `M:Aras.Server.Core.GetItemProxy.GetItemRepeatConfig(System.Xml.XmlDocument, System.Xml.XmlDocument)`

Use `CallContext.GetItemRepeatConfigModule.GetItemRepeatConfig(XmlDocument, XmlDocument)` instead.

- `M:Aras.Server.Core.ICachePublicAPI.add_cache_messages(System.Xml.XmlDocument@)`

Use `ICachePublicAPI.AddCacheMessage()`

- `M:Aras.Server.Core.ICachePublicAPI.CacheDiag(System.Xml.XmlDocument, System.Xml.XmlDocument)`

No usages expected

- `M:Aras.Server.Core.ICachePublicAPI.ClearCacheByID(System.String, System.String)`

Use `ICachePublicAPI.ClearCachedItemById()` instead.

- `M:Aras.Server.Core.ICachePublicAPI.ClearCachedItem(System.String@, System.String@)`  
Use `ICachePublicAPI.ClearCachedItemById()` instead.
- `M:Aras.Server.Core.ICachePublicAPI.ClearPropertiesInCache(System.String)`  
Use `ICachePublicAPI.ClearCachedItemById()` instead.
- `M:Aras.Server.Core.ICachePublicAPI.ClearRelTypes(System.String@)`  
Use `ICachePublicAPI.ClearCachedItemById()` instead.
- `M:Aras.Server.Core.ICachePublicAPI.ClearServerCache(System.String, System.String@)`  
Use `ICachePublicAPI.ClearCachedItemById()` instead.
- `M:Aras.Server.Core.ICachePublicAPI.ClearServerEventsCache(System.String, System.String)`  
Use `ICachePublicAPI.ClearCachedItemById()` instead.
- `M:Aras.Server.Core.ICachePublicAPI.getitem_cached(System.String, System.String)`  
Do not use Metadata Cache to store custom objects.
- `M:Aras.Server.Core.ICachePublicAPI.GetItemCached(System.String, System.String)`  
Do not use Metadata Cache to store custom objects.
- `M:Aras.Server.Core.ICachePublicAPI.itemtype_cache_levels(System.String)`  
No usages expected
- `M:Aras.Server.Core.ICachePublicAPI.itemtype_is_cached(System.String)`  
No usages expected
- `M:Aras.Server.Core.ICachePublicAPI.itemtype_is_cached_m(System.String, System.Int32)`  
No usages expected
- `M:Aras.Server.Core.ICachePublicAPI.storeitem_cached(System.Xml.XmlElement)`  
Do not use Metadata Cache to store custom objects.



- `M:Aras.Server.Core.IHttpSessionStateManager.AcquireExclusiveLock`  
Remove code. Innovator Server 14 doesn't restart HTTP request in case of writing values to Session.
- `M:Aras.Server.Core.InnovatorDatabase.InsertOneRow(System.String, System.Collections.Hashtable@)`  
Use `InnovatorDatabase.InsertOneRowParametrized()` instead.
- `M:Aras.Server.Core.InnovatorServerConfig.GetClientLogOnPolicy`  
Use `WindowsUserByNameClaimMapper` or `GenericUserMapper` plugins for OAuth Server instead.
- `M:Aras.Server.Core.InnovatorSQLServerDatabase.InsertOneRow(System.String, System.Collections.Hashtable@)`  
Use `InnovatorDatabase.InsertOneRowParametrized()` instead.
- `M:Aras.Server.Core.ItemMethods.AddRelationship(System.Xml.XmlDocument@, System.Xml.XmlDocument@)`  
Use Item API to add relationship.
- `M:Aras.Server.Core.ItemMethods.GetAffectedItems(System.Xml.XmlDocument, System.Xml.XmlDocument)`  
Apply Item with `GetItemWhereUsed` action instead.
- `M:Aras.Server.Core.ItemMethods.PurgeItem(System.Xml.XmlDocument, System.Xml.XmlDocument)`  
Apply Item with `purge` action instead.
- `M:Aras.Server.Core.Permissions.debuglog_user_info`  
Remove usages.
- `M:Aras.Server.Core.Permissions.DebugLogUserIn`  
Remove usages.
- `M:Aras.Server.Core.Permissions.error_if_not_superuser(System.String)`  
Use `Permissions.ErrorIfNotSuperUser(string)` instead.
- `M:Aras.Server.Core.Permissions.GetIdentityIDbyname(System.String)`  
Use `CallContext.IdentityModule.GetIdentityIdByName(string)` instead.
- `M:Aras.Server.Core.Permissions.GetIdentityIDbynameFromDB(System.String)`  
Use `CallContext.IdentityModule.GetIdentityIdByName(string)` instead.

- `M:Aras.Server.Core.Permissions.GetPermission(System.Xml.XmlElement)`  
No usages expected
- `M:Aras.Server.Core.ServerEnvironment.TransformUrl(System.String, System.Boolean)`  
Use `CallContext.ServerEnvironment.TransformUrl(string)` instead.
- `M:Aras.Server.Core.ServerEnvironment.TransformUrl(System.String, System.Collections.Specialized.NameValueCollection, System.Boolean)`  
Use `CallContext.ServerEnvironment.TransformUrl(string)` instead.
- `M:Aras.Server.Core.Startup.InnovatorServerMain`  
No usages expected
- `M:Aras.Server.Core.StructureBrowser.CompareItems(System.String, System.String, System.String, System.Int32)`  
Use `StructureBrowser.CompareItems(itemTypeName, itemId, compareToItemTypeName, compareToId, levelsToSelect)` instead.
- `M:Aras.Server.Core.StructureBrowser.CompareStructureItems(Aras.Server.Core.StructureItem, Aras.Server.Core.StructureItem)`  
Use `StructureItem.CompareTo(StructureItem, withChildItems)` instead.
- `M:Aras.Server.Core.StructureBrowser.GetSingleStructureItem(System.Xml.XmlElement, System.String, System.String)`  
Use `StructureBrowser.GetItemStructure()` instead.
- `M:Aras.Server.Core.StructureBrowser.GetStructureOfItem(System.String, System.String, System.Int32)`  
Use `StructureBrowser.GetItemStructure()` instead.
- `M:Aras.Server.Core.StructureBrowser.GetXML(Aras.Server.Core.StructureItem)`  
Use `StructureItem.ToString(includeSubTrees)` instead.
- `M:Aras.Server.Core.StructureBrowser.SetStructureItemProperty(Aras.Server.Core.StructureItem@, System.String, System.String, System.Boolean)`  
Use properties `StructureItem.Id`, `StructureItem.Type`, etc. instead.
- `M:Aras.Server.Core.StructureItem.#ctor(System.String, Aras.Server.Core.InnovatorDataSet)`  
Use another constructors of `StructureItem` class instead.

- `M:Aras.Server.Core.StructureItem.AddChildItem(Aras.Server.Core.StructureItem)`

Use `StructureItem.Add(node)` instead.

- `M:Aras.Server.Core.Utilities.ApplyAML(System.Xml.XmlDocument, System.Xml.XmlDocument)`

Use `Aras.IOM.IServerConnection.CallAction(\"ApplyAML\", XmlDocument, XmlDocument)` instead.

- `M:Aras.Server.Core.Utilities.ApplySoapAction(System.String, System.Xml.XmlDocument, System.Xml.XmlDocument, System.Boolean)`

Use `Aras.IOM.IServerConnection.CallAction()` instead.

- `M:Aras.Server.Core.Utilities.CreateSystemLogRecord(System.String, System.String, System.String, System.String)`

Use `CallContext.SystemEventLogger.CreateSystemLogRecord(string, string, string, string)` instead.

- `M:Aras.Server.Core.Utilities.DeleteUsers(System.Xml.XmlDocument, System.Xml.XmlDocument)`

Use `DeleteUsers SOAP action`.

- `M:Aras.Server.Core.Utilities.GetIdentityIdByUserId(System.String)`

Use `CallContext.Identity.GetIdentityIdByUserId(string)` instead.

- `M:Aras.Server.Core.Utilities.GetIdentityNameByIdentityId(System.String)`

Use `CallContext.Identity.GetIdentityNameByIdentityId(string)` instead.

- `M:Aras.Server.Core.Utilities.GetIdentityNameByUserId(System.String)`

Use `CallContext.Identity.GetIdentityNameByUserId(string)` instead.

- `M:Aras.Server.Core.Utilities.GetLogsFolderPath`

Use `CallContext.ServerEnvironment.GetTempFolderPath()` instead.

- `M:Aras.Server.Core.Utilities.GetSystemIdentity(System.String, System.Xml.XmlElement)`

Use `CallContext.Identity.GetSystemIdentity(string, XmlElement)` instead.

- `M:Aras.Server.Core.Utilities.GetUsersList(System.Xml.XmlDocument, System.Xml.XmlDocument)`

Use `GetUsersList SOAP action`.

- `M:Aras.Server.Core.Utilities.IsIdValid(System.String, System.Boolean)`  
Use `CallContext.Guid.IsIdValid(string, bool)` instead.
- `M:Aras.Server.Core.Utilities.IsPropertyNameValid(System.String@)`  
No usages expected
- `M:Aras.Server.Core.Utilities.TickDiff(System.Int32, System.Int32)`  
Use .NET Timer API
- `M:Aras.Server.Core.Utilities.transform_url(System.String, System.Collections.Specialized.NameValueCollection, System.Boolean)`  
Use `CallContext.ServerEnvironment.TransformUrl(string)` instead.
- `M:Aras.Server.Core.Utilities.TransformUrl(System.String, System.Collections.Specialized.NameValueCollection, System.Boolean)`  
Use `CallContext.ServerEnvironment.TransformUrl(string)` instead.
- `M:Aras.Server.Core.Utilities.WriteLog(System.String, System.String)`  
Use `CallContext.Logger.Log()` instead.
- `M:Aras.Server.Core.Variables.GetServerLocale(System.Boolean)`  
Use .NET API `RegionInfo.CurrentRegion.EnglishName` instead.
- `M:Aras.Server.Core.Variables.GetServerName`  
Use .NET API `Environment.MachineName` instead.
- `M:Aras.Server.Core.XmlProxy.CreateXMLDocument`  
Use `CallContext.XML.CreateNewXMLDocument()` instead.
- `M:Aras.Server.Core.XmlProxy.CreateXMLDocument(System.String)`  
Use `CallContext.XML.CreateNewXMLDocument(System.String)` instead.
- `M:Aras.Server.Core.XmlProxy.GetRequestItem(System.Xml.XmlDocument@)`  
Use `SelectSingleNode("//Item")` instead.
- `M:Aras.Server.Core.XmlProxy.GetResponseItem(System.Xml.XmlDocument)`  
Use `SelectSingleNode("//Item")` instead.
- `M:Aras.Server.Core.XmlProxy.SetNodeElementAttribute(System.Xml.XmlElement@, System.String@, System.String@, System.String@)`  
Use `CallContext.XML.SetItemPropertyAttribute(System.Xml.XmlElement@, System.String@, System.String@, System.String@)` instead.

- `M:Aras.Server.Replication.Queue.Process(System.Xml.XmlDocument, System.Xml.XmlDocument@)`  
  
Use `CallContext.QueueProcessingModule.GetQueueProcessingCycle(XmlDocument).ProcessManual(XmlDocument)` instead.
- `P:Aras.Server.Core.Abstractions.IApplyItem.InnDatabase`  
  
Use `CallContext.DB.InnDatabase` instead.
- `P:Aras.Server.Core.Abstractions.IVariables.InnDatabase`  
  
Use `CallContext.DB.InnDatabase` instead.
- `P:Aras.Server.Core.CallContext.Server`  
  
Use ASP.NET Core API that is available with `CallContext.Request`, `CallContext.Response`, etc. properties.
- `P:Aras.Server.Core.CallContext.SessionStateManager`  
  
Remove usages.
- `P:Aras.Server.Core.CallContext.Startup`  
  
Use `CallContext.Logger` instead.
- `P:Aras.Server.Core.CCProxy.CCO`  
  
Use instance of `CallContext` from server method context, e.g. `CCO` variable.
- `P:Aras.Server.Core.CCProxy.InnDatabase`  
  
Use `CallContext.DB.InnDatabase` instead.
- `P:Aras.Server.Core.ClientLogOnPolicy.AllowedDomainNamesPattern`  
  
Use `WindowsUserByNameClaimMapper` or `GenericUserMapper` plugins for OAuth Server instead.
- `P:Aras.Server.Core.ClientLogOnPolicy.AllowedDomainUsersPattern`  
  
Use `WindowsUserByNameClaimMapper` or `GenericUserMapper` plugins for OAuth Server instead.
- `P:Aras.Server.Core.ClientLogOnPolicy.DeniedDomainUsersPattern`  
  
Use `WindowsUserByNameClaimMapper` or `GenericUserMapper` plugins for OAuth Server instead.
- `P:Aras.Server.Core.Configurator.ObservableList1.Item``  
  
`ObservableList<T>` has been replaced with `List<T>` in `Aras.Server.Core.Configurator.ExpressionBase`. Update your usages.

- `P:Aras.Server.Core.StructureBrowser.differentColor`  
Use `StructureItem.ColorsDifferent` instead.
- `P:Aras.Server.Core.StructureBrowser.differentRevisionsColor`  
Use `StructureItem.ColorsDifferentRevisions` instead.
- `P:Aras.Server.Core.StructureBrowser.equalColor`  
Use `StructureItem.ColorsEqual` instead.
- `P:Aras.Server.Core.StructureItem.Config_id`  
Use `StructureItem.ConfigId` instead.
- `P:Aras.Server.Core.StructureItem.i_child`  
Use `StructureItem.First` instead.
- `P:Aras.Server.Core.StructureItem.i_last_child`  
Use `StructureItem.LastNode` instead.
- `P:Aras.Server.Core.StructureItem.i_next`  
Use `StructureItem.NextNode` instead.
- `P:Aras.Server.Core.StructureItem.i_parent`  
Use `StructureItem.Parent` instead.
- `P:Aras.Server.Core.StructureItem.i_prev`  
Use `StructureItem.PrevNode` instead.
- `P:Aras.Server.Core.StructureItem.Keyed_name`  
Use `StructureItem.KeyedName` instead.
- `P:Aras.Server.Core.StructureItem.Major_rev`  
Use `StructureItem.MajorRev` instead.
- `P:Aras.Server.Core.StructureItem.Source_id`  
Use `StructureItem.SourceId` instead.
- `P:Aras.Server.Core.StructureItem.Text_color`  
Use `StructureItem.TextColor` instead.
- `P:Aras.Server.Core.Variables.InnDatabase`  
Use `HttpContext.DB.InnDatabase` instead.

- `T:Aras.Server.Core.Abstractions.IItemMethods`  
Interface contains one method that can be replaced with applying Item with `GetItemWhereUsed` action instead.
- `T:Aras.Server.Core.ClientLogOnPolicy`  
Use `WindowsUserByNameClaimMapper` or `GenericUserMapper` plugins for OAuth Server instead.
- `T:Aras.Server.Core.Configurator.ExpressionCombinator`  
No public usages are expected
- `T:Aras.Server.Core.Configurator.ExpressionSortComparer`  
No public usages are expected
- `T:Aras.Server.Core.Configurator.ObservableList1``  
`ObservableList<T>` has been replaced with `List<T>` in `Aras.Server.Core.Configurator.ExpressionBase`. Update your usages.
- `T:Aras.Server.Core.IHttpSessionStateManager`  
Remove code. Innovator Server 14 doesn't restart HTTP request in case of writing values to Session.
- `T:Aras.Server.Core.InnovatorException`  
Use `InnovatorServerException` instead.
- `T:Aras.Server.Core.ServerLocaleCannotBeDetectedException`  
Remove usages.
- `T:Aras.Server.Replication.Queue`  
Use `CallContext.QueueProcessingModule` instead.

### 4.3 Aras.TDF.Base.Extensions.dll

No changes

### 4.4 Aras.TDF.Base.dll

No changes

## 4.5 Aras.TreeGridView.dll

No changes

## 4.6 Conversion.Base.dll

No changes

## 4.7 ConversionManager.dll

No changes

## 4.8 IOM.dll

### 4.8.1 Obsolete

- `F:Aras.IOM.HttpConnectionParameters.ForceWritableSession`  
Remove code. Innovator Server 14 doesn't restart HTTP request in case of writing values to Session.
- `M:Aras.IOM.Innovator.calcMD5(System.String)`  
Use `Innovator.ScalcMD5(string)` instead.
- `M:Aras.IOM.Innovator.getAssignedActivities(System.String, System.String)`  
Use `GetAssignedActivities` server method instead.
- `M:Aras.IOM.Innovator.getUserAliases`  
Use `getItem for Alias filtered by source_id=getUserID` instead.
- `M:Aras.IOM.IServerConnection.GetFromCache(System.String)`  
Use another state objects for solving your tasks.
- `M:Aras.IOM.IServerConnection.InsertIntoCache(System.String, System.Object, System.String)`  
Use another state objects for solving your tasks.
- `M:Aras.IOM.Item.cancelWorkflow`  
Apply Item with `CancelWorkflow` action instead.
- `M:Aras.IOM.Item.closeWorkflow`  
Apply Item with `CloseWorkflow` action instead.



- `M:Aras.IOM.Item.getErrorWho`  
Use `Item.getErrorCode()` instead.
- `M:Aras.IOM.Item.GetFileName`  
Use `Item.getProperty("filename")` instead.
- `M:Aras.IOM.Item.getLogLogicalItems`  
Use XPath to to select items instead.
- `M:Aras.IOM.Item.isLocked`  
Use `Item.fetchLockStatus()` or `Item.getLockStatus()` instead.
- `M:Aras.IOM.Item.newInnovator`  
Use `Item.getInnovator()` method instead.
- `M:Aras.IOM.Item.setErrorWho(System.String)`  
Use `Item.setErrorCode()` instead.
- `M:Aras.IOM.Item.setFileName(System.String)`  
Use `Item.attachPhysicalFile(filePath, vaultServerId)` instead.
- `M:Aras.IOM.Item.startWorkflow`  
Apply Item with StartWorkflow action instead.
- `M:Aras.IOM.ServerConnectionBase.GetFromCache(System.String)`  
Use another state objects for solving your tasks.
- `M:Aras.IOM.ServerConnectionBase.InsertIntoCache(System.String, System.Object, System.String)`