Aras Innovator 2023 Release

Release Notes

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1 Key Enhancements

The Aras Innovator 2023 Release Key Enhancements are outlined below:

1.1 Web Client Productivity

1.1.1 Grid Layouts Included with Favorite Searches

The ability for users to save and restore custom Grid Layouts (column visibility, width, order, etc.) has been improved by combining the capability with Favorite Searches. Now, when saving a Favorite Search, the user can optionally include the current Grid Layout along with the search criteria normally saved by a Favorite Search. Restoring a Favorite Search will update the view with the corresponding Grid Layout. Each Favorite Search will be returned with a unique view of columns and more, to quickly deliver relevant data to the user.

1.1.2 Claim Independent of Edit

Edit and Claim commands now function independently. Previously, setting an item to "Edit" mode also claimed the item. Now, setting an item to "Edit" mode does not claim the item. Previously, executing "Done" or "Discard" on a claimed item unclaimed it. Now, executing "Done" or "Discard" on a claimed item will not affect the claim status. The lock status of an item (locked_by_id) is now set when Edit or Claim or both are active. An item is only unlocked when it is neither claimed nor in edit mode.

This provides users with greater control over item lock status. If a user would like to keep an item locked between multiple edit cycles and/or multiple client sessions, they may now do so by claiming the item. "Done" and "Discard" commands, closing an item view tab, or ending a session will preserve the claim and therefore preserve the lock. Especially for automatically versionable items, this capability can be used to prevent the creation of excess automatic versions, preserving the business meaning of versions.

Status	PREVIOUSLY		NOW	
	User With Lock Sees	Other Users See	User With Lock Sees	Other Users See
Claimed	🚩	👤	🚩	👤
Edit Mode	*Not Possible*		Edit Mode styling on inputs	👤
Edit Mode + Claimed	🚩 + Edit Mode styling on inputs	👤	🚩 + Edit Mode styling on inputs	👤
Edit Mode + Modified	*Not Possible*		✏️ + Edit Mode styling on inputs	👤
Edit Mode + Claimed + Modified	✏️ + Edit Mode styling on inputs	👤	✏️ + Edit Mode styling on inputs	👤

1.1.3 Improved Export to Excel

The Export to Excel function is significantly improved, for search grids, relationship grids, tree grid views, and item forms. The exported .xlsx file is opened directly in Excel with no warning message, and column alignment and formatted is preserved.

1.1.4 Copy Item Keyed Name and Hyperlink

Clicking the keyed name in the title bar of an Item View copies the keyed name text with embedded hyperlink to the clipboard.

1.1.5 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).

1.1.6 Improved Tree Grid View Toolbars

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

1.1.7 Sorting on Foreign Properties

Sorting on Foreign property fields is available through the UI by clicking on the column header, like sorting on other properties.

The sorting on Foreign properties is also available when running an AML query using the orderBy attribute.

1.2 Configurable Dashboards

A new low-code platform capability provides dashboards with interactive widgets for viewing and displaying data. Users can easily add widgets they want to see, choose the data displayed, and design the layout with drag & drop. Administrators can create reusable widget templates to help users get started.

1.3 Table of Contents (TOC) Editor

1.3.1 New 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 2023 Release - 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. The process to update existing packages requires three simple steps.

- Import the old package into the 2023 Release
- 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 2023 Release - Configurable User Interface Administrator Guide for more details.

1.3.2 Configure Single Items as TOC Entries

The TOC Editor allows administrators to configure a single item as an entry in the TOC. One important use of this capability is to configure Dashboards as TOC entries.

1.3.3 TOC Editor Localized Content

Administrators can instantly preview multilingual content in the TOC Editor using the "View As" language filter. This means Administrators no longer need to log out of Aras Innovator or reconfigure their client machine settings to view the TOC in another language.

1.3.4 TOC Button Custom View Configuration

Administrators can use the TOC Editor to define buttons that display a custom Form view or custom HTML page within the Aras Innovator web client.

1.4 Technical Documentation Framework (TDF)

1.4.1 TDF Client API

A comprehensive Application Programming Interface (API) that provides functions to customize the Technical Document Editor using the Configurable User Interface (CUI) is now available.

1.4.2 TDF File Import API

The File Import API provides a framework for creating technical document content programmatically by extracting data from a selected file. Custom implementations extend this software API for specific File Types.

1.4.3 Dynamic Image Resizing

Image Document Elements within a Technical Document can be dynamically resized by selecting/dragging the image corners with the left mouse button. Resized images retain their original aspect ratio.

1.4.4 Drag and Drop Document Elements

Document Elements within a Technical Document can now be moved and/or copied to another location within the document by select/dragging within the Editor. The user interface provides a visual indication that identifies valid locations for moved/copied data to aid the author.

1.4.5 Create Graphics by Dragging/Dropping Image Files

Graphic Document Elements within a Technical Document can now be created by dragging/dropping one or more image files from the file system directly within an opened Technical Document.

1.4.6 Spell Checking for Technical Documents

The Technical Document Editor provides the ability to apply spell checking to text content. It leverages the spell-checking capability of the browser to scan and identify spelling errors in multiple languages.

1.5 Signing Certificates from Certificate Store

All Innovator servers and services can now read Signing Certificates from the file system and Certificate Store based on the OAuth configuration.

1.6 Mandatory Access Control (MAC) Identities

Mandatory Access Control (MAC) can now check user's membership to a provided list of Identities. If the user is a member of any of the identities in the list, the access is granted. This enhancement simplifies the creation of access rules to perform this check.

1.7 Federated Properties

The Federated data type for property definitions has been removed and replaced with a new Federated Boolean attribute. All existing Federated properties have been converted to Text properties with the new Federated attribute set to true.

Federated properties can now be created with specific data types by setting the federated flag when adding a property to an item type. The use of typed federated properties will support enforcement of type specific behavior and validations. The following types are supported as typed federated properties: Text, Integer, Float, String, Decimal, Boolean, and Date.

1.8 Configurator Services API Improvement

Retrieving valid combinations from large scope objects using the Configurator Services API is now more efficient.

1.9 .NET Framework to .NET Core Transition

In the Aras Innovator 2023 Release the Aras server components have been transitioned from .NET Framework to .NET Core. .NET Core has some significant advantages over .NET Framework, such as cross-platform support and better scalability.

1.10 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 depracated with appropriate messages and will be removed in the future.

2 Fixed Issues and Known Issues

2.1 Fixed Issues in Aras Innovator 2023 Release

2.1.1 Platform

Issue #	Fixed 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-000437	All Innovator servers and services can read Signing Certificates from the file system and Certificate Store based on the OAuth configuration.
F-001277	The Technical Document Editor provides the ability to apply spell checking to text content. It leverages the spell checking capability of the browser to scan and identify spelling errors in multiple languages
F-001433	Certain text elements of the Visual Collaboration "My Discussions" page and Discussion Panels are now properly localized for standard Aras locales.
F-001915	The built-in Mandatory Access Control (MAC) condition method CurrentUser.IsMemberOf() can now accept a list of Identity IDs as an argument. It returns true if the user is a member of any Identity in the list.
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-003278	Graphic Document Elements within a Technical Document can now be created by dragging/dropping one or more image files from the file system directly within an opened Technical Document.

Issue #	Fixed Description
F-003280	Image Document Elements within a Technical Document can be dynamically resized by selecting/dragging the image corners with the left mouse button. Resized images retain their original aspect ratio.
F-003376, I-031405, I-034399, I-034400, I-034401, I-034402, I-034403, I-034404, I-035985, I-040582, I-040597, I-040608, I-040712, I-040714, I-040728, I-040876, I-041318, I-043379, 042875, 044545, 078522, 079119, 082498, 082783, 085651, 087686, 087558, 088232, 091586, 092162, 095907	The Export to Excel function is improved, for search grids, relationship grids, tree grid views, and item forms. The exported .xlsx file is opened directly in Excel with no warning message, and column alignment and formatted is preserved.
F-003762	The File Import API provides a framework for creating technical document content programmatically by extracting data from a selected file. Custom implementations extend this software API for specific File Types.
F-003834	Saving a favorite search includes an option to also save the current grid layout. Restoring the favorite search will return the search criteria as well as update the columns of the grid to their saved state.
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.

Issue #	Fixed Description
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.
F-004373	Administrators can easilly view the Table of Contents in any configured language, in environments with multiple languages.
F-004374	Administrators can configure Form views for the Table of Contents within the TOC Editor.
F-004375	Administrators can configure HTML views for the Table of Contents within the TOC Editor.
F-004413	The Technical Document Framework now provides additional support for fonts, page layout, and broader support of CSS for formatting PDF output documents
F-004424	Allow users to claim items before or during editing and have the claim state remain after the user exits edit mode by Done or Discard.
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-004464	Clicking the keyed name in the title bar of an Item View copies the keyed name text with embedded hyperlink to the clipboard
F-004493, F-004499	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. All Properties in Customer databases that were defined as Federated will be converted to Text with the Federated Boolean attribute set accordingly during upgrade.
F-004550	Upon toggling the Federated attribute on already saved properties, the user will be warned to prevent accidental changes, which may lead to either removal of the corresponding columns and data from the database or unintended column creation and saving of the federated data.
F-004691	The cfg_GetConflicts method now supports the "fetch" attribute. This enables specifying a maximum number of conflicts to return by the cfg_GetConflicts method.
F-004737	XML/XSL reports can now be generated on Linux OS Innovator Server.
F-004811	The Federated attribute can be used on Integer properties. This allows enforcing integer behavior and validations on federated integer properties.

Issue #	Fixed Description
F-004912	Styling for search and relationship grids is updated for consistency, including read-only and editable states for these grids.
F-004913	Component styling improvements incorporated to improve contrast and legibility and increase vertical space for content.
F-005007	The Federated attribute can be used on Boolean properties to enforce behavior and validations.
F-005012	The Federated attribute can be used on Float properties. This allows enforcing integer behavior and validations on federated integer properties.
F-005013	The Federated attribute can be used on Decimal properties. This allows enforcing decimal behavior and validations on federated decimal properties.
F-005015	The Federated attribute can be used on Date properties. This allows enforcing integer behavior and validations on federated integer properties.
F-005016	The Federated attribute can be used on String properties. This allows enforcing integer behavior and validations on federated integer properties.
F-005039	Previously applied column sorting is preserved after a user changes search criteria and re-executes a search. Supported for Main search, Relationship, and Modal search grids.
F-005074	When executing a server method that has compilation errors, the error message includes the source server method name
F-005128	Document Elements within a Technical Document can now be moved and/or copied to another location within the document by select/dragging within the Editor. The user interface provides a visual indication that identifies valid locations for moved/copied data to aid the author.
F-005180, I-034674, I-036582, I-036615, 074876, 093958, 014723, 092388, 093106	Corrected a case in which Sorting on a Foreign property field with "Sort Across Pages" turned on did not work and using the orderBy attribute in AML would not allow for sorting of Foreign Properties.
F-005279	Administrators can easily add Table of Content buttons to a package definition from within the TOC Editor.
F-005330	Administrators can now quickly add ItemTypes to the Table of Contents directly from the ItemType form.
F-005352	The efficiency of building the InBasket has been improved for Workflow and Project Tasks. A mechanism has been implemented to enhance the efficiency of building InBasket for non-standard Tasks.

Issue #	Fixed Description
F-005429	Added a new platform capability that enables users to configure dashboards with interactive widgets for viewing and displaying data.
F-005446	Internet Explorer 11 has reached its end of life. The IOM SDK structure has been changed to remove the use of Internet Explorer 11 for customers using the IOM.OAuth.WpfBrowserNavigator functionality. The IOM.OAuth.WpfBrowserNavigator.dll assemblies in ".NET" and "Std" folders has been removed which displayed the login dialog from a non-browser-based implementation, such as the CAD connector. A "Packages" folder has been created to contain the IOM.OAuth.WpfBrowserNavigator within nuget package for developing the same functionality uses Microsoft Edge WebView2. External applications using the IOM.OAuth.WpfBrowserNavigator should update to the latest IOM SDK.
F-005508	External authentication is only available for Subscribers.
F-005527	Retrieving valid combinations from large scope objects using the Configurator Services API is now more efficient.
F-005568	Conversion Tasks processing cycles on Agent Service are improved to avoid race conditions in certain use cases.
F-005644	Added a new "Tree Grid" widget type that enables users to configure and interact with Tree Grid views in Dashboards.
F-005646	Added a new "Report" widget type which enables users to display any existing Report item in dashboards.
F-005730	Fixed several similar bugs that were related to changing an item's lock status with an old generation open.
F-005867	Display of Favorites is now synchronized between the Item View title bar, main search grid context menu, relationship grid context menu, and TOC secondary menu.
F-006096	The TOC Editor now allows administrators to configure a single item as an entry in the TOC.
F-006201	The paging toolbar of relationship grids retains the correct state and result count after switching to another relationship tab then returning to the initial tab.
F-006217	StartItem links work correctly for items with space characters in the keyed name.
F-006591	A comprehensive Application Programming Interface (API) that provides functions to customize the Technical Document Editor using the Configurable User Interface (CUI) is now available.
I-014160	Aras.Net.RequestProviders section in configuration files are now applied in .NET Core.
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.

Issue #	Fixed Description
I-025109	The Comparison Viewer will display both files in all browsers after selecting "Start Comparison" correcting a browser issue in which the second file was not being displayed.
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-030315	Fixed an issue in which the viewer button was not displayed on the item sidebar, if the Aras Subscription feature license key was applied after adding the viewable file to the item.
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.
I-034439, 032867	Added a button for multilingual properties in grids to open the multilingual editor.
I-036160	Fixed an issue in which Multilingual Plural label value was not copied from the ItemType definition in the TOC Editor.
I-036328, 094060	Fixed an issue in which a CUI error appeared in some situations when using the Export to Excel or Export to Word commands from an item.
I-036392, 094110	Improved the location and message text for the error popup in the Effectivity Criteria Filter dialog, in the case of invalid entry.
I-036580	Fixed an issue in which the item toolbar goes into an incorrect display state, when using the Export to Excel or Export to Word commands.
I-036655	Updated user message that is displayed when users attempt to add more than the maximum allowed relationships.
I-036714, 094393	Fixed an issue in which the "Claim" button was disabled when user has Update and Can Discover permissions, but not Get permissions.
I-036933	Addressed an issue in which Compilation warnings from the TreatWarningsAsErrors method were not displayed. Compilation warnings from the method are now correctly triggered.
I-036943	Fixed an issue in which "NaN" was displayed after typing a special character in the Grow Depth data entry field on the Tree Grid View toolbar.
I-036953	Fixed an issue where a value is incorrectly set in a cell of a relationship grid, when editing in an adjoining cell.
I-037057	Changing the page size (Results per Page) value for a search grid and then typing Enter will re-execute the search with that page size.

Issue #	Fixed Description
I-037348	Fixed an issue in which Multilingual values entered for CMF items were not saved.
I-037422	Fixed an issue where an item property of type "file" was incorrectly set to another cell in a relationship grid if that cell was previously selected
I-037807	Addressed an issue where the user was not able to view all Attributes in the Attributes Dialog when the TDF Document is in View mode
I-039023	Fixed an issue in which the TOC Editor unlocked locked ItemType items after adding and saving them in the TOC tree.
I-039118	Fixed an issue where it was not possible to create an ItemType button for the Table of Contents, if an ItemType with the same name was previously removed from the database.
I-039563	Fixed an issue with the Find function, when used in side-by-side viewing and with Dynamic Content, that prevented the search results from displaying correctly.
I-039777	Fixed an issue in which a text dialog was incorrectly opened instead of the Part BOM Effectivity tab.
I-040319	Fixed an issue where adding a new item to a polyitem relationship grid using the modal search dialog would cause the item to be added multiple times.
I-040503, 092192	Aras has improved the handling of password encryption at rest to include the use of standard Microsoft options for conversion users.
I-040876, 085876	Corrected an issue where the aras.prompt dialog might truncate a strings at a space when entering a default value. The dialog now correctly accepts the full string.
I-041566	Addressed an issue in which the client could fail to update the relationship correctly when using the Discard command. This would only occur if the property was initially blank, and only for the Part ItemType. The Discard command is now correctly reflected in the displayed values.
I-042117	Updates made to styling for the Technical Document Editor's Content area and Element Tree for consistency and to improve Document Element Selection.
I-042959	Enabled support for Microsoft GraphAPI integration to send emails on Aras Innovator Containerized Deployment.
I-043097	URL links can be added and verified for any elements in the Editor via Link Editor Dialog. This corrects an issue within Technical Documents which prevented external URLs from being verified.
I-045547, 98830	Fixed an issue with drag-and-drop functionality for File fields, which prevented a file from being dropped onto the field when the "Manage file property" dialog was previously opened.
I-048269	Fixed an issue in which a Workflow Map, when saved with the default name, was incorrectly set as claimed after saving.

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F-003834	Saving a favorite search includes an option to also save the current grid layout. Restoring the favorite search will return the search criteria as well as update the columns of the grid to their saved state.
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.

2.1.2   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.

Issue #	Description
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.

2.2 Known Issues in Aras Innovator 2023 Release

2.2.1 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.	
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.	
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.

Issue #	Description	Workaround
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.
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.	

Issue #	Description	Workaround
059181	A new Tree Grid View Definition (TGVD) containing a mapped element cannot be copied using the 'Save-As' Function.	
059692	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.	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.
060246	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.	
060454	If the WebDAVModule is installed on the server, it throws a 405 error when running a DELETE action on an item.	
060477	Extended Classification functionality is broken after importing auto-generated relationships using the Import tool.	Export the created package definition: 1. Select the desired package. 2. Select the Don't Remove checkbox for references to Unknown Packages. 3. Export selected Import package definition that was exported. 4. Select the exported package, 5. Import the selected package (if DB is clear, use the Import tool default settings).
061681	Editing comments is only supported in the default SecureMessageViewTemplate. If this template is modified, editing comments results in an error message.	Use the default SecureMessageViewTemplate for editing comments.
062451	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.	Use an alternate browser or contact Aras Support (support@aras.com) for hotfix availability.
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.	

Issue #	Description	Workaround
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, 078373, 078628, 078630	Form elements and fields may overlap each other in German or Japanese 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.	
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).
078583	Relationship does not work if exclusion is used.	
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.

Issue #	Description	Workaround
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.
093399	Applications and IOM DLL authentication functionality built with versions prior to Aras Innovator 2023 Release will not connect.	Update functionality to Aras Innovator 2023 Release or higher.
F-000574	The command bars associated with Effectivity Expression ItemTypes do not use the default item command bar. The Effectivity ItemTypes are: - effs_scope - effs_expression	
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.	
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.	

Issue #	Description	Workaround
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.	
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 an "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.
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.

Issue #	Description	Workaround
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.
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-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.

Issue #	Description	Workaround
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-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-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-036082	User preferences, such as grid column width, are not saved if they were made for an item in edit mode, then the item is not saved, and after that the browser window is closed.	
I-038294	On a slow connection, if the focus is set at the Language field in the TOC Editor, the Language search grid is not loaded by clicking the button.	Re-open Language search grid one more time.
I-043661	Refresh button on the Widget doesn't update data for dynamic properties for User in another session.	If User re-opens Dashboard tab in their session, the data will be updated.
I-044991	If the admin user does not have "update" permissions for an ItemType, they cannot add that ItemType to the TOC using the TOC Editor	Give the admin user "update" permissions for the ItemType, or login as root user to make the change.
I-045503	Sort Across Pages does not work in Grid widgets.	
I-047530	Customers who created Widget Template Items in Aras Innovator Release 20 may encounter a permission error when performing a self-service upgrade to Release 21 or later.	Please contact Aras Support if you encounter this issue.
I-047972	Edit button is disabled on an item's toolbar after "Create new revision" is executed from a search grid, and the item is opened.	Click Refresh button.

Issue #	Description	Workaround
I-048091	Simple search criteria containing the range operator '...' are not properly converted to Advanced search criteria when switching modes.	
I-048094	Simple search criteria containing the pipe operator '|', when used with numeric and date values, are not properly converted to Advanced search criteria when switching modes.	
I-048682	When processing a large volume of data using the Configurator Services API, users may encounter a low memory error from the server.	Increase available physical (RAM) or virtual (paging file) memory.
I-050429	Edits made to a child Part item while the parent Part item is in edit mode will be lost when the parent Part item is saved.	

2.2.2   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."	

3 Aras Innovator 2023 Release API Changes

Aras Innovator 2023 Release has declared the following APIs as Obsolete or Deprecated. As indicated below, we have suggested replacement functions and APIs for this code when necessary.

3.1 Aras.Net.dll

3.1.1 Obsolete

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

  Use `CookieContainerProviderFactory.GetPerInstanceCookieContainerProvider()` instead.

3.2 Aras.Server.Core.dll

3.2.1 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`.

3.2.2 Obsolete

- `E:Aras.Server.Core.Configurator.ObservableList`1.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.ObservableList`1.#ctor`

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

- `M:Aras.Server.Core.Configurator.ObservableList`1.#ctor()`

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

- `M:Aras.Server.Core.Configurator.ObservableList`1.#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.ObservableList`1.Add()`

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

- `M:Aras.Server.Core.Configurator.ObservableList`1.AddRange()`

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

- `M:Aras.Server.Core.Configurator.ObservableList`1.Clear`

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

- `M:Aras.Server.Core.Configurator.ObservableList`1.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.ObservableList`1.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.ObservableList`1.Remove()`

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

- `M:Aras.Server.Core.Configurator.ObservableList`1.RemoveAll()`

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

- `M:Aras.Server.Core.Configurator.ObservableList`1.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.ObservableList`1.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 `SetupSmtpMailServerAndSend(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.AquireExclusiveLock`

  Remove code. Innovator Server 2023 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.Se rver.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.Cor e.InnovatorDataSet)`

  Use another constructors of `StructureItem` class instead.

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

  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.Xm l.XmlDocument,System.Xml.XmlDocument,System.Boolean)`

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

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

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

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

  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.ObservableList`1.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 `CallContext.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.ObservableList`1`

  `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 2023 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.

3.3 Aras.TDF.Base.Extensions.dll

No changes.

3.4 Aras.TDF.Base.dll

No changes.

3.5 Aras.TreeGridView.dll

No changes.

3.6 Conversion.Base.dll

No changes.

3.7 ConversionManager.dll

No changes.

3.8 IOM.dll

3.8.1 Obsolete

- `F:Aras.IOM.HttpConnectionParameters.ForceWritableSession`

  Remove code. Innovator Server 2023 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 get Item 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.getLogicalItems`

  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)`