Enhancements Available in Rational System Architect 11.4.2.6

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Rational System Architect 11.4.2.6

The following enhancements and minor improvements and fixes have been added in Rational System Architect 11.4.2.6.

Major Enhancements

a. Support for FEAF 2.0 Reference Models

System Architect 11.4.2.6 provides support for the FEAF 2.0 Reference Models within the FEA Reference Model paid add-on.

FEAF 2 Selection
If you have the FEA Reference Model paid add-on, you are able to toggle on the FEAF 2 selection for an encyclopedia in the System Architect Property Configuration dialog, opened by selecting Tools, Customize Method Support, Encyclopedia Configuration. The FEAF 2 is integrated with DoDAF 2 and TOGAF 9 -- you can toggle on either of those other frameworks when working with FEAF 2.

Reference Model Load
System Architect provides functionality to automatically load all reference model data when a FEAF2-enabled encyclopedia is created. Data centric, hierarchical relationships are provided in reference model data. The following reference models are automatically brought in:

• Application Reference Model (ARM)
  o FEAF2 ARM Domain
  o FEAF2 ARM Area
  o FEAF2 ARM Category

• Business Reference Model (BRM)
  o FEAF2 BRM Mission Sector
  o FEAF2 BRM Business Function
  o FEAF2 BRM Service

• Data Reference Model (DRM)
  o FEAF2 DRM Domain
  o FEAF2 DRM Subject
  o FEAF2 DRM Topic

• Infrastructure Reference Model (IRM)
  o FEAF2 IRM Domain
  o FEAF2 IRM Area
Reviewing, Changing, and Authoring Reference Models

Once imported, a hierarchical diagram can automatically be created for each reference model by dragging-and-dropping all definitions of a reference model on a diagram -- the hierarchical view is automatically created based on the definition data. You can create your needed view -- the full reference model or a subset.

If you make changes to the reference model structure, it is recorded in the underlying definition data and reflected throughout the architecture. Changes in the underlying definition data reflected in the views. You may opt to use System Architect's workspaces or "Freeze" access control command (by administrators) to freeze the reference models for further usage.

Using the Consolidated Reference Model (CRM) for Asset Categorization

You may categorize assets based on the CRM reference model contents. All CRM Categorization types are supported:

- CRM ARM Categorization
- CRM BRM Categorization
- CRM DRM Categorization
- CRM IRM Categorization
- CRM SRM Categorization

When you are in a definition of your TOGAF 9 or DoDAF 2 architecture, you are able to relate the asset to the three-level reference model list -- for example relating a particular application to an ARM Domain, then ARM Area, then ARM Category. As you relate it to an ARM Domain, you get a filtered list of ARM Areas of the Domain to relate the Application to, and so forth. You relate one asset per categorization, but an asset can have multiple categorizations -- allowing you to see duplicates -- for example, two application solutions reporting to the "Accounts Payable" ARM Category.

The IRM Categorization contains extended data and references to other reference models.
Collaborative Planning Method Line of Sight
The Collaborative Planning Method Line of Sight is supported to identify needs and performance gaps, so investments can be done based on need. The CPM Line of Sight definition type is provided, which has a property set that enables you to capture information needed for the first three phases of CPM:
- Identify and Validate
- Research and Leverage
- Define and Plan
You may capture candidate need-gap providers with status (Already met need, Have similar need, Planning to meet need, or No similar need). You may also capture PRM Goal, PRM Measurement Area and PRM Measurement Categories.

Matrices Provided for Categorizing Assets
FEAF 2 matrices are provided for:
- ARM Categorization of Assets
- BRM Categorization of Assets
- DRM Categorization of Assets
- IRM Categorization of Assets
- SRM Categorization of Assets

To use the matrices, select View, Matrices, and select the FEAF 2 tab.

Reports Provided for Output of Referenced Architectures
Two report files are provided with prebuilt reports for TOGAF and DoDAF 2, respectively. They are opened by selecting Reports, Reports, and in the Reporting dialog, select File, Open -- the Reports directory of the System Architect installation provides the following two report files, each containing the listed reports:
- FEAF2_DoDAF2.RPT
  - FEAF 2 Categorizations of Assets in Asset Name Order GRID
  - FEAF 2 Categorizations of Assets in CRM Code Order HTML
  - FEAF 2 CPM Line of Sight
- FEAF2_TOGAF9.RPT
  - FEAF 2 Categorizations of Assets in Asset Name Order GRID
  - FEAF 2 Categorizations of Assets in Asset Name Order HTML
  - FEAF 2 Categorizations of Assets in CRM Code Order HTML
  - FEAF 2 CPM Line of Sight

b. Data Centricity for Explicit Relationships, Box in Box
An enhancement has been made to System Architect's customizable metamodel to allow auto-creation of an Explicit relationship between a symbol placed inside of another symbol. Previously this was only available for implicit relationships.

A second enhancement has been made to autopopulate a property in the Explicit relationship created with the value of the property residing in the definition of the outer symbol.

Both features have been implemented in the BPMN OV-5b in System Architect's DoDAF 2 support.
- If you place an Activity into a Pool/Lane on a BPMN OV-5b, you are prompted to create ActivityPerformedbyPerformer relationship -- a dialog pops up asking you to name the relationship.
Further, if that Performer has a Location specified, the Location is automatically added to the ActivityPerformedbyPerformer relationship created, in its Location field.

Turning Behavior On or Off, Per Diagram
Both behaviors may be turned on or off in the Diagram Properties of an OV-5B BPMN diagram. Two choices are provided in Diagram Properties:

- Auto-create/update ActivityPerformedbyPerformer definitions on moving symbols
- Auto-populate Where of ActivityPerformedbyPerformer definitions on moving symbols

Inconsistency Report
An automatically generated inconsistency report is now provided for OV-5B BPMN diagrams. The diagram is examined when it is opened to make sure that all Activities in Pools or Lanes are
related to that Pool or Lane (defined by Performer definition or subtypes) by an ActivityPerformedByPerformer relationship.

The report will provide ghost buster symbols on the diagram to denote issues.

The following kinds of errors are reported:

- **R1**: The definition of Activity A2 has a relationship with Pool1 via ActivityPerformedByPerformer A2_P1 but A2 is not embedded by Pool1 in the diagram. Either remove the relationship or move A2 inside Pool1 in the diagram.
- **R2**: A1 is embedded by Lane1 but the underlying definitions are not related. Either correct the property reference or move A1 outside Lane1 or move A1 outside Lane1 and then back inside Lane1 to automatically update the reference.

The ghost-buster indicators appear/disappear after pressing Refresh rather than immediately after moving an Activity. Users can use the Reports menu option to hide or show the indicators and to access the report output. The showing of inconsistencies by default can be disabled via the 'RepConHideDiagramInconsistenciesByDefault' session option.

**Keywords to Enable Functionality via USRPROPS**

Specifying automatic creation of an Explicit relationship when one symbol is placed into another is similar to that for auto-creation of an Implicit relationship -- the direction of the relationship is the same; from the embedded item to the embedding item. The following keywords are used:

```plaintext
SYMBOL "activityPerformedByPerformer (DM2r)"
  { REPRESENTS EXPLICIT RELATIONSHIP "ActivityPerformedByPerformer (DM2r)" Assign To "OV-05b BPMN Operational Activity Model (DM2)" EMBEDDED BY }

FROMDEF and TODEF references and RELATIONSHIP specification:

DEFINITION "ActivityPerformedByPerformer (DM2r)" RELATIONSHIP LABEL
  "activityPerformedByPerformer" REVERSELABEL "performerPerformsActivity"
  { PROPERTY "Activity"{ EDIT HETEROGENEOUS ONEOF "Activity (DM2)"
  AND_SUBTYPES ASGRID FROMDEF DISPLAY{ FORMAT ListNameOnly LEGEND "Activity" } SHOW_ON_INSTANCES }
  PROPERTY "Performer"{ EDIT HETEROGENEOUS ONEOF "Performer (DM2)"
  AND_SUBTYPES ASGRID TODEF DISPLAY { FORMAT ListNameOnly LEGEND "Performer" } SHOW_ON_INSTANCES }

Diagram enabling control property -- specifying type number of relationship definition:

DIAGRAM "OV-05b BPMN Operational Activity Model (DM2)"
  { Property "Auto-create/update 1380" { Edit Boolean DEFAULT "T" LABEL "Auto-create/update ActivityPerformedByPerformer definitions on moving symbols" } }

**c. Control of Box-in-Box Data Centricity, Implicit Relationships**

Users are now able to control automatic box-in-box data centricity for implicit relationships, turning it on or off for a diagram via a toggle choice in Diagram properties, "Auto-populate implicit relationships on moving symbols".

This functionality enables users to disable the updation of relationships while they adjust the diagram. It is available on all diagram types that feature box-in-box data centricity.

Users may specify this for diagram types that they have created (via usrprops) which support box-in-box data centricity, by adding the following code to Diagram properties:

```plaintext
CHAPTER "Behavior"
PROPERTY "Auto-populate implicit relationships" { EDIT BOOLEAN DEFAULT "T" LABEL "Auto-populate implicit relationships on moving symbols" }
```
d. Removal of GUIDS from DoDAF 2

System Architect 11.4.2.6 removes GUIDS from its DoDAF 2 support. This reduces complexity in the DoDAF 2 support and eliminates the possibility of customers unintentionally creating more than one artifact of the same name. A side effect of the change is that the dialogs within the tool no longer have the GUID of each item presented, which makes the dialogs cleaner.

**Behavior Change**

Previously, if you drew a DoDAF 2 symbol on a diagram within which there already existed a symbol of the same definition type and name, you would get the following message box:

*One or more 'xxxx' symbols representing a definition with the same name exist on the diagram. Do you want to select the existing representations?*

If you selected No to use the existing representation, you would receive the following message:

*A xxxx definition with the same name already exists. Do you want to use the existing definition? Click 'No' to create a new definition.*

If you selected No, you would create a second symbol of that definition, with the same name but it would be a different thing. You can no longer do this.

Starting with this release, if you draw a DoDAF 2 symbol on a diagram within which there already is a symbol of the same definition type and name, you will get the following message:

*Multiple 'xxxx' definitions with the same name already exist. Do you want to use one of these?*

If you select No, a new symbol (of the same name and definition type) will NOT be added to the diagram. You will receive the following message:

*"A definition of that name and type already exists. Would you like to use the existing definition?"

If you select No, nothing will happen -- you are not allowed to add more than one definition of same name and type in an encyclopedia.

**Modeling Change**

One consequence of this change is that you should come up with unique names for relationships between things. For example, if you are modeling an ActivityPerformedbyPerformer between a Performer and an Activity -- you may have many relationships between the two based on different conditions and rules that have to be met. The relationship name should reflect the condition or the rule. In the example below, in the prior (11.4.2.5 or before) release of SA, you could have different relationships between -- in this example, the performer Satellite and the Activity Search for Victim -- each relationship has the same name but the contents within could be different.
In SA 11.4.2.5 and before you could have same named relationships (in this case ActivityPerformedbyPerformer) with different contents within.

In SA 11.4.2.6 and beyond, you must give the relationships a different name. That name can reflect how their contents differ.

**Cleaner Dialogs**

The example below shows SA 11.4.2.5's DoDAF 2 -- clicking on Choices for Resources in an ActivityResourceOverlap relationship presents the list of Resources (and subtype definitions) in the encyclopedia -- notice how the GUID for each is listed, so that you as an end user can differentiate between two or more same-named Resources to choose. The picture below that shows the same dialog in SA 11.4.2.6 -- GUIDS are no longer presented.
Conversion Not Needed
Existing DoDAF 2 encyclopedias can be opened with the new version and no conversion is needed. If a user has created two or more artifacts of the same name, they are left in the encyclopedia -- they still have their old GUIDS that distinguish themselves from one another. However users can no longer create more than one definition type of the same name as they go forward (see behavior change, above).

d. Auto-Identification of Incomplete & Orphaned Explicit Relationships
Explorer (browser) Views can now be created for identifying incomplete or orphan explicit relationships.

A View is a user-specified tab in the Explorer (browser). Explicit relationships are definitions which represent a relationship -- for example an ActivityPerformedbyPerformer relationship is an explicit join of an Activity and a Performer (or SubTypes). They are mainly used with data centricity, being represented by a line type on a diagram or a box-in-box relationship.

You may open an explicit relationship, and purposely remove one or both of its ends. If you do so, the explicit join relationship will still exist, but be missing one (incomplete) or both (orphan) of its ends. New dynamic View reports and a Cleanup.mac macro are now provided to identify such relationships so they can be fixed or removed from the architecture. See the help for information on how to use.
# Minor Improvements in Rational System Architect 11.4.2.6

The Rational System Architect 11.4.2.6 service pack contains fixes to the customer issues (APARs) and implementation of the Requests for Enhancements (RFEs) below.

<table>
<thead>
<tr>
<th>Change ID</th>
<th>APAR/RFE</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>33389</td>
<td>70186</td>
<td>Customizable Metamodel (USRPROPS)</td>
<td>Enabled the keywords 'WHERE' and 'OF DEFINITION REFERENCED IN' to work in combination. Previously they could not.</td>
</tr>
<tr>
<td>70788, 70696</td>
<td>28182, 999.61</td>
<td>Customizable Metamodel (USRPROPS)</td>
<td>Fixed an issue wherein the GROUP keyword could not be used to arrange items in the default definition tabs. The properties were there, but not in groups. Conversely trying to add the properties in the existing tab to a new user defined chapter didn't work.</td>
</tr>
<tr>
<td>70943</td>
<td>15896, 033.86</td>
<td>Encyclopedia Maintenance</td>
<td>Fixed an issue wherein Dictionary Update was not completing in a reasonable time (hours or at most a weekend) in a 12GB database.</td>
</tr>
<tr>
<td>72557</td>
<td>48979, 999.70</td>
<td>Data Centricity</td>
<td>Fixed an issue wherein removing (not purging) an embedded symbol removed the relationship (between child and parent) even if it existed in another diagram</td>
</tr>
<tr>
<td>73617</td>
<td>57602, 442.00</td>
<td>Displayable Properties</td>
<td>Fixed an issue wherein a space was appearing between the last property of a displayable property on a symbol, and the bottom edge of the symbol. This space grew larger as the number of properties increased, impacting the readability of printouts of diagrams.</td>
</tr>
<tr>
<td>73925</td>
<td>RFE 35872</td>
<td>Globalization</td>
<td>Now provide ability to use metric system or English system for measurements on diagram. A new MeasureSystem option has been added to the Session Options editor -- 0 will force System Architect to use the metric system of measurement; 1 will force System Architect to use the US customary system of measurement. By default, System Architect uses the system of measurement for a client's current region.</td>
</tr>
<tr>
<td>73981</td>
<td>RFE 36146</td>
<td>Customizable Metamodel (USRPROPS)</td>
<td>The CONTROL usrprops keyword can now be used to modify the ReadOnly setting of a property.</td>
</tr>
<tr>
<td>74128</td>
<td>00264, 442.00</td>
<td>UML</td>
<td>Fixed an issue wherein resizing an object lifeline on a UML Sequence diagram caused message lines drawn into it to change from straight to segmented</td>
</tr>
<tr>
<td>74193, 999.64</td>
<td>SAP</td>
<td>Fixed an issue with the SAP add-in for Business Processes -- invalid data was being created in SA from the SAP Import.</td>
<td></td>
</tr>
<tr>
<td>Issue</td>
<td>Logs</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-------</td>
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<td>-------------</td>
<td></td>
</tr>
<tr>
<td>74063</td>
<td>9 and RATLC 02763 829</td>
<td>Duplicate SAP Transactions and SAP Transaction Code definitions were being created.</td>
<td></td>
</tr>
<tr>
<td>74203</td>
<td>54210, 646,70 6</td>
<td>Fixed an issue wherein SA/XT could not be used to edit properties with the ASGRID keyword used, added to the product via usrprops.txt -- it appeared that you added information to the grid of a definition, but the information would not appear when you viewed the information in rich-client SA. There were no warnings or errors of failure.</td>
<td></td>
</tr>
<tr>
<td>74208</td>
<td>33536, 001,80 6</td>
<td>Fixed an issue wherein attempts to import a large number of users from Microsoft Active Directory (AD) to Catalog Manager resulted in &quot;The size limit for this request was exceeded with code 2147016669&quot; error.&quot; and the info could not be imported.</td>
<td></td>
</tr>
<tr>
<td>74273</td>
<td>29636, 499,00 0</td>
<td>Fixed an issue wherein a data centric line (in DoDAF 2) was being added to a diagram outside the drawing area of a diagram, which caused printing of the diagram to cause many unneeded pages.</td>
<td></td>
</tr>
<tr>
<td>74317</td>
<td>54701, 211,78 8</td>
<td>Fixed an issue wherein running Dictionary Update on a particular customer’s encyclopedia caused SA not to respond.</td>
<td></td>
</tr>
<tr>
<td>74344</td>
<td>87922, SAP 019,86 6; RATLC 01547 000; 72900, 999,64 9</td>
<td>Fixed an issue with the out-of-box property set that caused a warning to display upon creation of a new encyclopedia if TOGAF and SAP were both selected -- &quot;Duplicate property level browser control clause ignored&quot;.</td>
<td></td>
</tr>
<tr>
<td>74366</td>
<td>52949, SA Process Integrator 999,61 6; RATLC 01550 426</td>
<td>Starting with SA11.4.2, SA Process Integrator became a custom install option of full SA; users no longer needed to install the SAService (XT) component. However, the install instructions on the SA Information Center were out-dated and did not reflect this change. They were adjusted.</td>
<td></td>
</tr>
<tr>
<td>74385</td>
<td>80331, Data Modeling 211,78 8</td>
<td>Fixed an issue wherein the 'Other DBMS ' option was not showing up in the 'Database Synchronize, Generate and Reverse' dialog in DB Reverse Engineering.</td>
<td></td>
</tr>
<tr>
<td>74482</td>
<td>33823, SA/XT 001,80 6</td>
<td>Fixed an issue wherein SA/XT was silently failing to save changes to a definition if the related definition was locked.</td>
<td></td>
</tr>
<tr>
<td>74508</td>
<td>58100, Licensing 999,70 6; RATLC 02811 638</td>
<td>Fixed an issue wherein SA 11.4.2.5 was not working with a dongle license.</td>
<td></td>
</tr>
<tr>
<td>74527</td>
<td>53871, SA/XT 999,61 6; RATLC 01550 923</td>
<td>The &quot;not equal to&quot; reporting system operator was not working with SA/XT Reader mode; it was working with writer/updater mode.</td>
<td></td>
</tr>
</tbody>
</table>
When exporting matrices to Excel, SA now sets the matrix in Excel to invisible to speed up the process, then turns it back to visible when the process is finished. Previously, when SA matrices were exported to Excel, the process could take a long time, because Excel updated the values exported from SA, cell by cell.

Fixed an issue wherein running Update FKs on a particular Logical Datamodel in a client encyclopedia caused SA to freeze and stop responding.

Fixed an issue wherein the System Architect installer was not installing the accesscontrolmap.xml file on systems with Portuguese locales.

Fixed an issue wherein the reporting command ORDERBY was not working with SA/XT in reader mode -- the log file said it was improper syntax; however it was running in writer/updater mode.

Fixed an issue wherein the Framework Report applet generated via the HTML Generator in SA was blocked by Firefox. Instead you received the error, "Your browser doesn't seem to support Java applets, which is required for viewing the SVG file. Get the latest Java Plug-in here."

Fixed an issue wherein the Framework Report applet generated via the HTML Generator in SA caused a RuntimeException in Internet Explorer. You got the message, "RuntimeException java.lang.reflect.InvocationTargetException"

Fixed an issue wherein the fill color of the arrowhead on line symbols was not changed during the running of an analytic report.

Fixed an issue wherein the keyword ##Invisible## worked in SA/XT Updater mode, and in SA Publisher but it did not work in SA/XT Reader mode.

The Advanced dialog setting on the Property Configuration dialog to hide the Focal Point definitions was not fully hiding all definition types provided for the SA-Focal Point integration. Now it does.

Fixed an issue wherein a usrprops that resulted in a "stereotyped" set of lines (in a drop down) that represented an explicit relationship, caused a fatal error in System Architect (crash).

Fixed an issue wherein the MIRRORS keyword was not working with the WHERE clause.
Fixed an issue wherein, upon upgrading an encyclopedia to 11.4.2.5, the WHERE clause that had previously been working (applied through a client's usrprops), stopped working, causing related Choices list boxes to be empty of data to select from.

Fixed an issue wherein, when using the ASGRID property (via usrprops), a client found the return value could not be passed back to the property window successfully.