



Innovator 15.0

# ReleaseInfo

Innovator 15.0.1.30117



Contents

- Innovator 15.0 (Innovator 15.0.1.30117) ..... 1
  -  Version Consistency ..... 1
    - Overview of Version Numbers (Builds) ..... 1
    - About the API Documentation ..... 1
  - General Functions ..... 1
    - Log4j Security Vulnerability ..... 1
  - Model Editor ..... 2
    - Create Process Characteristics ..... 2
    - Specification Texts: Hyperlinks to E-Mail Addresses ..... 2
    - BPMN: Order of Lanes ..... 2
  - Plug-ins ..... 2
    - Bpanda Connector: Formatted Description Texts for Process Maps ..... 2
    - Bpanda Connector: Language Support for Organizational Structure ..... 2
- Innovator 15.0 (Innovator 15.0.1.21215) ..... 3
  - General Functions ..... 3
    - Log4j Security Vulnerability ..... 3
    - Multithreading Corrected ..... 3
  - Model Editor ..... 3
    - BPMN: Import of a Data Object Can Use Global State ..... 3
    - BPMN: Selection of Storage Location during Import ..... 3
    - DDL Generation for Foreign Keys ..... 3
    - Drag-and-Drop of Resources with Different Stereotypes of Activity Resources ..... 3
    - Beamer: Performance ..... 4
    - BPMN Import Sets the Name of the Group ..... 4
    - Consistency Check on Person in Charge and Deputy ..... 4
    - Excel Import: Modify Existing Elements ..... 4
    - Inconsistency of Message Flow ..... 4
    - Placeholders in Specifications and Comments ..... 4
  - Plug-ins ..... 4
    - Bpanda Connector Supports Roles ..... 4
    - Bpanda Connector: Export of Multiple Processes ..... 4
    - Bpanda Connector: Localized Times ..... 4
    - Bpanda Connector: Risk Is Exported Even Without Assessment ..... 5
- Innovator 15.0 (Innovator 15.0.1.20727) ..... 6
  - Model Editor ..... 6
    - BPMN Import: Reuse Process or Call Activity ..... 6
    - Login: Search for Model Versions ..... 6
    - Resource Requirements for Transforming the Change Log Reduced ..... 6
    - Align Models: Merging Processes with Process Diagrams ..... 6
    - Align Models: Runtime Reduced for Conflict Detection ..... 6
    - Arrange Diagram ..... 6
    - BPMN Import Respects Execution Right ..... 6
    - BPMN Import: Events with Multiple Event Definitions ..... 7
    - Excel Import: Empty Value for Stereotype Property ..... 7
    - Excel Import: Empty Value for UUID ..... 7
    - I/O Spec Links: Text Formatting ..... 7
  - Configuration ..... 7
    - Profile Import with Create Template for Entity Attribute with Type ..... 7
- Innovator 15.0 (Innovator 15.0.1.20616) ..... 8
  - Model Editor ..... 8
    - BPMN Import Can Create Event Definitions ..... 8
    - BPMN Import Can Import Subprocess as Call Activity ..... 8
    - BPMN Import Can Create Business Objects ..... 8

<input type="checkbox"/>	Concept Diagrams: Paste From Other Diagram Allows Comments and Attachments .....	8
<input checked="" type="checkbox"/>	Abort Event Definition Not Allowed in Mask Definition .....	8
<input checked="" type="checkbox"/>	Beamer: Performance Improved .....	8
<input checked="" type="checkbox"/>	BPMN Import Supports Data Objects with the Same Name .....	8
<input checked="" type="checkbox"/>	BPMN: Undo Reconnect and Delete Message Flows .....	9
<input checked="" type="checkbox"/>	DMN: Import from Binding on Decision .....	9
<input checked="" type="checkbox"/>	Excel Import Accelerated for Large Target Models .....	9
Innovator 15.0 (Innovator 15.0.1.20421) .....		10
General Functions .....		10
<input checked="" type="checkbox"/>	Innovator Launch on Delayed VPN Connection .....	10
Administration .....		10
<input type="checkbox"/>	Environment Variables for License Server behind NAT .....	10
<input checked="" type="checkbox"/>	Bundle Installer Installs on Windows Server 2012 R2 .....	10
Model Editor .....		10
<input checked="" type="checkbox"/>	ArchiMate Import: Node Display Selectable .....	10
<input checked="" type="checkbox"/>	Documentation Chapter "Requirement" Available as Container of Requirement .....	10
<input checked="" type="checkbox"/>	Hyperlink Font .....	10
<input type="checkbox"/>	ArchiMate Import: Automatic Corrections .....	11
<input type="checkbox"/>	Call Activity Renames the Called Element in the Diagram .....	11
<input type="checkbox"/>	Copying Entity Relationships Evaluates Create Defaults .....	11
<input type="checkbox"/>	DB Manager Takes Element References into Account .....	11
<input type="checkbox"/>	DB Manager: Option for Case Sensitivity .....	11
<input type="checkbox"/>	Deleting From Clauses Deletes Using Features .....	11
<input type="checkbox"/>	Dialog "Export a Differences DDL File" Extended .....	11
<input type="checkbox"/>	F3 Text: Default Font in Tables .....	12
<input type="checkbox"/>	Import BPMN Wizard Provides Import Configurations .....	12
<input type="checkbox"/>	Sequence Diagram: Calling New Operation from Implemented Interface .....	12
<input checked="" type="checkbox"/>	ArchiMate Import: Automatic Creation of Missing Properties .....	12
<input checked="" type="checkbox"/>	DMN: Multilingualism and Test Data of Decisions .....	12
<input checked="" type="checkbox"/>	DMN: Simulation of Informations of the "date and time" Type .....	12
<input checked="" type="checkbox"/>	Impact Analysis: Custom Behavior is Inherited .....	12
<input checked="" type="checkbox"/>	Model Fragments: Importing Entities Without Their Relationships .....	12
<input checked="" type="checkbox"/>	Placeholder Replacement in Formatted Texts .....	12
<input checked="" type="checkbox"/>	Synchronous Elements: Changing the Element Type Affects Synchronicity .....	13
Plug-Ins .....		13
<input checked="" type="checkbox"/>	Bpanda Connector Supports Re-Import .....	13
<input checked="" type="checkbox"/>	Bpanda Connector: Translations are Imported .....	13
Innovator 15.0 (Innovator 15.0.1.20127) .....		14
General Functions .....		14
<input checked="" type="checkbox"/>	Managed Models: Delete Model Versions .....	14
<input checked="" type="checkbox"/>	Managed Models: Write Protection for Versions .....	14
<input checked="" type="checkbox"/>	MSIX Installer Packages .....	14
<input checked="" type="checkbox"/>	Synchronous Model Elements .....	14
<input type="checkbox"/>	Constant UUID for Preview Image and Property Values .....	15
<input type="checkbox"/>	Diagrams: Standard Size of Node Types .....	15
<input type="checkbox"/>	Environment Variable for Individual Icons Path .....	15
<input type="checkbox"/>	Linux: Service Wrapper for Java .....	15
<input type="checkbox"/>	Model Selection Indicates Login Problem .....	16
<input type="checkbox"/>	System Requirements Windows: Windows 8.1 or Server 2012 R2 .....	16
<input type="checkbox"/>	Updating the Runtime Environment .....	16
Administration .....		16
<input checked="" type="checkbox"/>	PowerShell: New Management Commands .....	16
<input checked="" type="checkbox"/>	Settings for Change Logging .....	16
<input checked="" type="checkbox"/>	User Management: Rule Registers Show Username and E-Mail Address .....	16
<input type="checkbox"/>	Activate Subscription License Server .....	16
<input type="checkbox"/>	Agents Do Not Require an Explicit User in the User Management .....	16

<input type="checkbox"/>	Version Management: Automatic Shutdown for Backups Adjustable .....	17
<input checked="" type="checkbox"/>	PowerShell: Creating a Model Version .....	17
Model Editor .....		17
<input checked="" type="checkbox"/>	"Deleted Elements" Tool Window .....	17
<input checked="" type="checkbox"/>	Align Models: Compare File Attachments with External Programs .....	17
<input checked="" type="checkbox"/>	ArchiMate Import: Create Required Properties .....	17
<input checked="" type="checkbox"/>	Authorizations: Using Execution Rights, Read Rights and Privileges of all Roles .....	17
<input checked="" type="checkbox"/>	BPMN Diagram: Drag-and-Drop of Global Task or Process .....	18
<input checked="" type="checkbox"/>	BPMN: Tabular Process Representation .....	18
<input checked="" type="checkbox"/>	Concept Diagrams: Insert Concept on Concept Connection .....	18
<input checked="" type="checkbox"/>	Diagrams: Optimizing Text Field Size .....	18
<input checked="" type="checkbox"/>	Diagrams: Recently Used Colors .....	19
<input checked="" type="checkbox"/>	Diagrams: Transparency of Nodes and Edges .....	19
<input checked="" type="checkbox"/>	ER-DB Mapping: Customizing the Options .....	19
<input checked="" type="checkbox"/>	Impact Analysis: Smooth Graph .....	19
<input checked="" type="checkbox"/>	Login: Context Menu in the Model Tree .....	19
<input checked="" type="checkbox"/>	Sealing Change Sets .....	19
<input checked="" type="checkbox"/>	Specification Texts: Page Width in Editor .....	19
<input checked="" type="checkbox"/>	Specification Texts: Show Attachments as Graphics in Specifications .....	19
<input type="checkbox"/>	Administration Program: Start from the Model Editor .....	20
<input type="checkbox"/>	Align Models: Editor "Synchronize Model Elements" Renamed to "Align Models" .....	20
<input type="checkbox"/>	Align Models: Merging Possible With Differing Configurations .....	20
<input type="checkbox"/>	Align Models: Take Over Translations When Merging .....	20
<input type="checkbox"/>	ArchiMate 3.1 Export/Import .....	20
<input type="checkbox"/>	ArchiMate Icon Display Revised .....	20
<input type="checkbox"/>	Authorizations: Evaluation of the Access Rights of Roles in the Model Editor .....	20
<input type="checkbox"/>	BPMN Diagram: Creating Call Activities .....	21
<input type="checkbox"/>	BPMN Diagram: Docking of Edges Extended .....	21
<input type="checkbox"/>	BPMN Diagram: Wrong Task Type is Tolerated When Dropping .....	21
<input type="checkbox"/>	Change Logs: Export for Versions Implicit .....	21
<input type="checkbox"/>	Change Logs: Navigation Operations are Not Logged .....	21
<input type="checkbox"/>	Concept Diagrams: Carousel Uses Hidden Relationships .....	21
<input type="checkbox"/>	Concept Diagrams: Create Diagram Node with Relationship Wizard .....	21
<input type="checkbox"/>	Concept Diagrams: Relationship Wizard Enabled by Default .....	22
<input type="checkbox"/>	Contents as Table for all Element Types .....	22
<input type="checkbox"/>	DB-ER Mapping: Optional Search for Model Elements to be Deleted .....	22
<input type="checkbox"/>	DDL Generation: "leadingQuoter" and "endingQuoter" Omitted .....	22
<input type="checkbox"/>	Diagrams: Carousel Icon "Add" .....	22
<input type="checkbox"/>	Diagrams: Keeping Header Areas Visible When Moving Diagrams .....	22
<input type="checkbox"/>	Diagrams: Put Overlapping Elements in the Foreground or Background .....	22
<input type="checkbox"/>	ER-DB Automapping: Types from Local Columns to Foreign Attributes .....	22
<input type="checkbox"/>	ER-DB Mapping: Optional Search for Model Elements to be Deleted .....	23
<input type="checkbox"/>	Jump Behavior for Parameters Improved .....	23
<input type="checkbox"/>	Model Structure: Element Group Filter Removed .....	23
<input type="checkbox"/>	SAP: Connection to SAP Solution Manager Updated .....	23
<input type="checkbox"/>	Specification Texts: Spell Checking Slightly Delayed .....	23
<input type="checkbox"/>	Verification Wizard: Configuration of a Stand-Alone Verification .....	23
<input type="checkbox"/>	Whiteboard Diagram: Reference Edges Always Black .....	23
<input type="checkbox"/>	Wizard "Change Element Type" Displays Templates in Alphabetical Order .....	23
<input checked="" type="checkbox"/>	Diagrams: Creating Comments or Constraints .....	23
Configuration .....		24
<input checked="" type="checkbox"/>	BPMN: Display Option for Participant Nodes .....	24
<input checked="" type="checkbox"/>	Display Option "Display Text Without Quotes" .....	24
<input checked="" type="checkbox"/>	Uniqueness at System Model Level .....	24
Plug-Ins .....		24
<input type="checkbox"/>	Loading Mechanism Modified .....	24

- New Function
- Changed
- Fixed

## Innovator 15.0 (Innovator 15.0.1.30117)

### Version Consistency

Please note when updating your Innovator installations:

Identity of model server version and client version is highly recommended for safe use of Innovator. It is mandatory that model server and clients have identical release numbers (XX.X.X).

**To fix the Log4j security vulnerability, we recommend that you apply the latest hotfix to all clients and servers promptly!**

The hotfix 15.0.1.30117 is interface-compatible with the previous versions 15.0.1.XXXXX.

Repositories updated by transformation or startup with the current server cannot be used in older versions.

### Overview of Version Numbers (Builds)

Product Description	Version Number (Build)
Innovator 15.0.1 Hotfix	Version 15.0.1.30117
Innovator 15.0.1 Hotfix	Version 15.0.1.21215
Innovator 15.0.1 Hotfix	Version 15.0.1.20727
Innovator 15.0.1 Hotfix	Version 15.0.1.20616
Innovator 15.0.1 Hotfix	Version 15.0.1.20421
Innovator 15.0.1	Version 15.0.1.20127

### About the API Documentation

The API changes are continuously documented in the online help (see "User Customizations> Innovator SDK Documentation Library>Change Log").

## General Functions

### Log4j Security Vulnerability

All occurrences of log4j in insecure versions 2.x have been migrated to version 2.17.1.

The already non-critical uses in InoHub and InoAgent were also updated to 2.17.1 in the process.

Due to the version swap (and the resulting different library name), classpaths in engineering actions need to be adjusted - this is done automatically for all engineering actions configured in the model when the model server is first started.

Please note: The repository can then no longer be started with an older server version.

**ATTENTION:** If a log4j library in version 2.x < 2.17.1 is still included via the mechanism of the inojvm.ini, it is mandatory to change this, otherwise the security vulnerability still exists!

## Model Editor

### ■ Create Process Characteristics

A process characteristics can be created or updated at a BPMN process on the basis of a documentation command and the process details referenced therein. The configured process characteristics and the loading and saving of the associated model-wide application configuration are offered in the "Extras>Update Process Characteristics" ribbon group. The "Edit model-wide Configuration" privilege is required for loading and saving. The commands for the process characteristics are executable if a BPMN process or a concept that has a concept realization to a BPMN process is selected. The created process characteristics has the name of the documentation command as file name and is attached to the process and replaces the possibly existing process profile.

### Specification Texts: Hyperlinks to E-Mail Addresses

In hyperlinks in specification texts, the mailto protocol can be used to specify an e-mail address so that when the hyperlink is clicked, the e-mail client opens with the specified address.

### BPMN: Order of Lanes

The order of lanes always results from the representation in the definition diagram of the process. When creating a new lane, the order is corrected beforehand if necessary. If the lane is created via API, the coordinates of the nodes are preset appropriately.

## Plug-ins

### ■ Bpanda Connector: Formatted Description Texts for Process Maps

Description texts of the process maps and their translations are transferred formatted to Bpanda.

### ■ Bpanda Connector: Language Support for Organizational Structure

With the organizational structure, the translations entered in Innovator to organizational units and roles for the name or description are transferred to Bpanda.

## Innovator 15.0 (Innovator 15.0.1.21215)

### General Functions

#### Log4j Security Vulnerability

All occurrences of log4j in insecure versions 2.x have been migrated to version 2.16.

The already non-critical uses in InoHub and InoAgent were also updated to 2.16 in the process.

Due to the version swap (and the resulting different library name), classpaths in engineering actions need to be adjusted - this is done automatically for all engineering actions configured in the model when the model server is first started.

Please note: The repository can then no longer be started with an older server version.

**ATTENTION:** If a log4j library in version 2.x < 2.16 is still included via the mechanism of the inojvm.ini, it is mandatory to change this, otherwise the security vulnerability still exists!

#### Multithreading Corrected

During testing of multithreading in the server, a situation was found where the repository untimely terminated and could not be restored. The multithreading has been corrected accordingly.

### Model Editor

#### BPMN: Import of a Data Object Can Use Global State

When importing a BPMN file, the state of a data object is imported as a local state. If a business object is assigned to the data object, then a global state on the business object is used if the "Use global state" option is set.

#### BPMN: Selection of Storage Location during Import

For the import of BPMN files, it is possible to set in the import configuration whether the storage location is fixed for the importing user. Otherwise, the user can select the storage location during the import. To create an import configuration, the user must have the "Edit model-wide configuration" privilege.

#### DDL Generation for Foreign Keys

In the DDL configurations, the "One separate file for foreign keys" option in the "Files" group causes foreign keys to be output to a separate "ForeignKeys.sql" file, which is automatically created in the output file directory.

#### Drag-and-Drop of Resources with Different Stereotypes of Activity Resources.

When a resource is dragged onto a task node, then an activity resource is created and the resource is connected, determining the stereotype of the activity resource according to the configuration for allowed owners and referenced resources.

**Beamer: Performance**

The right tree is built up much faster again.

**BPMN Import Sets the Name of the Group**

When a group is imported into BPMN, it receives the referenced category value as its name.

**Consistency Check on Person in Charge and Deputy**

Relationships between organizational units and persons can be modeled as "Person Assignment". These relationships can also be edited for the organizational unit as "In Charge" and "Cover" properties. Both properties allow a maximum of one person as a value. When merging model contents, changes are rejected if they would lead to a second value of the same property.

**Excel Import: Modify Existing Elements**

Importing an Excel file changes an existing model element only if it can be uniquely determined by the following properties alternatively:

- \* UUID
- \* Name, stereotype and qualified name of the owner
- \* Name, stereotype and selected owner

**Inconsistency of Message Flow**

When copying elements with comments included, comment connections are rejected if the connected element is not copied at the same time and it is a participant or message flow.

**Placeholders in Specifications and Comments**

Placeholders can be used in specifications and comments, e.g. to reference labels or other texts. The placeholder  $\$(\langle \text{label name} \rangle)$  is evaluated correctly for the logical label name to be specified. If an enumeration type with localized values is referenced, then the display in the diagram will use the currently valid display language.

## Plug-ins

**Bpanda Connector Supports Roles**

When exporting the organizational structure to Bpanda, roles are also taken into account. When exporting a process, the link to a role attached to a lane is transferred. In Bpanda, the link is visible as soon as both the process and the role have been imported from Innovator.

**Bpanda Connector: Export of Multiple Processes**

Multiple processes can also be exported from Innovator to Bpanda if a process is included in another diagram that contains a process that has not been selected.

**Bpanda Connector: Localized Times**

When importing information from Bpanda to Innovator via the Bpanda Connector, the local time displayed in Bpanda is converted to the local time of the computer on which the import takes place. This affects the fields

for the time of the import, the last review end, the publication, and the start and end of validity. The entries concern the currently valid process version or the last process revision if there is no currently valid process version.

**Bpanda Connector: Risk Is Exported Even Without Assessment**

A risk is exported to Bpanda even if it has no rating and the values for the incidence rate and for the impact of the risk comply with the default value.

## Innovator 15.0 (Innovator 15.0.1.20727)

### Model Editor

#### **BPMN Import: Reuse Process or Call Activity**

A call activity and its called process can be independently imported from a BPMN file.

An imported call activity is automatically assigned to the existing called process.

If the import option "Complete call activity" is set, then a previously imported call activity without a called element is assigned to an associated imported process as called element in the importing system model. Otherwise, it will not be completed.

#### **Login: Search for Model Versions**

On the Backstage "Open & Login" and in the "Select Model" dialog, managed models can also be searched for by their version name.

#### **Resource Requirements for Transforming the Change Log Reduced**

When transferring repositories from the previous version, the change logs are transferred in the final processing by the transformer. Memory requirements and run time have been significantly reduced for extensive change logs.

The change covers the transformers from version 14.3.

#### **Align Models: Merging Processes with Process Diagrams**

When merging processes and process diagrams, the configuration is ignored and the process diagram is created even if it is not allowed as content of the process. This ensures that a complete process view exists and the process does not become inconsistent.

#### **Align Models: Runtime Reduced for Conflict Detection**

When merging models, run times associated with conflict detection have been significantly reduced.

#### **Arrange Diagram**

The command "Design>Arrange>Standard Layout>Arrange Diagram" creates the Sugiyama layout correctly.

#### **BPMN Import Respects Execution Right**

When importing BPMN, you can specify which create template should be used for an element type in the "Stereotype selection" section in step 3 of the wizard. For all element types for which there is more than one create template in the model for which you have the right to execute, you can specify which create template should be used in the "Stereotype selection" section. For the Package element type, only those create templates are offered whose stereotype has a stereotype of a BPMN diagram as an assigned element. For the element types event definition, task, gateway, data object and definition of a logical expression you can define which create template should be used depending on the respective type of the element type.

**BPMN Import: Events with Multiple Event Definitions**

The BPMN import can import events that have multiple event definitions. Also the property "is parallel multiple" is set during import if the event is marked accordingly in the BPMN file.

**Excel Import: Empty Value for Stereotype Property**

The Excel import can delete the value of a stereotype property. If no value is entered in the corresponding cell in the Excel file, then an existing value will be deleted.

**Excel Import: Empty Value for UUID**

The import of an Excel file can be performed even if a cell in the "UUID" column contains an empty value.

**I/O Spec Links: Text Formatting**

For special I/O spec links in formatted texts, the font formatting (Family and Size) is preserved for the link text on saving.

## Configuration

**Profile Import with Create Template for Entity Attribute with Type**

Importing a profile with a changed type in a creation template for an entity attribute takes the type from the model fragment.

## Innovator 15.0 (Innovator 15.0.1.20616)

### Model Editor

#### ■ BPMN Import Can Create Event Definitions

To obtain an event definition for each event when importing a BPMN file, the option "Create event definition" must be activated. Then, for an event that does not have an event definition, a blank event definition is created and the name of the event is moved to the event definition. If the "Reuse global elements" option is also set, then an existing event definition with the same name will be reused.

#### ■ BPMN Import Can Import Subprocess as Call Activity

When importing a BPMN file, subprocesses can always be imported as call activity and called process. For this purpose, the option "Import subprocess as call activity" must be activated.

#### ■ BPMN Import Can Create Business Objects

To obtain a business object for each data object when importing a BPMN file, the "Create business object" option must be activated. A business object is then created for a data object that does not have a business object and the name of the data object is copied to the business object. If the "Reuse global elements" option is also set, then an existing business object with the same name will be reused.

#### □ Concept Diagrams: Paste From Other Diagram Allows Comments and Attachments

It is possible in concept diagrams to copy any selection of concept nodes with position and nesting into another diagram of the same model. If comments and attachments are selected in the process, then these are also pasted. In contrast to concepts, comments and attachments can only be displayed once as nodes. All selected nodes are aligned in the target diagram as a group at the new position. Involved comments and attachments are positioned accordingly even if the node was already present in the diagram.

#### ☑ Abort Event Definition Not Allowed in Mask Definition

If a mask definition is displayed in the mask flow diagram as a user input task, then all contained event definitions are displayed as boundary events. A boundary event allows an event definition with event definition type "Cancel" only for a subprocess with subprocess type "Transaction". The creation of a cancel event definition as content of a mask definition is rejected with an error message.

#### ☑ Beamer: Performance Improved

The long response time after the creation of an element has been significantly reduced by savings in server communication.

#### ☑ BPMN Import Supports Data Objects with the Same Name

When importing a BPMN file, data associations can be imported correctly even if the associated data objects are not unique. A group (BPMN) receives as owner the process in which it is graphically mainly contained.

**BPMN: Undo Reconnect and Delete Message Flows**

If a message flow between participants or their referenced processes within a collaboration is reconnected or deleted, then this can be undone without an error message.

**DMN: Import from Binding on Decision**

A decision with binding to context entries of another decision can be imported without loss.

**Excel Import Accelerated for Large Target Models**

When importing an Excel file, it takes a certain amount of time until a model element is found in the Innovator model for the rows of the Excel file based on name, stereotype and owner, if there is one. Even with large Innovator models, this time amounts to a few seconds per 100 rows.

## Innovator 15.0 (Innovator 15.0.1.20421)

### General Functions

#### Innovator Launch on Delayed VPN Connection

If Innovator (model editor or administration program) is started after restarting a computer before a VPN connection to the target computer is established, an error message appears stating that the specified host is unknown or that no connection to the target computer can be established. A dialog with the environment variables appears.

After establishing the VPN connection, the dialog can be closed successfully.

### Administration

#### Environment Variables for License Server behind NAT

Setting the environment variable INO\_NAT\_HOSTNAME is now only necessary on computers that are not running the license server at the same time.

#### Bundle Installer Installs on Windows Server 2012 R2

The bundle installer allows installation for Windows Server 2012 R2.

### Model Editor

#### ■ ArchiMate Import: Node Display Selectable

In the ArchiMate import wizard, you can optionally select the display of the diagram nodes in order to adapt the diagram layout as closely as possible to the original.

The icon display is suitable for imports from other tools where the labels are outside the node.

The node display is suitable, in particular also in connection with a configured standard size, if the labels are within the node.

#### ■ Documentation Chapter "Requirement" Available as Container of Requirement

For requirements, a model element enumeration chapter "Container>Requirement" is available in the configuration of the details and documentation structures. The owning requirement for nested requirements can thus be displayed in the detail tree and output in the documentation.

#### ■ Hyperlink Font

In the "Options" dialog, the two options "Font Family of Copied Model Elements" and "Font Size of Copied Model Elements" determine how copied model elements are formatted when pasted as hyperlinks in programs such as Microsoft Word.

#### **ArchiMate Import: Automatic Corrections**

The ArchiMate import can correct some errors automatically.

The logical direction of concept connections is not important in many tools, but in Innovator one of the connected concepts must be the owner, and this defines the direction. During import, the direction is automatically corrected.

Element names can contain line breaks in some tools, but not in Innovator. Such line breaks are removed and the name is transferred correctly.

Various errors in diagrams, such as multiple nodes of the same object at the same position, nested nodes which cannot fit into each other in terms of size, and edges which end at a container but should lead to a contained node, are corrected if the necessary information can be determined in another way, and do not lead to the import being aborted.

The import no longer aborts without comment as a result of errors in the imported file.

All automatic corrections are logged.

#### **Call Activity Renames the Called Element in the Diagram**

In the BPMN diagram, the name of the called element is typically displayed for a call activity, not its own name. If a call activity is renamed directly in the diagram (e.g. via F2), then the name of the called element is changed, not its own name. The change therefore also has a direct effect on the display in the diagram. If necessary, the name of the calling activity is also adjusted to the name change via maintenance.

For send/receive tasks the message and for service tasks the service operation is renamed accordingly.

#### **Copying Entity Relationships Evaluates Create Defaults**

Entity relationships are copied automatically when copying the connected entities. When pasting, the entities and their relationships are created in the selected package by default. If the configuration does not allow relationships in the selected package as content, the entity relationships are redirected to a suitable package via create defaults.

#### **DB Manager Takes Element References into Account**

Element references are displayed in the DB Manager target area as in the model structure and are included in all DB Manager actions.

#### **DB Manager: Option for Case Sensitivity**

Through the new "Options" group, case sensitivity can be turned on for comparison with the model (Source>Compare with Model) and for the differences DDL (DDL Export>Alter Script). The default is case-insensitive as before.

#### **Deleting From Clauses Deletes Using Features**

View attributes as well as view columns are also deleted when all their From clauses used in the expression are deleted.

#### **Dialog "Export a Differences DDL File" Extended**

In the "Export a Differences DDL File" dialog, drop-down lists for formatting characters and character set (UTF-8 as default or ISO-8859.1) have been added.

### **F3 Text: Default Font in Tables**

Tables newly created in specification texts get font type and size according to the formatted text defaults specified in the options.

### **Import BPMN Wizard Provides Import Configurations**

The Import BPMN wizard offers model-wide import configurations. If the user selects an import configuration, then the steps in the wizard are skipped so that the user does not have to make any further settings. When importing processes from Bpanda to Innovator, the user can also select an import configuration and thus skip the steps in the wizard. To create import configurations, the user needs the privilege "Edit model-wide Configuration".

It is possible to choose between several create templates that have the same stereotype. The create template can be defined depending on the gateway type, definition type of a logical expression, data object type, task type or event definition type.

### **Sequence Diagram: Calling New Operation from Implemented Interface**

In the sequence diagram, the called operations for calls are determined from the type of the target lifeline. The operations can belong directly to the type, to a generalization of it or to a realized interface. The corresponding elements are also offered as permissible owners when creating a new operation.

### **ArchiMate Import: Automatic Creation of Missing Properties**

For automatic creation of missing properties, the migration profile "Migration Enterprise Architect for ArchiMate.aob" must be loaded in existing models to achieve completeness.

### **DMN: Multilingualism and Test Data of Decisions**

The name of the test data file of an information (InputData) is generated in the model language to avoid that a change of the Innovator language regenerates the test data file and duplicates the test data sets.

### **DMN: Simulation of Informations of the "date and time" Type**

Informations (Input Data) of the type "date and time" can be simulated.

### **Impact Analysis: Custom Behavior is Inherited**

When you create a custom behavior for an element or stereotype in the impact analysis, the existing custom behavior of its stereotype or element type, if any, is inherited. This is true for both display and content behaviors. For example, if you have already defined the Name and Owner properties and a node color for display for a stereotype, then these properties and this color are also inherited in the conditions when you create a custom behavior for an element of this stereotype.

### **Model Fragments: Importing Entities Without Their Relationships**

Importing model fragments is also successful with entities without their relationships. Referenced entities are imported as placeholders if necessary.

### **Placeholder Replacement in Formatted Texts**

Placeholder replacement ( $\$(name)$ -expansion) in formatted texts no longer leads to inconsistency of the text in special cases.

**Synchronous Elements: Changing the Element Type Affects Synchronicity**

Changing the element type of model elements that are part of a synchronization partnership is rejected.

If a model element receives a stereotype that is part of a synchronization set by reshaping it to a new element type, the synchronous partner elements are not created automatically, in contrast to creating a new model element.

## Plug-Ins

■ **Bpanda Connector Supports Re-Import**

A process exported from Innovator to Bpanda can be edited there. The changed process can then be imported again from Bpanda to Innovator and further edited there. This applies regardless of how many processes are exported, as long as they are exported without Innovator look.

■ **Bpanda Connector: Translations are Imported**

With Bpanda Connector you can import a process from Bpanda to Innovator. Existing translations in Bpanda are taken over in all languages which exist in the Innovator model as display languages. The modeling language in Bpanda and Innovator must be the same. The translations are also adopted under the same conditions if you import a BPMN file exported from Innovator into Innovator.

## Innovator 15.0 (Innovator 15.0.1.20127)

### General Functions

#### ■ Managed Models: Delete Model Versions

If a model version or backup is no longer required, then users with a version rule can mark it for deletion in the Model Editor in the "Manage Versions" backstage view. To set a deletion marker, a non-running model version or backup must be selected and the context menu command "Mark for deletion" must be selected. Such versions marked for deletion will not be displayed in the model editor afterwards. Setting a deletion marker can also be done via the administration program.

A user with the "Manage Environment" right can filter the list of models in the administration program for versions marked for deletion and physically delete them or unmark them for deletion. Via PowerShell, this behavior can also be automated, for example to perform the physical deletion automatically after four weeks.

#### ■ Managed Models: Write Protection for Versions

If a version is to continue to be viewed but not modified, it can be set to read-only mode with the toggle command "Set Read-Only". If the version is active, then it is automatically terminated and restarted for this purpose. In contrast to a backup, which creates an additional, subordinate backup data set at a certain point in time (snapshot), here the original version remains.

A version can be set to read-only by users with a version rule in the administration program and in the model editor. To do this, the context menu with the command "Set Read-Only" must be selected on the desired model version. In the administration program, this is also possible via the menu ribbon.

A user with the "Manage Environment" right can reset the write protection for the version exclusively in the administration program.

#### ■ MSIX Installer Packages

The MSIX installer packages, which are alternatively available in the customer area, enable secure and fast distribution of Innovator on client computers with Windows 10. The installation is controlled by the operating system and is automated and virtualized. Updates can be imported in a resource-saving manner and with little effort in the network.

MID provides a basic package for the Innovator Model Editor including Administration Program and Configuration Editor, as well as extension packages for all plug-ins. In addition, a template extension package for setting the Innovator environment variables and the use of an inoenv.ini can be found in each case. Upon customer request, individual installer packages can be provided fully signed for direct distribution.

#### ■ Synchronous Model Elements

Innovator provides the option of synchronizing element properties.

This takes into account the fact that an element of the domain-oriented world can be modeled in different method contexts, but its identifying properties are basically the same in each context. The best example for this is the name of the element.

In special synchronization profiles, stereotypes are combined in a synchronization set. This is where configuration takes place, which properties are redundantly synchronized and which properties are not redundantly also valid for the synchronous elements.

Elements with stereotypes of a synchronization set are automatically created and deleted together. However, elements can also be manually marked as synchronous elements, for example, if they come from different sources in which no synchronization is defined, or if the synchronization set is only configured afterwards.

#### **Constant UUID for Preview Image and Property Values**

For some elements an image can be saved. Diagrams use this image as a preview image. If the representation of the diagram changes, then the preview images must also be updated. The UUID of the images is calculated according to a fixed scheme and thus remains constant.

For values of stereotype properties, type system options and labels, the UUID is also calculated according to a fixed scheme and thus also remains constant.

#### **Diagrams: Standard Size of Node Types**

In the configuration, the default size of certain node types can be set in the display options.

The value is specified in cells (one cell corresponds to 10 x 10 pixels) per node type. The minimum size of the node type will not fall below this value, regardless of the specification. (The minimum size can be determined using a textless node in the diagram).

For the following node types a default size can be specified:

- \* Concept nodes in concept diagrams (but no containers)
- \* Task nodes in the BPMN diagram and in the mask flow diagram
- \* Nodes in the decision diagram
- \* Nodes in the business resources diagram
- \* Actions in the Activity diagram
- \* States in the state diagram
- \* States in the diagram for business object states
- \* Use cases in the use case diagram

For all nodes with a fixed standard size applies in the diagram editors:

- \* New nodes are created in this size
- \* Nodes can be set to this size with the command "Resize>Default"
- \* If text contents are too long for the node, they are cut off with "..."

#### **Environment Variable for Individual Icons Path**

To simplify the administrative management, the basically centrally managed path to individual icons is set as Innovator environment variable INOICON. The specification in the "Options" dialog on the "Resources" tab is omitted.

#### **Linux: Service Wrapper for Java**

The minimum requirement for Java has been raised from version 8 to version 11.

For Java programs under Linux (jsvc) a newer version of the service wrapper is required because the previously required version 1.0.13 cannot handle Java programs developed with Java versions higher than 8.

Since many Linux repositories do not contain current versions of jsvc, jsvc version 1.2.3 is delivered with the Linux installation package from Innovator. The jsvc version provided by MID must be configured with a Java 11 version.

#### **Model Selection Indicates Login Problem**

In the administration program and in the model editor it is evident why a user cannot log on to a model version at all or only as a guest. In the administration program and in the model editor under "Manage Versions", a red (no login possible) or gray (only guest login) icon with a corresponding tool tip is displayed to the right of the model name in the structure tree. In the model editor, the model name appears in gray in the backstage view "Open & Login" and a note is displayed in the right-hand area with the model information.

#### **System Requirements Windows: Windows 8.1 or Server 2012 R2**

The minimum Windows requirement is Windows 8.1 or Server 2012 R2.

#### **Updating the Runtime Environment**

The Innovator application programs have been migrated from .Net Framework 4.6 to .NET Core 3.1. This removes the dependency on an installation of the .Net Framework libraries on the client computer. The runtime libraries to .NET Core 3.1 are supplied as an integrated part of Innovator during installation.

## **Administration**

### **PowerShell: New Management Commands**

Two commands have been added to the PowerShell library. The Get-InnoUser command lists users logged on to models. The Repair-InnoManagedModelVersion command allows recovery of crashed or damaged managed models.

### **Settings for Change Logging**

The settings for change logging can also be specified in the administration program.

### **User Management: Rule Registers Show Username and E-Mail Address**

In the user management of the administration program, the tables of the four rule tabs also show the columns "User Name in Model" and "E-Mail Address".

#### **Activate Subscription License Server**

The initial activation of the subscription server and thus of the named user licenses managed there is done as a one-time administrative task exclusively in the administration program in the backstage view "Help & Support". Activation requires an existing account on the subscription server and registration of the Innovator license administrator as account manager.

The section with the "Activate Innovator" button is only displayed in the backstage view in the demo version.

#### **Agents Do Not Require an Explicit User in the User Management**

In order to start and stop model versions under Windows or Linux directly or as a service, no entry in the user management is required for agents. Existing agent entries (<domain>\<computer name>\$) can be removed from the user management.

Under Linux, no user with environment rights is required in the file InoAgent.service for the environment entry.

#### **Version Management: Automatic Shutdown for Backups Adjustable**

Also for a backup of a managed model, the inactivity options can be changed in the properties. The backup must not have been started for this purpose.

To set the options, the existing PowerShell command "Set-InnoInactivityOptions" has also been extended.

#### **PowerShell: Creating a Model Version**

The creation of model versions with the commands "New-InnoManagedModelVersion" and "New-InnoManagedModelVersionBackup" is done correctly even with unfavorable response time behavior of the involved model servers.

## Model Editor

### ■ **"Deleted Elements" Tool Window**

The "Deleted Elements" tool window can be opened directly or via "Find>Deleted Elements" and displays the deleted elements in the changesets of the model. The display of deleted elements can be restricted by a name pattern, their element type as well as time period specifications for the deletion.

### ■ **Align Models: Compare File Attachments with External Programs**

External applications can be used for model alignment to compare file attachments.

In the menu bar "Align", the command "Attachments>Applications" opens a dialog, with which file extensions can be assigned to applications.

The context menu command "Open Comparison Window" starts the set comparison application for file attachments. The command is also available for the "File Content" property via the "... " icon.

### ■ **ArchiMate Import: Create Required Properties**

When importing ArchiMate Model Exchange format files, it can happen that elements bring along values for properties which are not configured in the Innovator model. You can allow these properties to be created automatically in the import wizard.

You can also specify that string-value properties are created as lists. At the imported elements you will then be offered all values assigned to other elements in a selection list.

This feature is available in models using or extending the MID ArchiMate profiles.

### ■ **Authorizations: Using Execution Rights, Read Rights and Privileges of all Roles**

By default, a user can only use those execution rights, read rights and privileges that are assigned to his active role. This affects the menus and menu ribbons, for example.

Optionally, a user can use the execution rights, read rights and privileges of all of his available roles simultaneously. This allows cross-role workflows to be performed without having to switch roles. In configurable menus, all entries of the available roles are offered independently of the active role. This can result in very crowded and confusing menus.

The option "Use execution rights from all roles" is available as a toggle command in the status bar on the role icon and as a checkbox in the "Switch Role" dialog. This user setting is saved across sessions for the model. If the user is also assigned the "Configurator" role, with this option activated, the "Configuration Violations" verification routine, for example, can be executed without switching role. Likewise, diagrams can be created for which a role switch would otherwise be necessary.

Due to the concept, however, only the active role is taken into account in the "Beamer" tool window for the list of mapping topics offered, regardless of the option.

We recommend the following usage: As before, always set the role that is appropriate for the majority of your current activity. If you need functionality that is assigned to a different role, then activate the option briefly via the status bar.

The access rights to elements are not affected by the option (see also the entry "Authorizations: Evaluation of the Access Rights of Roles in the Model Editor").

#### ■ **BPMN Diagram: Drag-and-Drop of Global Task or Process**

If a global task or process is dragged onto a sequence flow, then this sequence flow is interrupted by a call activity and the global task or process is used as the called element.

If a global task is dragged into an empty diagram, a new process is created in the diagram. Within the process, a call activity is created with the global task as the called element.

#### ■ **BPMN: Tabular Process Representation**

The contents of processes can be displayed and edited in a table. The contents are displayed as rows.

The initially displayed order of the contents results from a combination of hierarchy, element type and sorting within the same owner.

For each element, all the properties that are also available in the Properties tool window are displayed as a column. Exceptions to this are properties where lists of elements can be assigned. In addition, labels and texts are also displayed, whereby formatted texts can only be displayed and not edited.

Each column can be used for sorting or grouping. The number of columns can be reduced via a separate context menu.

In the table cells, the values of the column property are displayed for the respective row element. Column properties that are not available are displayed as gray cells.

#### ■ **Concept Diagrams: Insert Concept on Concept Connection**

A new concept can be dragged onto a concept connection. The existing edge is connected to the new concept on the target side. A new concept connection is created between the new concept and the originally connected target.

The concept connection can be split in the same way with an existing concept node. The node used must not have any connections.

#### ■ **Diagrams: Optimizing Text Field Size**

Resizable node and edge texts are calculated in multiple lines during optimization and after text modification starting from a certain width. This causes a line break in long texts and limits the field width. Starting from a width of ten cells, an attempt is made to achieve a width/height ratio of 5:1. The width can be changed manually as before.

### ■ Diagrams: Recently Used Colors

In the color selection (colorize in the diagram, font color and font background in the text editor and node color in the impact analysis), recently used colors are displayed. Thus, in addition to the recent color used in the respective application, up to ten recently selected colors can be reused across models.

### ■ Diagrams: Transparency of Nodes and Edges

In the diagram, nodes and edges can be made continuously transparent with the command "Design>Model Element>Transparency". This setting, like setting color values, works only in the "Custom Colors" view mode.

### ■ ER-DB Mapping: Customizing the Options

In the case of the standard ER DB mapping and the standard DB ER mapping, the values of the options can be adjusted without making changes in the model configuration. To do this, select the "Mapping>Map Model>Configuration" command in the "Mapping" editor and change the values in the "Options" tab. In the customer mode, the options are saved to the file specified in the "CustomerOption" option.

### ■ Impact Analysis: Smooth Graph

The "Smooth Graph" command gives the graph a smoothed appearance. Starting from the start node, all nodes are arranged in the graph direction according to the path length. The logical edge direction is ignored. A node with a short path length from the start node is close to the start node. If the graph is not smoothed, then the edges are arranged so that the direction from source to destination corresponds to the graph direction.

### ■ Login: Context Menu in the Model Tree

In the backstage view "Open & Login" in the area "Model Servers in the Network" as well as in the login dialog with model selection, there is a context menu in the tree view to completely expand and collapse subtrees.

### ■ Sealing Change Sets

If change sets are to be finalized, they can be sealed with a new button on the backstage. They can then no longer be changed by users. A model administrator can unseal them again. Sealed change sets can be shown or hidden using a new filter setting.

### ■ Specification Texts: Page Width in Editor

In the "Options" dialog, the "Specification" tab contains the settings for specification texts that were previously located in the "Display" tab.

To facilitate formatting in the specification text editor, there is an additional setting "Page Width" (in pixels).

If the page width is set accordingly, the window has a horizontal scroll bar so that even very wide tables can be moved completely into the visible area.

This setting has no effect on the documentation generation.

### ■ Specification Texts: Show Attachments as Graphics in Specifications

An image in a file attachment can be displayed directly as an image in the specification text editor as an alternative to the hyperlink. This is done with the command "Text>Hyperlink>Toggle Display". The size of the image can be changed via the context menu command "Modify Image" in a dialog.

The image is also output directly in the specification text when printing and in the documentation generation.

#### Administration Program: Start from the Model Editor

The administration program can be started directly via the "Administrative Tasks" backstage view of the model editor.

The call is only offered if the administration program is installed on the respective computer.

#### Align Models: Editor "Synchronize Model Elements" Renamed to "Align Models"

Due to the new functionality for synchronizing model elements, the "Synchronize Model Elements" editor has been renamed to the more appropriate name "Align Models".

#### Align Models: Merging Possible With Differing Configurations

Merging can also be performed if there are stereotypes, stereotype properties, texts, labels or options in the configuration of the right model that do not exist in the configuration of the left model. The features of the right model unknown in the left model are ignored.

In "Merge" mode, the new "Conflictive" filter in the ribbon can be used to specify whether such features should be displayed.

#### Align Models: Take Over Translations When Merging

When merging, translated values can be taken over. They are displayed in the hierarchy area below the translated element.

#### ArchiMate 3.1 Export/Import

You can choose between versions 3.0 and 3.1 for export. The associated validation ensures that the exported file can be imported into other tools.

Versions 3.0 and 3.1 are also supported for import; validation is automatic.

The export and import supports the ArchiMate 3.1 elements Value Stream and Value Stream Viewpoint.

#### ArchiMate Icon Display Revised

The icons for ArchiMate diagram elements have been revised with regard to their size. The size differences between the icons are smaller. The minimum size is smaller and is about 4 x 4 boxes for most icons. When importing from third-party tools, the node size is thus closer to the representation in the output tool.

Existing diagrams do not change because no icon has become larger.

#### Authorizations: Evaluation of the Access Rights of Roles in the Model Editor

In order to simplify the handling of the model editor for the user, the evaluation of the access rights is no longer carried out only on the basis of the currently set, active role. A user always has access to all elements for which he has the access right in at least one of his assigned roles. The access rights are combined from all roles assigned to him.

This has the advantage that the user does not have to switch between different roles to edit elements to which he basically has access. However, because the active role is relevant for the menus offered, these may not match the element being edited, and it may not be possible to create elements (see also the entry "Authorizations: Using Execution Rights, Read Rights and Privileges of all Roles").

Other changes to the previous program behavior are:

When creating an element, those access rights are set, which have been determined on the basis of the execution rights of the create template. An "active role" is no longer taken into account.

When switching roles, elements, e.g. diagrams, are no longer released, since the user still has the access rights of all his roles.

#### **BPMN Diagram: Creating Call Activities**

When creating a task with the type call activity, several called elements can be selected in the namespace dialog. You must specify at least one called element. If more than one element is selected, several nodes of call activities are created below one another.

#### **BPMN Diagram: Docking of Edges Extended**

In the BPMN diagram, horizontal or vertical edges on events and gateways can dock not only at the node center.

#### **BPMN Diagram: Wrong Task Type is Tolerated When Dropping**

For a task, the set task type determines the visible properties. Only the value "No Type" does not restrict the list of visible properties. If a value is assigned for one of the properties "Element Called", "Service Operation", "Message" or "Mask Definition", the list of available values of task type is significantly restricted. The value "No Type" is not included in the restricted list.

Drop of a global task onto a task is allowed even if the property "Element Called" is not visible due to the set task type. However, this only applies under the condition that the task type may be changed to the value "Call Activity".

#### **Change Logs: Export for Versions Implicit**

For managed model versions, the "Export model with change log" checkbox in the "Configure Change Logging" dialog is not offered because the change logs of a model version are always preserved when converting to a model file.

#### **Change Logs: Navigation Operations are Not Logged**

In the change log, the properties "OriginX", "OriginY" and "zoom factor" are no longer shown for a diagram.

#### **Concept Diagrams: Carousel Uses Hidden Relationships**

When a relationship type with the "Create" carousel icon is dragged onto a node with hidden relationships of the same type, the first hidden relationship of the same type is used. Otherwise, the relationship is created.

When a relationship is dragged onto a node with the "Wizard" carousel icon, a selection dialog of all allowed relationship types appears. If a relationship type is selected of which hidden relationships exist between the two nodes, the first hidden relationship of the same type is used. Otherwise the relationship is created.

#### **Concept Diagrams: Create Diagram Node with Relationship Wizard**

If a relationship is dragged into an empty diagram area using the relationship wizard of the concept diagram, all element types that can be linked to the selected element by a relationship are offered for creation. After selecting an element type, all relationship types that are allowed from the selected element to the chosen element are offered for selection.

#### **Concept Diagrams: Relationship Wizard Enabled by Default**

The relationship wizard for concept diagrams is activated by default ("Options" dialog, mouse settings).

#### **Contents as Table for all Element Types**

The editor "Contents as Table" is available for any element types.

The setting for the element types and their stereotypes is done via the new "Manage Table Views" dialog. Settings made there can be saved as application configurations, which are then selectable in the "Start>Open>Contents as Table" submenu to open tables accordingly.

#### **DB-ER Mapping: Optional Search for Model Elements to be Deleted**

When mapping from the database schema to the conceptual model, all model elements in the conceptual model can be examined. By default, this is not done. The check can be activated by the option `de.mid.data.DeleteinER=true`. A model element that is not a target of a mapping dependency is then marked for deletion.

#### **DDL Generation: "leadingQuoter" and "endingQuoter" Omitted**

The template objects "leadingQuoter" and "endingQuoter" have been removed, their functionality is already taken over by "Quotes/brackets for element names" under "Formatting" in the DDL export dialog.

Own DDL generations have to consider the omission appropriately.

#### **Diagrams: Carousel Icon "Add"**

When a relationship type is dragged onto a node with the "Add" carousel icon, a selection dialog of all hidden relationships of the selected type appears.

#### **Diagrams: Keeping Header Areas Visible When Moving Diagrams**

For a better overview, the header areas for the following elements remain visible when moving the diagram section:

- \* Lanes in BPMN diagrams
- \* Participants in BPMN diagrams, if they do not contain a lane
- \* Activity areas in activity diagrams
- \* Regions in state machines

#### **Diagrams: Put Overlapping Elements in the Foreground or Background**

Elements which can be moved freely in the diagram (texts, comments, constraints and frames) and which can therefore also cover other nodes can be placed in front of or behind the other elements using the context menu commands "In the foreground" and "In the background". Multiple selections are also possible for these commands. In the context menu of the diagram these commands are also offered to place all freely movable elements in front of or behind the other elements.

#### **ER-DB Automapping: Types from Local Columns to Foreign Attributes**

If an entity is automatically mapped into a DB model, but the referenced entity of one of its foreign keys is not, then this foreign key cannot be created in the DB model. However, the related columns are created as local columns with the correct data type.

Changes to the type of a referenced attribute are also mapped to these columns.

#### **ER-DB Mapping: Optional Search for Model Elements to be Deleted**

When mapping from the conceptual model to the database schema, the model elements are determined and marked for deletion that were created by manual mapping and have no mapping dependency. This default search consumes time and resources and can be disabled by the option `de.mid.data.DeleteinDB=false`.

#### **Jump Behavior for Parameters Improved**

In general, when an element is jumped to, there is only the distinction whether the element can be displayed in the model structure or in the model element list. For parameters, an additional distinction must be made as to whether the owner can be displayed in the model structure. For example, activity parameters are displayed in the model element list, while operation parameters are not visible there. For operation parameters the operation in the model element list is jumped to as a substitute. By suitable details configuration the parameter is then visible in the details.

#### **Model Structure: Element Group Filter Removed**

In the "Model Contents" tool window, the element group filter is omitted in the "Model Structure" view.

#### **SAP: Connection to SAP Solution Manager Updated**

The connection to SAP Solution Manager has been revised. The adaptation of the synchronization to a customer-specific profile is easily possible via an application configuration. Individual verifications of element properties can also be configured. The user interface has been redesigned.

#### **Specification Texts: Spell Checking Slightly Delayed**

Writing text in the specification text editor happens smoothly because the built-in spell checker is slightly delayed.

#### **Verification Wizard: Configuration of a Stand-Alone Verification**

To configure a generic stand-alone verification in a .NET language for custom verification actions, you need the qualified name of the implementing class and the name of the .NET class library. You enter the qualified name in the Check XML element. You enter the name of the .NET class library in the Assembly XML element.

#### **Whiteboard Diagram: Reference Edges Always Black**

In the whiteboard diagram, element-valued properties can be displayed as reference edges. The element from which the property is evaluated is linked to the reference edge as a logical element. Colors resulting from the method color or a color label are not evaluated for the reference edge.

#### **Wizard "Change Element Type" Displays Templates in Alphabetical Order**

In the "Change Element Type" wizard, all executable create templates are listed alphabetically. Previously, the listing was done in the configured order of the menus.

#### **Diagrams: Creating Comments or Constraints**

When creating comments or constraints in a diagram, their size is immediately optimized according to the content.

## Configuration

### ■ BPMN: Display Option for Participant Nodes

For participant nodes, the display option "Show black box with name only" can be used to influence the display of the name for closed nodes. The "Type of name display" setting is ignored and only the name of the participant is displayed.

### ■ Display Option "Display Text Without Quotes"

If the "Display Text Without Quotes" display option is present and enabled, values of stereotype properties of the String type are not displayed in quotes. If the option is not present or not activated, then the values are displayed with quotes as before.

### ■ Uniqueness at System Model Level

To constrain names or values, the new value "Unique within Current System Model" is available in the namespace settings for uniqueness.

## Plug-Ins

### Loading Mechanism Modified

The plug-in directory contains a subdirectory for each plug-in. This results in a modified procedure for implementing your own plug-ins. For details, see the Help chapter "Setting-Up Plug-In Projects in Visual Studio".

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For questions, please contact our hotline. Tel.: +49 911 96836-222, E-mail: support@mid.de.

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