**VISUAL COMPONENTS**

# Visual Components 4.5 Release Notes – 13/07/2022

## New Features

A short overview of what is new.

**KUKA OLP**

An add-on in Visual Components Premium for offline programming KUKA robots the same as in KUKA.Sim 4.1. Be aware the add-on is meant for KUKA robots that support KUKA Robot Language or KRL. A separate license is required to use the add-on for tracking purposes. By default, the add-on is installed with Visual Components Premium.

**Process Modeling Improvements**

Additional tools to define optional and parallel processes for products. This includes prioritization of products and allowing products to enter the same process multiple times.

**OPC UA Improvements**

Security upgrade and the ability to exchange spatial data with a server, for example the Cartesian position and orientation of parts moving on a conveyor detected by a camera or sensor.

**Modeling Improvements**

Combine geometry in one of three ways using a Boolean feature. One example is to create holes or remove material from an object using the geometry of another object.

**Rendering Improvements**

The materials libraries have updated to eliminate brightness issues and provide more realism.

**Drawing Improvements**

Icons and images can be added to and exported with technical drawings. Be aware this requires using API.

## Other Improvements

A recap of other work done including features requested via Visual Components support. Be aware that Visual Components 4.5 supports remote desktop connection.

| ID | Description |
|---|---|
| 5123 | Add and remove events in .NET API for signal connections |
| 5658 | Dimensions can be exported to VC Experience |
| 11076 | Preview of item in eCatalog now has no time limit |
| 11227 | Support button removed from ribbon of Help tab |
| 11339 | 3D rendering can be toggled using API |
| 11340 | Event for streaming service when component is added |
| 11341 | Event for streaming service when node is added |
| 11342 | Event for streaming service when node is transformed |
| 11343 | Event for streaming service when component is removed |
| 11344 | Event for streaming service when parent of node is changed |
| 11637 | Enable Remote Desktop to work with current rendering |

| 11943 | DetailCurveMotion for motion paths can be visible in UI by editing config file |
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| 11979 | Paired variables in connectivity can be removed using Delete key |
| 12001 | Performance improvement to speed up installation of the software |
| 12032 | Tree of statements in robot program can be copied or added to custom panel |
| 12255 | Updated to Test Connection dialog in Connectivity to display product name |
| 12256 | Bottom message in Standalone license screen in launcher can be customized |
| 12266 | Update ReadMaxAge label and tooltip in Japanese |
| 12267 | Updated Signal List caption for Japanese |
| 12268 | Updated UseHeartbeat and HeartbeatTime label in Japanese |
| 12271 | Updated Geometry Uri tooltip in Japanese |
| 12272 | Corrected truncate text issue with Auto increment revision property |
| 12273 | Corrected truncate issue with Deactivate button for Japanese |
| 12274 | Updated Create Variable Pairs window caption for Japanese |
| 12578 | Updated German label and tooltip for Clear Output option |
| 12907 | Updated JointType options for Japanese |
| 12908 | Updated Floating License header for Japanese |
| 12909 | Updated Camera Animator localization |
| 12923 | Streamlined password requirements for Visual Components portal and registration |
| 13415 | Updated Material Flow section label in Behaviors menu |
| 13422 | Ability to recover password in Customer Support page |
| 13438 | Updated label and tooltip for Component Container behavior |
| 13439 | Updated label and tooltip for Block feature |
| 13440 | Updated Feature Tree import labels for Japanese |
| 13482 | More accurate tessellation of imported mf1 files |
| 13681 | Use independent keyword to activate software rendering for RDP |
| 13682 | Backstage option to enable software rendering for RDP |
| 13683 | Software rendering support for network/floating license |
| 13698 | Updated German translation for path curve offset label |
| 13703 | Indicator for borrowed license that is expiring |
| 14019 | Version update for FBX, Parasolid and SolidWorks file formats |
| 14357 | Windows group in ribbon of Program tab is by default last group |
| 14358 | .NET API for customizing which program editor to use for active robot |
| 14891 | Added tooltips for Assign, Switch, Break, Continue, Halt statements in PM context |
| 14900 | Updated minor UI texts on process flow editor |
| 15113 | Standardized error-handling of expression variables within PM context |
| 15541 | Minor UI updates on Program Editor panel such as margins and spacing |

## Bug Fixes
A recap of bug fixes including those reported to Visual Components support.

| ID | Description |
|---|---|
| 3984 | OPC UA client not respecting the read and write limits of server |
| 5357 | PM TransportIn & TransportPatternIn issue when list contains one component |
| 5564 | Issue with using Component Container as destination for Buffer statement |
| 7645 | Memory fix for calling IBehavior.Destroy() without ISimNode.RemoveBehavior() |
| 8775 | Clearing of drawing world |

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| 8792 | Selection of features after importing geometry as Node structure |
| 8852 | Assert failure when clearing layout |
| 8891 | Exception with IMotionTarget.WorkpiecePositioners in .NET API |
| 8999 | Exception during runtime with Capacity Controller |
| 9059 | Merge issue with Process Modelling / Assembly layouts |
| 9062 | Copying issue with GetProperty statement and its properties |
| 9341 | Property value not changing in Properties panel |
| 9460 | Issue with Processor component moving after deselecting it |
| 10500 | Merge issue with eCatalog layouts |
| 10551 | Export image command stays active in UI after exporting an image |
| 10676 | Export to animation panel shows stop and save button while animation is streamed |
| 11393 | CheckAssembly produces inconsistent results |
| 11533 | Unable to select AcceptedProductTypes or AcceptedFlowGroups with vcConfigurableProductTypeFilter |
| 11534 | Properties made by vcConfigurableProductTypeFilter are not persistent |
| 11535 | vcConfigurableProductTypeFilter overrides existing property values |
| 11596 | Unresponsive when using product creator in table mode with lots of data |
| 11722 | Nonpersistent layout items are not deleted when layout is cleared in 3D world |
| 11750 | Crash when loading layout |
| 11806 | Issue with Assign statement when comparing property values in expression |
| 11824 | Select command not selecting items |
| 11826 | Exception with 3D PDF recording |
| 11983 | Performance regression |
| 11990 | Cloning issue with robot positions that are global in the scope of executor |
| 12000 | Unable to write component property with PM assign statement |
| 12019 | Issue with If statement in PM |
| 12264 | Special character issue with Assign statement expression |
| 12455 | Exception and crash when copying PM statements to other processes |
| 12470 | Crash when using vcProductNeed.new() |
| 12480 | AssemblySteps property value different from assembly hierarchy |
| 12498 | Performance issue related to createTarget and moveImmediate methods |
| 12610 | AssemblySteps property API issue |
| 12645 | Robot not moving when two identical points are executed one after the other |
| 12785 | New VCID being created for component when option is unchecked |
| 12801 | Crash when name of component assigned to a Product Type contains a + character. |
| 12911 | Pasting a path statement doesn't work if the path statement is selected |
| 12929 | Script editor missing icons |
| 12930 | Statements in Program Editor cannot be copied |
| 12938 | Python API SelectionManager fails with else-if and switch statement scopes |
| 12962 | Connectivity exception |
| 12981 | Deleting the last statement sometimes leads to an exception in Program Editor |
| 13020 | Deleting all statements causes an exception in Program Editor |
| 13033 | Path statement positions cannot be copied and pasted in Program Editor |
| 13076 | Exception when accessing Program tab when component not robot is selected |
| 13093 | Assign statement property values update only when simulation starts |
| 13141 | Transparent material in 3D world not rendered correctly |

| 13206 | Layout not loading in 3D world |
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| 13296 | Layout loading takes long and closing takes huge amount of memory |
| 13470 | Clipboard exception when copying version information |
| 13500 | Exception when stopping PDF recording |
| 13672 | Crash when loading layout |
| 13692 | Crash with StartTransportIn to assembly |
| 13701 | Issues related to recording animation |
| 13932 | Wrong translation in an error message |
| 14006 | Cyrillic characters are not supported in Product Creator Table Feed mode |
| 14016 | GetProducts statement property variable name label changes before and after copy/paste |
| 14017 | PM requirement statements are disabled by default when opening process editor in 4.5 |
| 14022 | Changing product's type doesn't consider Product Type inheritance in property retention |
| 14104 | Export layout to PDF shows "PDF template file not found" error |
| 14108 | moveImmediate with joint values rotates joint around wrong axis |
| 14204 | Memory consumption when creating dimensions |
| 14610 | Wrong Japanese localization for connectivity tooltips |
| 14626 | Requirements tree context menu is missing in process modeling |
| 14655 | PM product creator prints errors after creating 100k products |
| 14665 | Unhandled exception and crash with processes based on conveyor lengths |
| 14800 | Font issue with displaying Chinese characters |
| 14878 | Deleting geometry sets using Python API gives errors |
| 14901 | Translation error in Connectivity |
| 15133 | Crash when resetting simulation |
| 15165 | Clearing drawings issue |
| 15176 | Clicking on a node does not activate the correct executor for teaching robot |
| 15337 | Smart collection not able to show all manufacturers in the eCatalog |
| 15356 | Registration form crop issue |
| 15388 | Collision detection translation issue |
| 15476 | Exception when using Automatic Order Picking System layout |
| 15542 | RSL executor upgrade issue in the UI |
| 15721 | SelectProducts statement no longer accepts empty values |
| 15767 | Indentation issue with installer text |
| 15799 | Icon issue for robot statements when using Python and .NET API |
| 15957 | Set Statistics statement icon not visble in Program Editor |