Visual Components 4.10 release notes – 18.11.2024

The latest release of Visual Components 4.10 introduces new features and key improvements that enhance usability, stability, and overall performance. Here's a summary of what's new in this version.

Known issues

- KUKA.Sim Add-on is not yet available
- When a PC that includes the latest Windows updates goes to sleep, Visual Components application might not properly recover when machine is woken-up. Closing of application is recommended before entering sleep or hibernate.

Features

CADENAS 3dfindit library add-on
The CADENAS 3dfindit library add-on allows users to access CADENAS CAD library and import models directly to Visual Components. The CADENAS 3dfindit library add-on is available on the Modeling tab on VC Premium, Professional, and the corresponding OLP products.

Guided workflow
Guided workflows enable defining and viewing step-by-step user instructions directly in Visual Components' user interface. Instructions can be saved to components using a behavior and optionally automatically opened when importing the component. Similar to the existing note functionality, users can also find the workflow from 3DWorld. Additionally, default workflows are loaded directly to the application from a server.

Point cloud improvements
Performance Improvements

- Point Cloud file loading has been improved and loading times have been reduced.
- Performance when navigating large point clouds has been greatly improved. Users can now have multiple large point clouds open at the same time.

Level of Detail
Users can toggle LOD for point cloud files from backstage. With the LOD setting active, the application changes the number and size of points rendered depending on the distance between the camera and the model. This improves performance when zoomed out and improves the fidelity of the model when close by.

E57 Import
User can import .E57 file type point clouds.

Omron Connectivity plugin

The Omron Connectivity plugin allows users to connect to a real or virtual Omron robot controller. The plugin is available in Premium and Premium OLP. It supports version 4 of Omron ACE software and API. Supported data types are Digital Input/Output, Joint, and Position.

- Note the following limitations: Omron TM robots are not supported, event-based update mode only works from simulation to server direction, and joint values cannot be written to a real controller.

Focus mode

Focus mode is a new tool in the 3D Toolbar that allows users to highlight the selected layout or component by making everything else except the selection opaque or hidden. The tool also allows for configuring the opacity of unfocused components and their behavior with dynamic components.

CAD import / export updates

Siemens PLM Software NX Reader 24.06 (2024 Jun.)

Navisworks 2025

Creo   11.0

Inventor   2025

CATIA V5   2024

3DXML   2024

General improvements

- Statistics are no longer collected during the warm-up period
- Reliability of saving on network drives is improved
- Network license server now works with more than 30 simultaneous users. Server does not need updates, but all clients must be VC 4.10 or newer.
- Improved SVG file support for UI icons. The icon content alignment (view box) is now respected and most of the common SVG visual features are supported.
    - Note: SVG files with invalid syntax or values may not work anymore.
    - .NET API: ICustomizationService.GetIconPath(...) is now obsolete and all VC's WPF Styles accept icon file names.
    - Behavior of SvgImage.PrimaryFill has slightly changed: Previously "Transparent" brush / color meant that the DefaultFill would be used instead. Now only null value falls back to the DefaultFill, thus allowing deliberate use of transparent color.

API improvements

- ExecutorContainer.Source property was modified to have return type object instead of IStatementExecutor. This change was made to ensure that the API remains generic enough to incorporate different executor types (including those that don't implement the current IStatementExecutor). From now on please use safe type casting at the caller side, instead of relying on the Source getter to return IStatementExecutor.
- Support for auto-sizing columns (TreeViewColumn with Type set to "Auto" or "Range") in TreeViewEx has been extended with dynamic resizing capability. Previously the width of such columns was calculated only once during the column initialization, based on the size of its initial content. Now it's possible for such a column to be resized dynamically based on the content currently visible in the TreeViewEx (i.e. during vertical scrolling,

expanding/collapsing nodes, search/filtering, content updates in TreeNodeViewEx/TreeViewCell, resizing the TreeViewEx itself).
- Improved control over geometry rendering layers. Added IGeometryLayer and IGeometryLayerService. Extended vcLayer with Selectable, Snappable and CollisionDetectable properties.

Bug fixes for Visual Components Simulation products

ID#	Description
11370	Statistics should not be gathered during the warm-up period
25785	Many SVG icons are rendered misaligned because the SVG viewBox is not used.
26446	Adding PM requirement statements when selection focus is not in process editor throws an exception
27061	Saving a layout to network drive fails when parent folder of save location has no write permissions
27827	Selecting a robot that contains a legacy RSL executor throws an exception
28708	Unhandled exception when assembly is moved away from container before stopping
29568	Network license server stops if more than 30 clients connect simultaneously
29912	Investigate and fix ASCII point cloud reader bugs related to color formats
30222	Component moving to its parent's sub-layout after saving and loading
30305	3DPDF does not record sub-layouts correctly
30878	IUXConfiguration.RegisterSite does not respect index parameter
31030	If python command does not have any state, its error is not shown to the end-user
31043	CSV export of statistics containing the duplicate chart names causes an exception
31044	"Expand Selected Subtrees" is slower than "Expand All" in connectivity pair variables dialog
31188	Line change spacing is not enough in the TextFeature
31192	Cylindrify/Blockify Radius Scale allows only integers as input
31198	createLight and deleteLight crashes VC
31210	List<Ref<Behavior>> property value resolving and remapping fails when copying
31211	List<Ref<Node>> property value resolving fails
31291	Robot python statement throws "Requires Robotics API license" error
31370	Simulation Settings Issues: Odd calculation errors when changing time values
31397	<Ref<Behaviour> not remapped in a clone group
31427	Access Violation from invalid component script
31440	Pointsets are rendered twice
31496	SimNode's can't be attached to RobotWorldNode
31530	Accessing list of sub-layouts causes a crash

31693	Chinese characters in process node component name break PM Record/Execute Routine Place locations
31874	"Open in Explorer" function in the eCat does not work for folders
32023	Exception occurs when exporting CSV from Statistics
32025	Simulation settings time conversion does not work as expected
32144	Connectivity - Server Capabilities don't update after successful connection
32275	Kinematic related properties have wrong tool tip message when simulation is running
32384	Licensing fails if hostname is all numeric
31631	Gripper signal connection issue in IO wizard
31586	Orientation bug in vcHelpers.Robot2
32024	Clearing a layout with copied physics rope throws an exception
32465	Organizing panels on top of each other vertically prevents app from loading properly

Other improvements for Visual Components Simulation products

ID#	Description
29442	Implement a toggle/switch style for ToggleButton
30097	Improve UX when choosing layout visualization color's alpha
30212	Utilize metadata in sub-layouts
30221	Add localization to eCat collection with name "Layouts"
32134	Ffmpeg library update to 7.0.2
32419	Prevent replacing a script within its own event handler
30182	Extend GeometryLayer system
33044	ABB, STAUBLI, FANUC, UR Post processors are now included in Premium

Bug fixes for Visual Components OLP products

ID#	Description
31072	Fixed Zigzag error when clearing and closing
31745	Mitigated ExecutePythonCommandMethod errors
31971	Fixed CornerJson causing unintentional path rebuild
30198	Fixed Assembly Status Designer removes material from component
32751	Fixed slow icon update for OLP statements
32720	Prevent robots from being selected in the Assembly Status Designer
33413	Fixed Via solver problem with manual via paths
13615	Fix for individual corner modification when option selected first time
30912	Zigzag path extend throws error is substroke has only 1 point

33493	Fixed camera exception at software startup
32409	Handle error when adding point to search while picking
13688	Corner wire angle unit fix
13482	Omron: fix to scara config
33100	ABB fixed postprocessor traceback error
33097	Fixed postprocessors creating Manufacturer property with invalid value in VC Prem

Bug fixes for Visual Components OLP products

ID#	Description
30568	Implemented circular transitions to zigzag
30909	Solver progress cancel button
31020	Automatic detector activation improvements for Statement selection
12906	Support for modifying individual corners
30166	External axis solver parameters from Advanced to External joint extender
31934	Solver settings tools list changes
32270	Show corner properties always when any of corner related point is active
32182	Solver settings "Save Preset" directly saves to property
32965	Add Omron post-processor
29625	Assembly status designer improvements
13499	OMRON: download option to write PTP in joint values
13554	OMRON: base and tool transformations to all sequences and note for user to add break before signal statement
33164	Robot manufacturer name retrieval changes