

## Release notes: Ceetron Envision



### Version Envision 1.0.0 - 28 Sep 2022 -

**Note:** Ceetron Envision 1.0 requires a new license and a new way to provide that license to the toolkit. Please see the license section below.

#### Rename Ceetron Cloud Components (C3) to Ceetron Envision for Web

The product Ceetron Cloud Components (C3) has been renamed to Ceetron Envision for Web. The product is almost identical and has the same features, with the change of the license system being the most notable change (see below). There are also some changes to the organization of the distribution archive, where the servers are now grouped into the server folder, and the CeeCloudServer is now in the `server/ugServer` folder.

The product documentation is now also part of the Tech Soft 3D documentation system and can be found [here](#).

#### Rename Ceetron Desktop Components to Ceetron Envision for Desktop

The product Ceetron Desktop Components (CDC) has been renamed to Ceetron Envision for Desktop. The product is almost identical and has the same features, with the change of the license system being the most notable change. (see below). Ceetron Python Modules [CPM] is now a part of the Envision Desktop distribution and no longer a separate product. See **CAE-850** below for more info.

The product documentation is now also part of the Tech Soft 3D documentation system and can be found [here](#).

#### New unified documentation for all Ceetron products (including Envision Desktop and Web)

We have a new look and feel for the entire CAE product line at Tech Soft 3D. This is using the same system as for the new HOOPS documentation.

The main entry point is <https://docs-test.techsoft3d.com/ceetron/latest/main/index.html>. Here you can find an overview of the entire Ceetron product line and browse or search for documentation for any of the products.

#### New unified HOOPS license system in Envision (Web and Desktop)

Envision (Web and Desktop) now uses the unified HOOPS license. The same license can be used across all Ceetron and HOOPS products, given that the license has the needed features enabled. This license key is a long string and it replaces the two keys (KeyA and KeyB) that were used in C3 and CDC.

For **Ceetron Envision Web**, the license can be specified with the `ugServer.setLicenseCode(myCode)`. You can also copy your `hoops_license.h` (downloaded from the Developer Zone) into the same folder as the server code. For more help, please see the documentation [here](#).

For **Ceetron Envision Desktop**, you need to provide the string to `cee::CoreComponent::initialize()`. One way to do this is to use `hoops_license.h` (downloaded from the Developer Zone) as shown below:

```
#include "hoops_license.h"

...
// Initialize the parts of Ceetron Envision Desktop that we'll use.
g_componentInstance = cee::CoreComponent::initialize(HOOPS_LICENSE);
```

For more information, please see the documentation [here](#).

## Bug

### CAE-831 Missing vector filtering "skip by" when mapped to iso/cut

Specifying a skip-by for drawing of vectors did not work as expected for isosurfaces, isovolumes and cutting planes.

### CAE-826 Query of results from VTfX files which reference result values by ID did not work

Querying results from a model backed by a VTfX file did not work as expected if the result values were referenced by ID (not the recommended way to reference result values).

### CAE-811 [Web] ug.QueryNodeInfo returned -1 for node id if displacements were enabled

If a model were using displacements, the result returned from QueryNodeInfo would not contain the correct node ids.

### CAE-801 [Web] VTfX properties did not apply info on visible sets and how to show them properly

Loading VTfX models with properties did not apply proper settings for visible sets.

### CAE-762 Wrong visualization of mirrored parts on a cutting plane

Cutting planes for mirrored parts did not render correctly.

## Feature

### CAE-850 Added support for Python 3.7-3.10 in one unified distribution

Ceetron Envision Desktop now supports Python 3.7-3.10. In the distribution archive, there is a `Python` folder that contains what used to be Ceetron Python Modules [CPM].

Note that we have changed the python folder from `cee` to `cee_envision` to prepare for distribution on PyPI. So all old scripts using CPM needs to be updated to reflect this change.

### CAE-774 [Web] Add support for dynamic symmetric arrows for vectors

Added support for drawing symmetric vector arrows which direction (inward or outward) is controlled by the sign of a user defined scalar result. This could be used to show if a stress result is compression or tension.

Added a new vector type (`DYNAMIC_SYMMETRIC_ARROW`) and `VectorSettings.setVectorTypeDynamicSymmetricArrow(scalarId: number)` to specify this new visualization.

**Note:** The property `VectorSettings.vectorType` now is a read-only property and the `set` property is deprecated. It will still work, but will be removed in future versions. So please use the new `setVectorTypeArrow()`, `setVectorTypeSymmetricArrow()` and `setVectorTypeReverseSymmetricArrow()` functions in `VectorSettings` to change the vector type.

### CAE-698 [Web] Client-side element picking

Added support for client side picking of visible triangles within a region (rectangle) or along a path (set of points). This is a fast way to find all visible triangles within a region. You can then use the output of this to highlight the triangles, or to query the server to get which elements these triangles represent.

Added `RemoteModelElementPicker` which can be produced by `RemoteModel.createElementPicker(view: View)`. Use the `getVisibleElementsInRectangle` or `getVisibleElementsAtPoints` methods to perform the query. Note that a new `RemoteModelElementPicker` must be created if you change the state of the `RemoteModel`. See documentation for more info.

### CAE-827 [Web] Add interfaceName to cee.ug.SimulationInfo

Added the name of the interface/reader/data provider that is currently in use for the `RemoteModel` in `cee.ug.SimulationInfo.interfaceName`

### CAE-760 [Web] Create new markup part for lines

Added new Markup Part `cee.mrk.PartLines`. This is a part that can show lines in a MarkupModel. Added `cee.utils.PathGenerator` which is a helper class to generate vertices for a path that can then be shown with the PartLines markup part.

#### **CAE-740 Support for polyhedrons in Ceetron Envision VTFx component**

Polyhedrons are now fully supported in the VTFx export component. Added `cee::vtfx::ElementBlock::addPolyhedronElements()` for adding polyhedron elements to a VTFx block.

#### **CAE-794 Add result unit information to VTFx export and Envision Desktop**

Added `cee::ug::ResultInfo::setUnit()` and `unit()` to Envision Desktop. This is already present in Envision Web.

Added `cee::vtfx::ResultBlock::setUnit()` and `unit()` to Ceetron Envision VTFx component.

#### **CAE-836 Add robustness for empty DataPartVector/DataPartScalar**

Ceetron Envision now handles parts with no result a bit more robust, as it is now allowed to have part objects with no results and not only `nullptr` in the part array.

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For previous releases, please see [Release notes: Ceetron Desktop Components \[CDC\]](#) or [Release notes: Ceetron Cloud Components \[C3\]](#)