Release notes: Ceetron Desktop Components [CDC]

Version CDC 3.8.0 - 17 Dec 2021

Note: CDC 3.8.x requires **Ceetron Data Provider Framework (CDP) 6.x** and **Ceetron Result Calculator Framework (CRC) 4.x.**

Bug

CAE-496 Python: Adding BulkValuesArr and other missing Array classes

This fixes a crash with `BulkCalculation.getCutplaneValues()`

CAE-493 Particle traces fails to continue into a new part when using displacements

This fixes issues with particle traces on CFD models with moving parts using displacements.

CAE-487 Rare crash and holes for cutting planes computed from Polyhedron

On some very specific models computing a cutting plane would cause a crash on the server as well as producing some holes in polyhedrons and second-order elements.

Story

CAE-513 DataProvider 6.0: Added support for specifying default part colors

You can now specify the default colors of parts from a data provider using the `CDPGeometryInfo::addElementGroupInfoWithColor()` or `CDPElementGroupInfo::setPartColor()`

CAE-505 Parallelization of computing node average and result calculator results

Results from Result Calculators are now computed in parallel as well as all node average computations. This should give a speed-up on multi-core systems.

CAE-497 Added CRCError parameter to CRCResultCalculator::initialize() to be able to communicate an error message to the host application

You can now provide an error message from result calculator initialize() method that can be picked up by the host application.

CAE-490 Disable auto generation of derived results from Ceetron Export

Added `Case::setDerivedResultsDisabled()` in Ceetron VTFx Export SDK.

CAE-478 Extend GeometryModel::regionIntersect() to optionally return contained indices within parts

Added `GeometryModel::regionIntersectPartItems()` which will return per part the indices of all part items that were intersected by the given screen-spaced region.

Version CDC 3.7.0 - 29 Oct 2021

Note: CDC 3.7.x requires data providers built with Ceetron Data Provider Framework (CDP) version 5.x

Bug

CAE-448 RegionIntersect does not work when the the entire region is within an element

CAE-400 Legend tickmarks: wrong position when having undefined values

CAE-399 Add empty CDPResultValueGroup (no result for the part) was not correctly handled

CAE-397 NaN values are not correctly shown with undefined color

CAE-395 Outline edges are not correct when having overlapping shell and volume elements

CAE-379 cee::ug::OverlayColorLegend crashes if legend size is set too small

Feature

CAE-449 Added handleClientRequest() to CDPDataProvider

A CDC app can now communicate directly with the DataProvider (if used). Use the `cee::imp::cae::DataSourceCae::executeRequest()` to send a message to the data provider. The provider receives this in the handleClientRequest() and can report back a user-defined response as well as a change notification if any of the data it provides has changed.

This opens up for a wider use of data providers where the client can instruct the provider to modify the data and then see the results.

Note: CDC 3.7.x requires data providers built with Ceetron Data Provider Framework (CDP) version 5.x

CAE-396 Added cee::ug::ParticleTraceUtils::computeGridPoints()

CAE-387 Added support for horizontal color legends and center top/bottom positions

Legends can now be set to horizontal by the `cee::ug::ScalarSettings::setLegendDirection()` method.

Version CDC 3.6.0 - 09 Sep 2021

Bug

CAE-175 setForceTickMarkLinesToCoverLegend(true) does not work when tick marks are left aligned

Feature

CAE-235 Optimized cee::exp::ExportConstantRemoteModel to use more optimal chunks

Added a better spatial partitioning algorithm for CUG models. This will result in a better LOD generation and a better front-to-back streaming of the ConstantRemoteModel.

CAE-204 Added cee::ug::VectorSettings::drawMaxCount to limit the number of vectors drawn

CAE-203 DemoApps: Fixed show/hide overlay items

CAE-180 Colorlegend: Create properties for force tickmark lines and tickmark alignment

CAE-177 Create CUG bundles using CPM and embed or static host CUG models in C3

Implemented support for creating CUG bundles using CeeExport module in CDC.
`ExportConstantRemoteModel` can now export to binary CUG bundles and Javascript CUG bundles, as well as the old CUG database format.

CUG bundles can be either downloaded as a static resource, opened as a local file or encoded as a JavaScript object. A CUG bundle is a single file, either containing binary data (`cugbundle.bin`) or encoded into a JavaScript object (`cugbundle.js`). If encoded as a JavaScript object, the model can be embedded into a single HTML page to create a standalone 3D result visualization without any server requirement

CAE-169 Improved performance when adding many states

CAE-163 Added settings for OverlayColorLegend Marker spacing and height

See `ug::ScalarSettings::setColorMarkerBoxHeight()` and `setColorMarkerVerticalMargin()` for more info.

CAE-143 C#: Add CeeApp component to distribution

CAE-136 Improve scalar mapping for color mappers with very uneven levels

Added a setting which enables a non-linear mapping of scalar result to the texture used for scalar mapping on the model (fringes). This setting will enable equal amount of texture pixels for each level. This will ensure that legends with very uneven levels (e.g. large range but then some very small level around key value ranges) gets a much better scalar mapping.

Use `ug::ScalarSettings::setForceUniformTextureLevels(true)` to enable this feature.

CAE-118 Find the specific key result values and its node and element ID

CAE-26 Result Calculators in CDC

Added support for result calculators in CDC. The Result Calculator Framework can be used to create result calculators as plugins (dll/so/dylib) that can be loaded into a CDC based application.

The Result Calculator Framework (CRC) has been refactored to support multiple calculator instances from a single calculator (dll/so/dylib).

Added methods for manipulating result calculators in DataSourceInterface. See documentation for more info.

Version CDC 3.5.0 - 17 Jun 2021

Bug

CAE-115 Isovolume issue in higher order elements and undefined midnodes

CAE-110 Issue with ExportDataSourceVTFX when model only have surface elements and the flag ExportSurfaceOnly is enabled

CAE-107 Error in log when using Dual Depth Peeling

CAE-54 Assert when changing drawstyle without calling NORMAL updateVisualization()

CAE-11 Report: Embedding of VTFx does not work on newer PowerPoint

Feature

CAE-137 Add setPriority() for overlay items and made sure overlay items are rendered above any model items (including use2dPixelProjection())

CAE-135 Debug libraries now have a 'd' postfix to separate from release versions

CAE-106 ImportCAE: Update to ANSYS, ABAQUS and HyperWorks support to 2021. Various other reader fixes

CAE-105 Add Qt 6 support

CAE-81 Added CuttingPlaneData::allOriginalTriangles() to get non-splitted triangles from cutting planes

CAE-15 Added Font::setLineSpacing() to change the default linespacing of a font

CAE-14 Plot: Add option for legend position

CAE-13 Plot: Add option to show/hide min/max values in axis titles

CAE-12 Improved visualization of undefined results

CAE-4 C#: Add missing classes and properties and sync with current CDC

CAE-2 Add global search capability to help pages