February 28, 2017

BETA CAE Systems announces the release of the v17.1.0 of its software suite

About this release

BETA CAE Systems announces the release of the version 17.1.0 of its software suite with new tools and capabilities to further augment functionality and facilitate CAE processes.

The most important enhancements implemented are listed below.

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Enhancements in ANSA

General

A new approach has been introduced in Model Browser for organizing model data in modular assemblies. Model organization entities (i.e. Subsystems, Simulation Models) can identify and collect internal model set-up entities.

The Entity numbering scheme has been enhanced, allowing to optionally store Elements and Constraints of the same id.

Multi Model: All loaded ANSA models can now be saved as individual ANSA databases, without activating each model first.

Measurement entities can now be used as annotation anchors.

Accepted values of user defined attributes can now be set and modified.

Post actions (functions) can now be inserted for both CAD to ANSA Translators and Translator settings in ANSA.

Topo

Operations of ANSA in TOPO menu can now be recorded and repeated on another model.

New capabilities such as, removing joined CONs, picking and joining single bound CONs recreating the underlying surface of the involved faces, further advances geometry fixing.

Meshing

It is now possible to convert the nodal to property thickness and vice versa. The relevant script function is also supported.

Diagnostic checks are performed during the automatic detection of Volume entities definition.

NVH Console

Optimized interface has been introduced. Furthermore, entities, such as connectors, coordinate systems, beam stiffeners and rigid bodies can now be compared within NVH Console.

Kinetics

The calculation of nodal stresses/strains and modal displacements/velocities/accelerations on flexible bodies is now available.

Morphing

A symmetric copy for parameters defined on shell elements can now be created.

Significant improvements in the Design change tool for Cross sections.

NASTRAN

The mapping of fiber orientation tensor is now supported.

Abaqus

Fluid - structural Cosimulation is now supported.

Eulerian analysis in now supported.

Moldex3D

The mapping of fiber orientation tensor is now supported.

For more details about the new software features, enhancements and corrections please, refer to the Release Notes document.

Enhancements in EPILYSIS

Performance and accuracy

Performance and accuracy has been significantly enhanced for simulations with contacts. Particularly, this affects contact simulations running SOL400 using the NLPARM keyword.

Accuracy improvement for collision detection contacts.

For more details about the new software features, enhancements and corrections please, refer to the Release Notes document.

Enhancements in META

Graphics and results' display

New display mode to visualize models photo-realistically rendered.

Improved drawing of spherical, SPH and airbag particle elements.

Improved anti-aliasing.

Line Integral Convolution (LIC) display of vector results on shell surfaces for both CFD and structural results.

Support of stereoscopic view for 3D glasses.

Hardware OpenGL now used in batch mode with -batch_hw running option.

Significant improvement in graphics performance with –virtualx running option on Linux with NVIDIA driver 355 or newer.

Significant improvement in graphics performance with remote access running on Linux with NVIDIA driver 355 or newer.

New running option for secure and restricted access to virtualx servers.

Additions in supported interfaces

New option to read CAD files from CATIA V4/V5, IGES, Inventor, NX, Parasolid, Pro Engineer.

Abaqus 2017 results.

Abaqus electromagnetic elements.

ANSYS Global Coordinate System-based damping and inertia forces.

CONVERGE CFD native solver results.

CDH/OPTRAN .pch files for panel participation results.

IMACS SONATE vibro-acoustic results.

LS-DYNA femzip-compressed AIRBAG_PARTICLE visibility data files.

MADYMO HDF5 files.

Nastran non-linear strain results.

ParaView VTK, VTU and VTI files.

PERMAS RMS displacements and Von Mises stresses.

Universal Dataset 57 (unv57) files.

General

New option to easily define different deformation scale factor per model.

Fringe colors on RBEs based on deformation results.

Cut plane boxes with negative clip to remove from visibility selected model areas.

Curve Functions

New function to perform Fractions Contribution Analysis on selected curves.

New function to create curve histograms (distribution of y values).

New curve comparison criterion named Complex Correlation Coefficient.

New filter option named SAE filter 1981.

NVH

Creation of display mesh from any file.

Multi-threading Transient Response calculations in the Modal Response tool.

ERP results calculated within the Modal Response tool.

Pre-test analysis within the Modal/FRF Correlation tool through its AutoMAC functionality and Driving Point Residues method.

Nodal results calculated on normal direction of the corresponding response node.

A/LC Points

Points creation with uniform distribution.

Coordinate systems associated with A/LC points.

Export of points resolved by their ids.

CFD

Support of adaptive polyhedral mesh.

Support of polyhedral elements with more than 100 faces.

Videos

Start frame and real fps of the camera extracted from avi files.

File Export

Improved performance when saving images and videos both locally and using ssh -X or -virtualx running options.

Capture and save images of any window, widget or GUI area.

Saving of mode results in UNV 55 and UNV 2414 data block format.

For more details about the new software features, enhancements and corrections please, refer to the Release Notes document.

Compatibility and Supported Platforms

ANSA files saved by all the first and second point releases of a major version are compatible to each other. New major versions can read files saved by previous ones but not vice versa.

META Project files saved from version 17.1.0 are compatible and can be opened by META version 16.0.0 or later. To be readable by META versions earlier than v16.0.0, they have to be saved selecting the option "Version <16.0.0".

Support for 32-bit platform has been discontinued for all operating systems.

Download

Where to download from

Customers who are served directly by BETA CAE Systems, or its subsidiaries, may download the new software, examples and documentation from their account on our server. They can access their account through the "user login" link at our web site.
Contact us if you miss your account details. The [PublicDir] link will give you access to the public downloads area.
Customers who are served by a local business agent should contact the local support channel channel for software distribution details.

What to download

All files required for the installation of this version reside in the folder named **"BETA_CAE_Systems_v17.1.0"** and are dated as of **February 28, 2017.** These files should replace any pre-releases or other files downloaded prior to that date.
The distribution of this version of our pre- and post-processing suite is packaged in one, single, unified installation file, that invokes the respective installer and guides the procedure for the installation of the required components.

For the installation of the software on each platform type, the.sh installer file residing in the folder with respective platform name, for Linux and MacOS or the respective .msi installer file for Windows, 64bit, have to be downloaded.

In addition to the above, optionally, the META Viewer is available to be downloaded for each supported platform.

The tutorials and the example files reside in the folder named "TUTORIALS". This folder includes the complete package of the tutorials and example files, and a package with only the updated ones.

The Abaqus libraries required for the post-processing of Abaqus .odb files are included in the installation package and can be optionally unpacked.

Earlier software releases are also available in the sub-directory called "old" or in a folder named after the product and version number.