

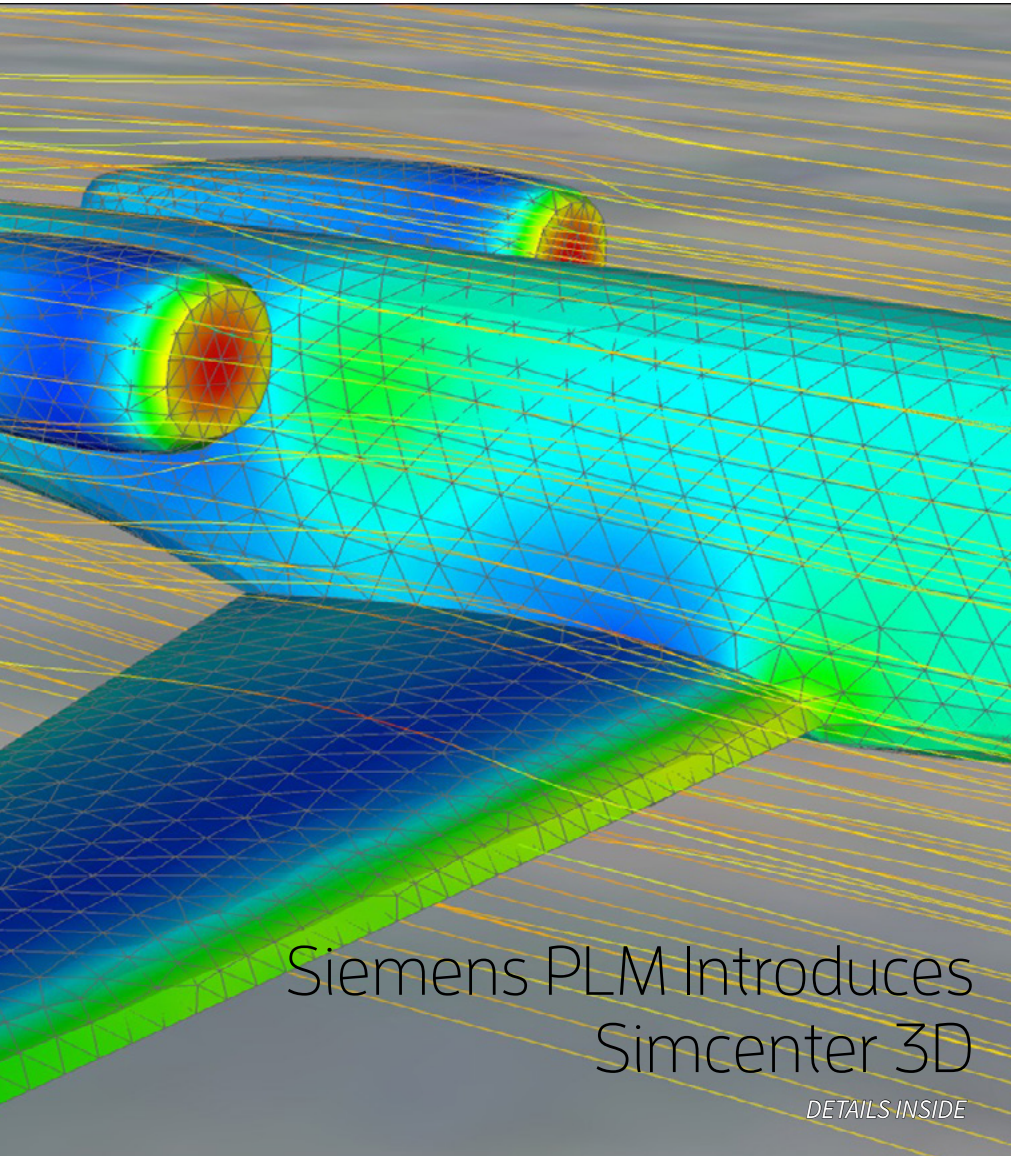
ATA news

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ISSUE SIX



SUMMER 2016



Siemens PLM Introduces Simcenter 3D

DETAILS INSIDE

New Femap Packaging and Pricing Offers More Customization

The recent addition of monthly subscription options, enterprise extension for NX Nastran, and an advanced capabilities bundle offer new options to tailor Femap to your needs and budget.

Monthly subscription options for Femap come as an alternative to perpetual licenses and longer-term rental or annual subscription plans. Now your team can quickly add licenses to meet immediate needs or scale back after tasks are completed. In addition, monthly subscriptions offer the financial flexibility to pay as you go.

Traditionally, Femap NX Nastran Desktop Licenses placed some limitations on a user's ability to externally edit and solve input files. The new Enterprise Extension add-on removes the checksum control, allowing users to manually edit input files and run the analysis outside of Femap. This gives you the open workflow and flexibility of an Enterprise NX Nastran installation at a competitive desktop price.

The new Advanced module for Femap combines functionality previously available in the Dynamic Response, Aeroelasticity, DMAP, and Superelement modules and comes with a Distributed Memory Parallel (DMP) capability that uses multiple processors to accelerate NX Nastran solutions. This convenient package provides great functionality and comes in at around a third of the combined price of the previous independent modules.

Find more information about monthly subscriptions [here](#), or [contact us](#) for details on Enterprise Extension and the Advanced Module.

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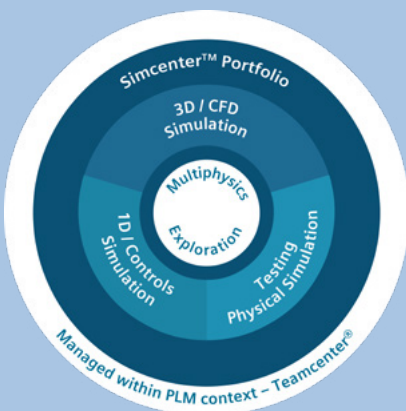
Siemens PLM Introduces Simcenter 3D

Predictive engineering analytics is the integration of simulation and test with intelligent reporting and data analytics to develop models capable of predicting the behavior of products throughout their lifecycle. The Simcenter portfolio targets this space and includes solutions for the 1D, 3D, and test domains, such as Simcenter 3D, a variety of LMS tools, and STAR-CCM+.

Simcenter 3D is the next 3D CAE solution. Built using the familiar product packaging of NX, it combines the functionality of NX CAE with new capabilities derived from LMS Virtual.Lab and Samtech. Although it can be used as a stand-alone CAE application without any NX CAD prerequisites, Simcenter 3D will continue to provide the same seamless integration with NX CAD as found in NX.

In addition to traditional feature-based licensing systems, Simcenter 3D will also offer a value-based licensing token system, allowing access to additional applications without a large license buy.

Simcenter is currently scheduled for an August release.



Calendar of Events

UPCOMING TRAINING CLASSES

ATA provides comprehensive training in the use of Femap, NX, and NX Nastran. Upcoming training classes and webinars are shown below.

NX NASTRAN WITH FEMAP

SEP 12 [NX Nastran Introduction to Dynamic Analysis](#)

SEP 15 [NX Nastran Advanced Dynamic Analysis](#)

OCT 31 [NX Nastran Introduction to Finite Element Analysis](#)

NOV 7 [NX Nastran Introduction to Dynamic Analysis](#)

NOV 10 [NX Nastran DDAM Analysis](#)

NX NASTRAN WITH NX CAE

SEP 12 [NX Nastran Introduction to Dynamic Analysis](#)

SEP 15 [NX Nastran Advanced Dynamic Analysis](#)

SEP 19 [NX Response Simulation](#)

OCT 31 [NX Nastran Introduction to Finite Element Analysis](#)

NOV 7 [NX Nastran Introduction to Dynamic Analysis](#)

NOV 10 [NX Nastran DDAM Analysis](#)

FEMAP

AUG 16 [Introduction to Femap](#)

UPCOMING SEMINARS AND WEBINARS

AUG 9 [NX Nastran: Model Reduction and Superelements](#)

Superelements provide a powerful means of generating reduced representations of components with significantly fewer degrees of freedom. Attend this webinar to learn more about the benefits of and motivation behind superelements as well as to gain useful insights into their various applications in NX Nastran.

OCT 19 [What's New in Simcenter](#)

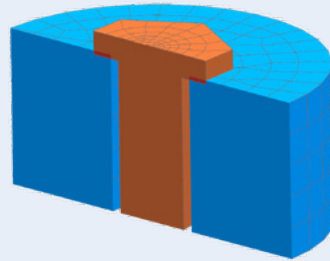
With the launch of Simcenter—a portfolio of software solutions in the 1D simulation, 3D simulation, and test domains—NX CAE will be transformed into Simcenter 3D. Simcenter 3D will continue to feature the familiar platform of NX, and its new functionalities will include the integration of capabilities from the LMS Virtual.Lab and LMS Samtech product suites. Attend this webinar to learn about these new features and more. A Q&A session will be held after the webinar.

ATA also provides a host of [free training resources](#) including tutorials, videos, and whitepapers.

Tips and Tricks

NX: CUT VIEW OPTIONS

Use Clip Section, located on the View toolbar, to see inside your model. Edit Section offers a number of options to control the position of the cut plane(s), including dynamic controls and the ability to snap to coordinate system planes. For even better clarity with solid bodies or solid elements, under Cap Settings, select Show Cap and set the color option to Body Color with Show Interference also checked. Displaying internal element edges can further enhance the view of 3D elements.



FEMAP: QUICKLY CONVERT UNITS

Femap's built-in unit conversion tool, located under the tool menu bar, provides a variety of conversion options. Load one of the files for standard conversions that comes installed with Femap, or create and save custom conversions by entering new base factors and selecting Calculate to update the 24 conversion factors. Make any final changes and select OK to update the entire model. Tip: use Invert to reverse the direction of the conversion.

NX NASTRAN: NOLINI CARD FOR NONLINEAR EFFECTS

Nastran's NOLINI card allows linear modal or direct transient coupled loads solutions (SOLs 112 and 109) to represent local nonlinearities such as impact, separation, and gapping, which is faster and less complex than other nonlinear options. The modal method uses modal reduction, EPOINTS, and transfer functions, while the direct method requires a superelement model reduction to the DOF associated with nonlinear forces. Try these suggestions:

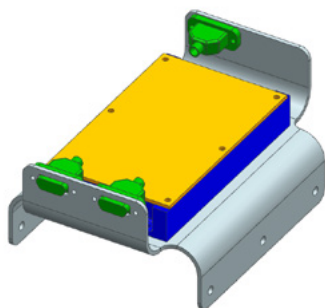
- Use springs, and make the nonlinear force equal and opposite to the spring tension force
- Add a small viscous damper to the point of interest, being sure to check phase lag and peak reduction to avoid overdamping
- Employ small time steps, and check model convergence

For more information, check out [this presentation](#).

New Resources

[NX: Introductory Tutorial – AFEMs and Simulations](#)

Following the previous NX CAE tutorial focused on meshing concepts, this tutorial demonstrates the process of connecting components in an assembly FEM, resolving labeling conflicts, and adding loads and boundary conditions in the simulation file. After you become comfortable with these ideas, you will be well prepared for the next installment of NX CAE tutorials focusing on postprocessing and importing models.



[NX Open Tool: Renumber Labels](#)

This tool simplifies the process of renumbering nodes, elements, materials, properties, and coordinate systems. It allows the user to input a starting label and increment, or add an offset to existing labels. In addition, the sorting order can be determined by the original labels, selection order, or coordinates. This version updates our previous Renumber Labels tool to NX10 and improves functionality.

On-Demand Webinars

ATA recently added two recordings to our ever-expanding list of free on-demand webinars: [Principles and Workflows for PMI Using NX](#) and [What's New in Femap v11.3](#). Check them out, and tune in for upcoming webinars to take advantage of Q&A sessions with the experts.

Recent News

Save the Dates: Regional User Groups (RUGs)

Whether or not you made it to PLM Connection this year, RUG meetings are an excellent resource for meeting other local users of Siemens PLM software and hearing about recent product developments. ATA is proud to host the [San Diego](#) chapter on October 11th, and will also attend the [LA](#) meeting on October 18th. View the [full schedule](#) to find a RUG chapter meeting near you!

Siemens Releases Femap v.11.3.1

This maintenance release significantly reduces meshing time for surfaces with many holes and addresses issues from v11.3, including nodes not displaying in some circumstances, various view and display problems, and a possible error about Femap not being registered as a COM server. More improvements and corrections can be found in the installation package. Version 11.3.1 is available from the [Siemens GTAC download center](#) and is 100% licensing and database compatible with v11.3.

ATA Delivers FlashCal™

ATA recently delivered a strain sensor calibration system known as FlashCal™ that performs ground-based calibration of structural health monitoring sensors installed within Navy fighter aircraft. The system's automated user interface and hardware package provides improved calibration accuracy with respect to existing in-flight methods without the cost and aircraft downtime associated with an airframe structural test rig.

ATA Releases Vibrata v1.6.0

Vibrata is a comprehensive modal dynamics toolkit to predict response to transient, harmonic, random, and response spectrum excitation. This release adds support for Femap 11.3. In addition, Vibrata can now process larger amounts of contour output, which allows for larger models to be solved. [Read more here](#).



Why choose **ATA**?

ATA Engineering, Inc., (ATA) is a nationwide provider of innovative, high-value, test- and analysis-driven mechanical engineering design solutions.

With more than three decades of experience working with our customers to solve the most challenging design, test, and analysis problems, we have gained a reputation for excellence in the engineering community.

Our work on a wide range of products across a broad spread of industries has been recognized with numerous technical and service awards for excellence. This expertise and support is a key part of the added value we offer to all customers who purchase Siemens products from us, whether you are an independent contractor or a large engineering team. To provide best-in-class support to our VAR software customers, we have established a formal hotline system that provides on-demand support to resolve technical issues encountered by our customers in their implementation of the tools.

The hotline is staffed by experienced engineers, all of whom use these applications on a regular basis. ATA is also the Siemens PLM Software-preferred training provider and official developer of courseware for all NX Nastran training.

ATA Technical Support

Need technical assistance? Call our hotline staffed by engineers at **877-282-4223**, or [visit us online](#). Even if you're not a current ATA customer, try us out for free.

Free Software Trials

Interested in trying out Siemens PLM software? Visit our website to access free trials/demos of [Femap and NX Nastran](#), [NX CAD, CAM, and CAE](#), [Teamcenter](#), and [Solid Edge](#).



Featured Instructor

Rachel Backes





Rachel Backes recently joined the Rocky Mountain office at ATA Engineering, Inc. As a Project Engineer, she supports a variety of analysis projects as well as software training and support.

Ms. Backes has a background in engineering analysis of renewable energy technologies, particularly concerning the development of finite element models and the use of static, optical, and thermal analysis methods. She has also been involved in the development of software tools for specialized analyses and engineering automation. The majority of her projects utilize Femap, NX Nastran, Visual Basic, and MATLAB.

She has a B.S. and M.S. in Mechanical Engineering from the Colorado School of Mines.

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