

# NX Simulation Process Studio

A graphical toolkit for creating CAE best-practice wizards

## fact sheet

Siemens PLM Software

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### ► Summary

NX® Simulation Process Studio software allows expert CAE users to capture, author and publish simulation processes to aid less experienced users to accelerate the development process. Best practice ‘wizards’ can be customized to meet customer-specific CAE processes and design analysis requirements. NX Simulation Process Studio is supported by Teamcenter® software, where wizards can be administered within a managed development environment to ensure appropriate user access and current revision control.

### Benefits

Provides an advanced way for customers to develop and own their best practice and process wizards

Increases development speed and opportunities for teams to experiment with “what-if” scenarios

Automates/replaces repetitive activities enabling specialists to spend more time focused on design and simulation tasks

Reduces program risk by enabling better/more informed decisions based on increased digital performance testing

Enforces process standards and supports best practice implementations, key elements of Design for Six Sigma and Lean Design initiatives

Processes are self-documenting, easy to modify and controlled within the corporate data management environment

NX Simulation Process Studio enables the development of custom simulation wizards that run in NX. The wizards are easy to create, document and enhance; they enable a wider user community to solve identified problems on a department-by-department basis.

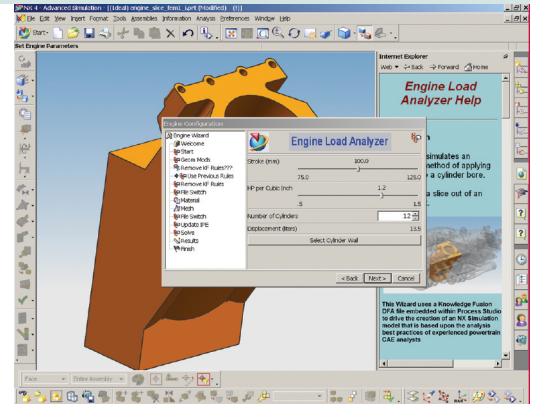
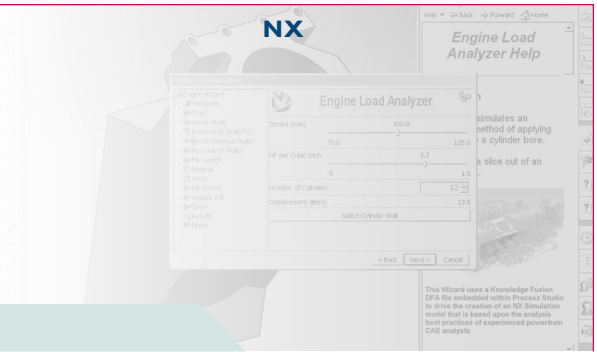
The graphical authoring environment requires no programming knowledge and helps ensure that wizards are easily understood and maintained. The ability to adapt existing wizards eliminates the issues around generic, “out of the box” wizards, which are often associated with limited applicability.

NX Simulation Process Studio has two components: an authoring tool and a consumer tool.

The authoring tool is a Java-based application used to define the steps in the wizard and the process flow. The user has a palette of standard steps available that can be dragged and dropped into the process. The process flow, as well as each step within the process, can be previewed and modified to ensure correct behavior. Authors have complete control of text prompts, HTML help support, and where users have authorization to see and/or modify command parameters.

In addition to the capabilities available through the “drag and drop” interface, authors can access capabilities across NX by directly linking to the NX interface, NX/Open APIs and Visual Basic – or through NX Knowledge Fusion. The interface to the wizard can also be upgraded through use of the interface styler, which can be used to create custom dialogs within the steps.

The flexible, open approach of NX Simulation Process Studio enables an author to completely customize wizards to define applications that represent a company’s specialist knowledge and ensure the use of company or industry best practices.



## Features

*Process Studio Builder* – wizard authoring tool supports a graphic automation environment

*Process Studio Consumer* – runtime wizard for complete guidance of the end user in NX

Supports XML

Customized steps dedicated to structural simulation with all required standard steps for a linear static analysis. Includes multi-branching

Allows a very granular automation up to wrapping of NX Open, NX Knowledge Fusion and Visual Basic; enables access to any NX menus

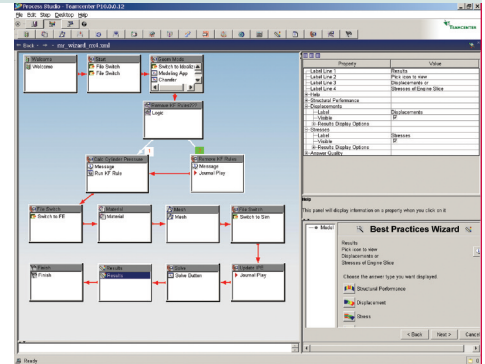
Standalone builder, or embedded in Teamcenter

Once the wizard is defined, it is saved as an XML file and made available to the standard NX application.

Note that the authoring tool can be run standalone, or within the Teamcenter environment for complete control and tracking of process information.

### Process Studio Builder

- Ease of use for automation; requires no specific training except a good knowledge of NX applications
- No compiler needed; the Wizard XML is ready to use by the consumer, allowing quick modification and testing during the wizard definition work
- Drag-and-drop process steps, graphical connection with arrows
- Define default text for guiding the end user and reference to the specific process documentation via HTML, allowing web and portal links
- Extremely customizable step dialogs, including banner, navigator and specific step icons, allows auto-execution
- Linear static simulation processes are largely supported with standard steps: 3D mesh, loads and constraints, material, solve, post-processing and report generation
- Supported solvers are similar as in NX Advanced Simulation: NX Nastran, MSC.Nastran, Ansys or Abaqus
- Enables NX parameters, such as geometric or simulation expressions within each step
- Enables NX Knowledge Fusion classes and attributes within (and between) steps, as well as upfront in the wizard



### Process Studio Consumer

- The wizards are simply exposed in the Simulation Process Studio palette and launched by dragging the icon into the part within the graphical window
- The wizard look and feel is very consistent with any other NX wizards. A navigator shows the advancement at each step within the global process
- Specifically dedicated for designers, the wizards can be launched from within modeling – as well as any simulation application
- The wizard will execute the steps defined in the builder and run NX Design Simulation or NX Advanced Simulation in the background
- After saving the results, the simulation data is directly accessible for further work

### PLM integration

- A Simulation Process Studio dataset is provided for Teamcenter integration
- The release and publishing of the wizards is controlled and managed through a release management process, allowing best practice administration
- The Teamcenter integration allows a very flexible organization for the author to define and test a process, as well as for the end consumer for exposing only the appropriate wizard for a particular workload

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