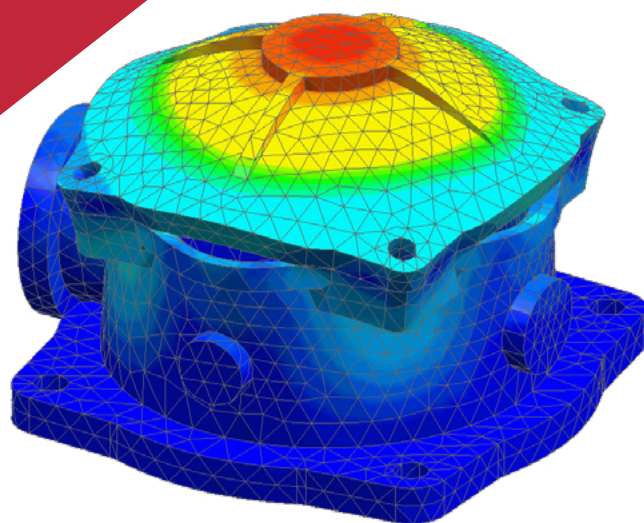


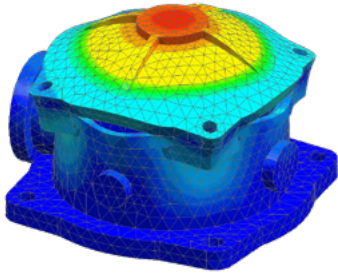
**NX Nastran II
Femap II.3.2**

WHITEPAPER

Selecting NX Nastran Licenses in Femap



Selecting NX Nastran Licenses in Femap

**Software:**

NX Nastran 11
Femap 11.3.2

Additional Documents:

Introduction to NX Nastran Licenses:
Desktop vs Enterprise

Selecting NX Nastran Licenses in NX /
Simcenter 3D

Introduction

This paper describes various methods of selecting between desktop and enterprise licenses of NX Nastran using Femap, including instructions on generating a valid checksum for an input file without roundtripping a model. Additional documents give a general overview of desktop and enterprise licenses and outline similar options for NX/Simcenter 3D users.

*This whitepaper is part of a series of free Siemens PLM Software training resources provided by ATA. For more whitepapers, tutorials, videos, and macros, visit ATA's PLM Software website:
<http://www.ata-plmsoftware.com/resources>.*

Selecting NX Nastran Licenses in Femap

Assumptions

- The user has access to Femap version 11.3.2 or later.
- The Nastran desktop license is a feature of the Femap license and the Nastran enterprise license is served on a separate server (not the same as the Femap license server).
- The user has access to both the bundled Nastran executable and an enterprise executable.

Using Nastran Desktop Inside Femap

This is the default usage of Nastran from within Femap. If Femap has been set up for desktop, selecting “Analyze” from within Femap will use the Nastran executable in the Femap subfolder which has been configured to run the desktop license of Nastran. Femap enables this by creating a checksum and writing it to the end of the bulk data. If the license is successfully checked out, the log file will contain an entry similar to the following:

```
18:12:52 NX NASTRAN Authorization Information - Checkout Successful
18:12:52 -----
18:12:52 License for module NX Nastran Basic - FEMAP Desktop checked out
successfully
```

Using Nastran Desktop Outside Femap

The Nastran desktop license can also be used external to Femap as long as you are using the bundled executable. You can do this by exporting the analysis set to a Nastran deck, which will include a checksum at the end, and either running Nastran from a command line or by double-clicking on the Nastran executable (nastranw.exe) located in the Femap install directory. In addition, a command to run the desktop version can be executed from a Windows script, which allows users to run batch jobs using a desktop license as long as it remains on the same computer as the preprocessor.

The command line for Nastran must include the arguments “prog=femap” and “auth=port@licenseserver”. The port and license server information will be specific to your company and should be available from your IT department. These arguments should already be included in the command line from the Nastran config file (nast11.

Selecting NX Nastran Licenses in Femap

rcf), which can be found in the “conf” subfolder wherever the bundled executable for Nastran is installed. If you are not sure whether those command-line arguments have been included properly, check the log file; it lists the value of all keywords that can be used on the command line.

When using the desktop license outside of Femap, you can edit the input deck as long as you make NO changes to the bulk data section, which includes everything between BEGIN BULK and ENDDATA. Making any change to the bulk data outside of Femap will violate the checksum and will thus fail to check out a desktop license. The other requirement of the desktop license is that the input deck must be run on the same computer on which the checksum was generated.

If you do make changes to bulk data or move the deck to a different computer, you can still use the desktop license, but you must regenerate the checksum. One option is to simply import the model and solve in Femap as described in the previous section. However, a checksum can also be generated without ever importing the model to Femap, even if the deck contains INCLUDE statements. This allows for full command-line editing and Nastran card support in the desktop product. The key is to generate the checksum for each (unique bulk section) data deck you want to solve and to solve them on the same Windows computer. The steps for generating the checksum of a stand-alone Nastran model with Femap are described below. Note that the Femap licensing and API provide other options for command-line operation when solving Nastran jobs. Please contact ATA’s hotline or sales for even more information on how Femap can be used with command-line Nastran editing.

Generating a Checksum with Femap

You can easily use Femap to generate a checksum on your existing model without round-tripping the model through Femap. This section provides a step-by-step procedure for this process.

1. Open Femap

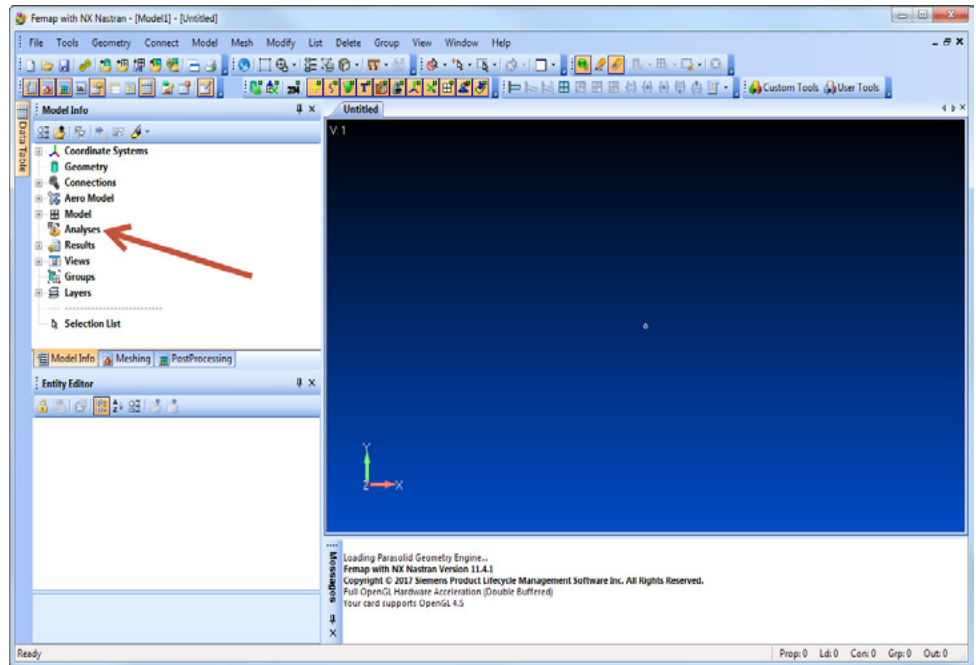
Open Femap. You do *not* have to open an existing model file or import a model.

2. Open the Analysis Set Manager

Right-click on Analyses in the model info tree (indicated by the arrow in Figure 1), and select manage.

Selecting NX Nastran Licenses in Femap

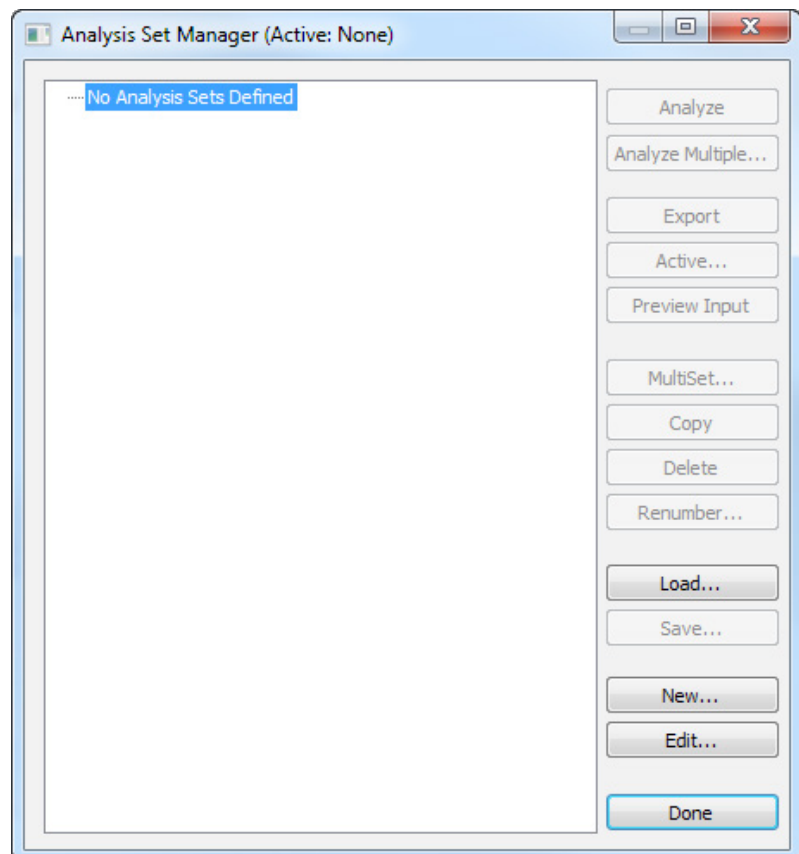
Figure 1: ►
Model info tree in Femap



3. Click on New

Click on the New button in the analysis set manager form, shown in Figure 2.

Figure 2: ►
Analysis set manager form

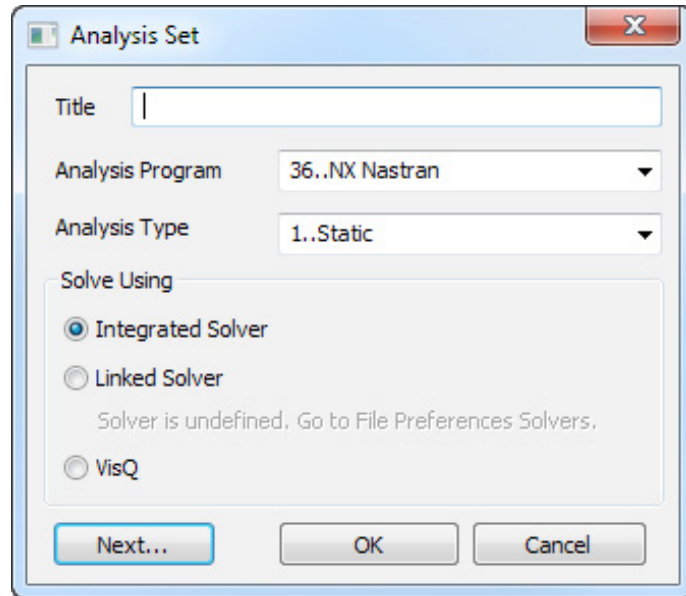


Selecting NX Nastran Licenses in Femap

4. Click OK

Click on the OK button on the analysis set form, shown in Figure 3, to accept defaults.

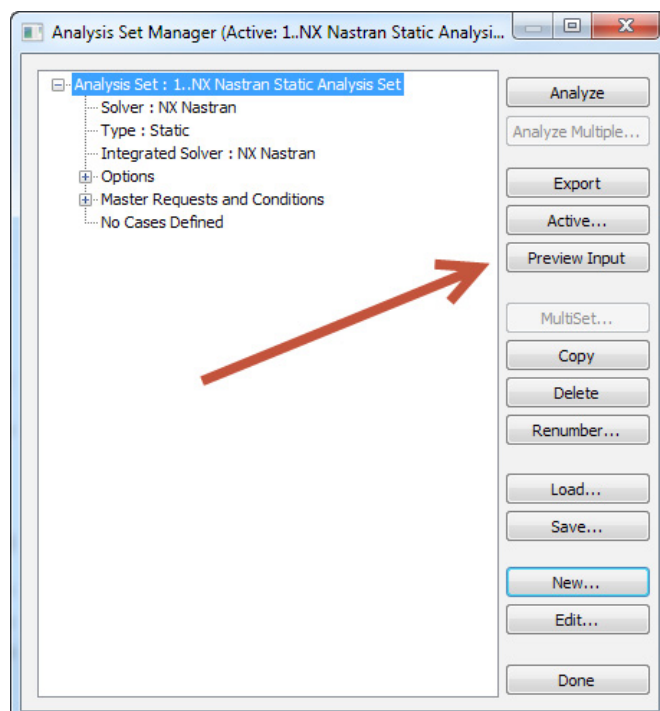
Figure 3: ►
Analysis set form



5. Click on Preview Input

Now that there is an analysis set defined, click on the Preview Input button (indicated by the arrow in Figure 4) in the analysis set manager form.

Figure 4: ►
Analysis set manager form—Preview Input button



Selecting NX Nastran Licenses in Femap

6. Click on Edit Preview

In the preview window, shown in Figure 5, click on the edit preview checkbox.

Figure 5: ►
Preview window



7. Delete All Text

Select all existing text in the preview window and delete it.

8. Open Desired Input Deck

Open the desired Nastran input deck in a text editor.

9. Copy the Desired Input Deck

In the text editor, select all the text and copy to the clipboard.

10. Past Text in Preview Window

In the preview window, past the text of the desired input deck.

11. Export the File

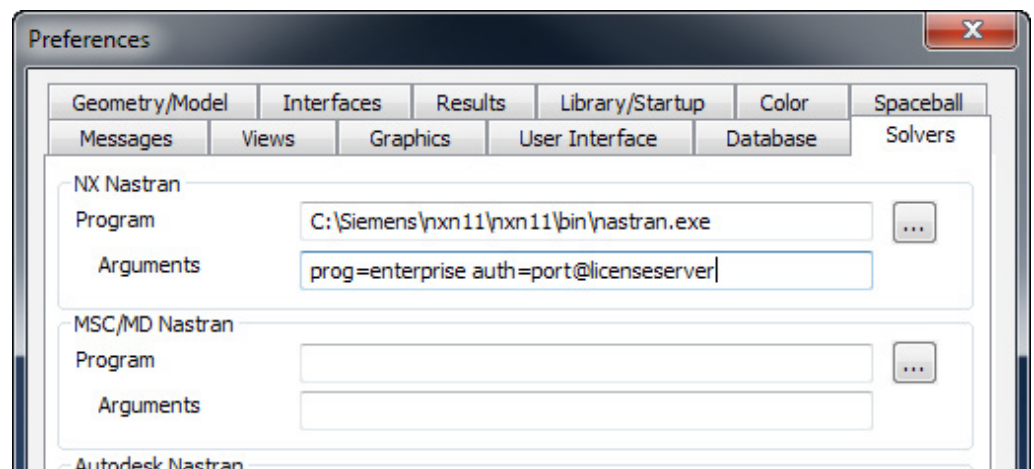
Click on the Export button in the preview window and save the file to the desired location. If the input deck contains INCLUDE statements, make sure you export the file to a directory from which the included files can be found based on the paths provided. The newly created file will contain a valid checksum.

Selecting NX Nastran Licenses in Femap

Using Nastran Enterprise Inside Femap

You can choose to run Nastran with an enterprise license from the Femap interface. First, you must go to the solvers tab in the preferences form (see Figure 6). You will need to locate the enterprise Nastran executable and place the path in the program field. Then you will need to add the arguments `prog=enterprise` and `auth=port@licenseserver` to the arguments field. The port and license server information will be specific to your company and should be available from your IT department. The arguments may already be included in the Nastran config file (`nast11.rcf`), which can be found in the “conf” subfolder wherever Nastran is installed. The config file in this example would generally be located in `C:\Siemens\nxn11\nxn11\conf`.

Figure 6: ►
Preferences form



Using Nastran Enterprise Outside Femap

To use the enterprise Nastran executable outside of Femap, simply double-click the `nastranw.exe` (or a shortcut that points to it) from the enterprise Nastran installation folder or run `nastran.exe` from the enterprise Nastran installation folder from the command line, and identify the input deck. The config file for the enterprise executable should specify the correct license without requiring any action by the user. If this is not the case, the user can specify the required license using the `auth=port@licenseserver` argument discussed in the previous section. The authorization argument can be specified on the command line or put in a config file.

Selecting NX Nastran Licenses in Femap

When using the enterprise version of Nastran, a checksum is not necessary. The input deck can be edited freely outside Femap without license implication and can be run on any computer on which the enterprise version of Nastran is accessible.

Femap with NX Nastran Desktop Extension

The Femap with NX Nastran Desktop Extension add-on module removes the checksum control that is inherent to desktop NX Nastran licenses. This allows the user to manually edit the input files and run the analysis independently of Femap at a more affordable price. Contact ATA for additional details and pricing of this add-on module.

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