

EPILYSIS^B
SOLVER

Questions & Answers

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Document History

**features subject to change without notice*

Release 1 | July 22, 2015

Revision 2 | September 4, 2015

Revision 3 | September 8, 2015

Revision 4 | September 18, 2015 | updated: §1, §16

Q&A on EPILYSIS

1. What is EPILYSIS?

EPILYSIS is an implicit Finite Element Analysis solver for Structural static and dynamics analyses.

2. What does the name EPILYSIS stands for?

EPILYSIS has been named after the Greek word for “solution”.

3. Who should use EPILYSIS?

EPILYSIS can be used by any engineer involved in CAE.

4. How does EPILYSIS work?

EPILYSIS operates either as a standalone software or through ANSA pre-processor. Once solving is complete META post processor will start automatically and load the model (optionally the user can deactivate the post processor with the running option `-nopost` when starting the solver).

5. Which are the minimum system requirements and the supported platforms?

The minimum system requirements and supported platforms are similar to the ANSA / META pre- and post- processor.

MacOS	32bit	64bit
Apple Mac OS X	Discontinued	Mac OS X v10.6 or later
LINUX	Discontinued	glibc 2.3.3
WINDOWS	Windows Vista Service Pack 2 or later	Windows Vista Service Pack 2 or later

6. Which are the prerequisites of installed software (before installing EPILYSIS)?

The BETA License Manager (BETA_LM) should be up and running, prior to the EPILYSIS installation.

7. Do I need a special feature within the license file?

The EPILYSIS Solver can run "from within ANSA" using the option `EPILYSIS>SOLVE>[IN ANSA]`. This freezes the current ANSA session and runs the simulation without the need of any License Feature. On the other hand, if you wish to run EPILYSIS Solver in batch mode (either with command line or with the function `EPILYSIS>SOLVE>[OUT OF ANSA]`), without freezing your ANSA session, the EPILYSIS Feature (`FEATURE=EPILYSIS`) should be requested to be added to the license file. Anyone with an ANSA/META license may request to have an update of the currently active license key with the addition of this Feature, in order to enable the EPILYSIS.

8. Which file formats are supported?

Currently EPILYSIS supports the following input formats:

- The native binary input file *.edb that can only be output by ANSA.
- ANSA databases (this requires ANSA installation).
- Nastran Bulk data files (this requires ANSA installation).

9. How can somebody produce EPILYSIS input file?

This can be achieved in the following two ways:

1. GUI

```
FILE>Output>Epilysis DB
```

2. Script

```
OutputEpilysis(<filename>.edb, include,mode)
```

filename : Output file name with .edb extension. Default "Untitled.edb"
include : pointer to any include or NULL for exporting everything loaded in ANSA database. Default: NULL
mode : "all", "model" or "visible", for export all, model or visible data.
Default: "ALL"

10. What are the supported solution types of EPILYSIS?

- SOL 101: Linear Static Analysis
- SOL 103: Real Symmetric Eigenvalue Analysis (Block-Lanczos, AMLS)
- SOL 108: Direct Frequency Response (FSI frequency response analysis included)
- SOL 111: Modal Frequency Response (including FastFR) (FSI frequency response analysis included)
- SOL 109: Direct Transient Response
- SOL 112: Modal Transient Response
- SOL 110: Modal Complex Eigenvalue Analysis
- SOL 200: Design Optimization
- SOL 400 (Linear Contacts): Quasi-Static analysis with linear elements and nonlinear contacts

11. What do I need to download?

The user should download the BETA License Manager (BETA_LM) and the BETA_CAE_Systems software suite through the official website of BETA CAE Systems S.A. The BETA_LM is required only in case of new users that do not have the software already installed.

12. What does the installation package contain?

The full pre-, solver and post-processing suite is packed 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, users should download, the.sh installer file residing in the folder with the respective platform name, for Linux and MacOS or the .msi installer file for Windows, 64bit.

13. What privileges do I need to have to run EPILYSIS?

Simple user privileges are only required.

14. How many credits does EPILYSIS require?

EPILYSIS occupies additional 100 Credits.

15. May I have an evaluation installation of EPILYSIS?

Anyone with an ANSA/META license may request to have an update to the currently active license key in order to enable the EPILYSIS feature.

EPILYSIS will be available as long as the license is valid.

New users may request a fully functional short-term evaluation license of our software, during which full support is offered.

16. How can somebody run EPILYSIS?

There are 3 different ways to run EPILYSIS:

- 1) Solve using the standalone executable
 - Linux 64 bit
`../epilysis.sh -i <filename>`
 - Windows 64bit
`../epilysis.bat -i <filename>`

The <filename> can be either an EPILYSIS database, ANSA database or NASTRAN input file. In case of ANSA database or NASTRAN input file, ANSA will be automatically called first in batch mode to output an EPILYSIS database.

- 2) Solve in ANSA (Using Script)

Run the script function:

```
Epilysis (jobname, output_dir, mode, include, out_edb)
```

jobname : name of all EPILYSIS output files without the extensions.

Default : "Untitled"

output_dir : Output directory path. Default : current path.

mode : "all", "model" or "visible". Default : "ALL".

include : Include pointer to be used as model. Default: NULL

out_edb: Output Epilysis database file.edb. Default:False

Uses ANSA's 100 credits (same as running in ANSA).

- 3) Solve in ANSA (using the GUI)

NASTRAN Deck Menu > EPILYSIS > SOLVE IN ANSA or SOLVE OUT OF ANSA

Choose the job name / options and then click Start

During Execution information regarding time and solution steps are printed. Upon completion, a prompt window pops up.

If the user chooses to SOLVE IN ANSA then ANSA freezes and EPILYSIS starts solving without occupying any additional credits. If the user chooses to SOLVE OUTSIDE ANSA then ANSA remains free for the user to continue working and EPILYSIS occupies additional 100 credits.

17. How many credits do I need to run EPILYSIS from ANSA and then load (automatically) the results in a META which is launched?

133 Credits.

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