

## ISV Licenses

A guide to managing Independent Software Vendor licences

On Anselm cluster there are also installed commercial software applications, also known as ISV (Independent Software Vendor), which are subjects to licensing. The licenses are limited and their usage may be restricted only to some users or user groups.

Currently Flex License Manager based licensing is supported on the cluster for products Ansys, Comsol and Matlab. More information about the applications can be found in the general Software section.

If an ISV application was purchased for educational (research) purposes and also for commercial purposes, then there are always two separate versions maintained and suffix “edu” is used in the name of the non-commercial version.

### Overview of the licenses usage

The overview is generated every minute and is accessible from web or command line interface.

#### Web interface

For each license there is a table, which provides the information about the name, number of available (purchased/licensed), number of used and number of free license features

<https://extranet.it4i.cz/anselm/licenses>

#### Text interface

For each license there is a unique text file, which provides the information about the name, number of available (purchased/licensed), number of used and number of free license features. The text files are accessible from the Anselm command prompt.

Product	File with license state	Note
ansys	/apps/user/licenses/ansys_features_state.txt	
Commercial comsol	/apps/user/licenses/comsol_features_state.txt	Commercial
comsol-edu	/apps/user/licenses/comsol-edu_features_state.txt	Non-commercial
only matlab	/apps/user/licenses/matlab_features_state.txt	
Commercial matlab-edu	/apps/user/licenses/matlab-edu_features_state.txt	Commercial
Non-commercial only		Non-commercial

The file has a header which serves as a legend. All the info in the legend starts with a hash (#) so it can be easily filtered when parsing the file via a script.

Example of the Commercial Matlab license state:

```
$ cat /apps/user/licenses/matlab_features_state.txt
# matlab
# -----
# FEATURE                                TOTAL    USED    AVAIL
# -----
MATLAB                                  1        1        0
SIMULINK                               1        0        1
Curve_Fitting_Toolbox                  1        0        1
Signal_Blocks                          1        0        1
GADS_Toolbox                           1        0        1
Image_Toolbox                          1        0        1
Compiler                               1        0        1
Neural_Network_Toolbox                 1        0        1
Optimization_Toolbox                   1        0        1
Signal_Toolbox                         1        0        1
Statistics_Toolbox                     1        0        1
```

## License tracking in PBS Pro scheduler and users usage

Each feature of each license is accounted and checked by the scheduler of PBS Pro. If you ask for certain licences, the scheduler won't start the job until the asked licenses are free (available). This prevents to crash batch jobs, just because of unavailability of the needed licenses.

The general format of the name is:

feature\_\_APP\_\_FEATURE\*\*

Names of applications (APP):

- ansys
- comsol
- comsol-edu
- matlab
- matlab-edu

To get the FEATURES of a license take a look into the corresponding state file (see above), or use:

```
|Application |List of provided features | | — | — | |ansys |
| |comsol |
```

```
| |comsol-edu |
| |matlab |
| |matlab-edu |
|
```

Example of PBS Pro resource name, based on APP and FEATURE name:

Application	Feature
ansys	acfd

Be aware, that the resource names in PBS Pro are CASE SENSITIVE!\*\*

### Example of qsub statement

Run an interactive PBS job with 1 Matlab EDU license, 1 Distributed Computing Toolbox and 32 Distributed Computing Engines (running on 32 cores):

```
$ qsub -I -q qprod -A PROJECT_ID -l select=2:ncpus=16 -l feature__matlab-edu__MATLAB=1 -l featur
```

The license is used and accounted only with the real usage of the product. So in this example, the general Matlab is used after Matlab is run by the user and not at the time, when the shell of the interactive job is started. Also the Distributed Computing licenses are used at the time, when the user uses the distributed parallel computation in Matlab (e. g. issues pmode start, matlabpool, etc.).