



FLEXIm for Linux

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1 Overview

Installation of the FLEXIm (also called FlexNet) software is only required on the system that will act as license server¹. It is not required on the client systems that will run PSE Software - unless of course you wish to run the software and the license server on the same system.

Root permissions are required for most (if not all) of these installation steps.

1. Installation and update
2. Installing licenses
3. Starting the license server
4. Configuring PSE software to use FLEXIm
5. RPM installation and update
6. Troubleshooting.

If you encounter any problems or have any questions then please contact [PSE support](#).

¹This document at present only covers single license servers. For installation and maintenance of multiple, redundant servers, please contact PSE's support.



2 Installation and update

The license management software distribution is downloadable as a standard .tgz archive from the PSE website.

Alternatively a [RedHat Package Manager \(RPM\)](#) installation is available. It is recommended for systems where only the PSE license manager is supposed to run and no FLEXlm daemon from another software vendor.

If you do not have FLEXlm already installed, then we strongly recommend that you create a central directory on your system and extract the distribution there. This directory typically is either `/usr/local/FLEXlm/` or `/var/lib/FLEXlm/`, depending on the general structure of the Linux distribution. For brevities sake, `<installation_directory>` is used for the remainder of the document to denote either of the two. Ensure to replace it by the actual directory when copying instructions into terminals or script editors.

```
gzip -cd FLEXlm-<version>-<platform>.tgz | tar -xvpf -
```

This creates the following directory structure:

```
<installation_directory>
|
+- bin/
|
|   +- lmgrd FLEXlm license manager/server daemon
|   +- lmutil Command line administration tool
|   +- PSELMD PSE license server daemon
+- licenses/
|
|   +- PSELMD/
|
|   +- ... Directory for PSE licenses
+- log/
|
|   +- ... Directory for FLEXlm logs
+- FLEXlm.conf Configuration file used by FLEXlm.init script
+- FLEXlm.init System V init script for starting FLEXlm
```

Installing the license server in this manner makes the FLEXlm installation independent of PSE products and allows it to be used for other software (e.g. MATLAB, etc.).

If you already have a compatible FLEXlm installation, then you need only extract the PSELMD daemon to the directory where your existing lmgrd and lmutil binaries are installed.

lmgrd versions 11.12 or later are compatible.

2.1 Updating an existing installation

To perform an update, perform the following steps:



1. If you are running multiple vendor daemons using the same `lmgrd`, verify that all of them are compatible with `lmgrd` version 11.12 or later.
2. Stop the license server so that the executables can be replaced.

Assuming, the recommended steps in Starting the license server have been followed, this can be accomplished by the following command:

```
/etc/init.d/FLEXlm stop
```

Otherwise, the following command can be used from a command line in the `<installation_directory>`:

```
bin/lmutil lmdown -q -force -c licenses/PSELMD
```

If you are running multiple vendor daemons using the `lmgrd` from `<installation_directory>`, all of them need to be shutdown individually using similar commands.

3. Rename the `bin` sub-directory for backup purposes, for instance to `<bin.backup>`
4. Create a new `bin` sub-directory.
5. Extract the tar ball to a temporary location and copy the files
 1. `PSELMD`
 2. `lmutil`
 3. `lmgrd`

to the `bin` sub-directory.

6. Start the server again, by using the recommended init script

```
/etc/init.d/FLEXlm start
```

or, if that is not used, by the normally applied command.



3 Installing licenses

Licenses are provided as files with the extension `.lic`. Each file may provide multiple licenses for multiple products.

License files for PSE should be copied to `<installation_directory>/licenses/PSELMD/`. You may rename the files so as not to overwrite existing ones, but you must keep the `.lic` file extension.

The license files may require some manual editing using a text editor:

- Check that the `SERVER` line contains the name of the license server instead of "this_host". e.g.

Change:

```
SERVER this_host 00b0d03c0f6b
```

To:

```
SERVER butternut 00b0d03c0f6b
```

Note: If on your network you usually need to specify the full domain name when accessing the system acting as license server then you should specify the full domain name on the `SERVER` line, e.g. `butternut.mycompany.com`

- On the `VENDOR` line, the location of the PSELMD license daemon can usually be omitted. It only needs to be added in case it cannot be found, which is reported in the log file. Then the full path needs to be appended, e.g.

```
VENDOR PSELMD
```

is amended to

```
VENDOR PSELMD /usr/local/FLEXlm/bin/PSELMD
```

Caution

Other unauthorized changes to license files may stop your licenses from working.

4 Starting the license server

To start the license server use the `lmgrd` command (all one line):

```
lmgrd -c <installation_directory>/licenses/PSELMD
-l <installation_directory>/log/PSELMD.log -2 -p &
```

For security reasons you will probably want to start `lmgrd` as a user other than root, e.g. as user "nobody". In which case you would use the following command (all one line):

```
su nobody -c "lmgrd
-c <installation_directory>/licenses/PSELMD
-l <installation_directory>/log/PSELMD.log -2 -p &"
```

For this to work user "nobody" needs write privileges on the log file.

Under most circumstances you will want the license server to be launched automatically when you start-up your system. In this case you have two options:

The 'easy' way

Put the command to start `lmgrd` in your `/etc/rc.local` file.

The correct way

If you are using a Linux which supports System-V init scripts (such as RHEL 3/4/5) then:

1. Create a symbolic link from `/etc/init.d/FLEXlm` to `<installation_directory>/FLEXlm.init`:

```
ln -s <installation_directory>/FLEXlm.init /etc/init.d/FLEXlm
```

2. Create a symbolic link from `/etc/sysconfig/FLEXlm` to `<installation_directory>/FLEXlm.conf`:

```
ln -s /usr/local/FLEXlm/FLEXlm.conf /etc/sysconfig/FLEXlm
```

3. If you are not using the default paths that we recommend then edit `/etc/init.d/FLEXlm` in a text editor:

The `FLEXLM_BINDIR`, `FLEXLM_LICDIR`, `FLEXLM_LOGDIR` and `FLEXLM_USER` variables should be set according to your installation

4. Use `chkconfig` to instruct the system to start/stop FLEXlm at the required run levels when the system starts/shutdown:

```
chkconfig --add FLEXlm
```

5. You can also manually start it by running:

```
/etc/init.d/FLEXlm start
```



5 Configuring PSE software to use FLEXIm

On each client (and for each gPROMS user) the `PSELMD_LICENSE_FILE` environment variable should be set to the name of the system running the license server (prefixed by the `@` symbol):

e.g. C-shell:

```
setenv PSELMD_LICENSE_FILE @butternut.mycompany.com
```

e.g. BASH shell:

```
export PSELMD_LICENSE_FILE=@butternut.mycompany.com
```


6 RPM installation and update

As an alternative to the installation from a .tgz archive described above we also provide a .rpm package for use on RPM compatible systems (e.g. RHEL 5 and many others).

Caution

We do not recommend using the RPM installation if you already have another FLEXlm from a different vendor installed on your system.

The RPM can be installed by a user with root permissions with the following command:

```
rpm -Uvh FLEXlm-<version>-pse.1.<platform>.rpm
```

This configures FLEXlm much as described above except:

1. The FLEXlm/bin and FLEXlm/licenses directories are created in /var/lib/ instead of /usr/local/
2. The license server logs will be written to /var/log/FLEXlm instead of /usr/local/FLEXlm/log
3. A "flexlm" user will be created on the system. Login will be disabled for this user, their sole purpose being to run the license server.
4. The configuration and init scripts will be installed to /etc/sysconfig/FLEXlm and /etc/init.d/FLEXlm automatically. The FLEXLM_BINDIR, FLEXLM_LICDIR, FLEXLM_LOGDIR and FLEXLM_USER variables in the latter will all be correctly preset.

All that remains to be done is to use chkconfig to instruct the system to start/stop FLEXlm at the required run levels when the system starts/shuts down:

```
chkconfig --add FLEXlm
```

You can also manually start it by running:

```
/etc/init.d/FLEXlm start
```

6.1 Updating an existing installation

An existing installation can be updated in three steps.

1. Stop the currently running license server:

```
/etc/init.d/FLEXlm stop
```

2. Perform the same step as in the first installation using the newest RPM:

```
rpm -Uvh FLEXlm-<version>-pse.1.<platform>.rpm
```

3. Start the updated server:

```
/etc/init.d/FLEXlm start
```



7 Troubleshooting

The [FlexNet License Administration Guide](#) contains troubleshooting advice which covers typical problems with FLEXIm. Please try to resolve your problems first by referring to these. If you are still unable to resolve your problems with FLEXIm then please contact [PSE support](#) with the following information:

1. the error when you try to run the client application (i.e. gPROMS ModelBuilder)
2. the FLEXIm log file generated (PSELMD.log if you followed above guidelines)
3. the license file being used
4. the status report (refer to the [FlexNet License Administration Guide](#) for instructions on how to generate this).