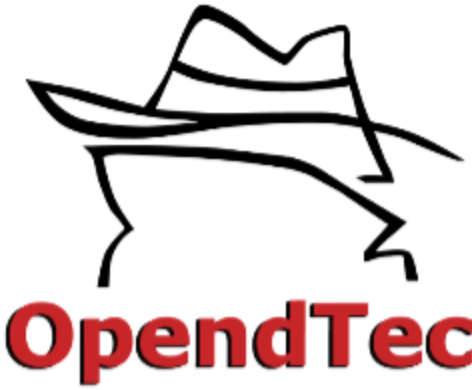
Administrators Manual



Created by

Table of Content

1 FlexNet Licenses Explained

Let us suppose you have received a 2-user license for a module. Normally you will have obtained a floating license, meaning that you will be able to use the module from any machine, and two users can be busy with it at the same time.

Server side: The License Manager Daemon

To be able to enforce the license, there must be a piece of software somewhere that keeps track of who is using the module. That is the License Manager Daemon (LMD). The LMD can run on any machine, also on machines that you will never use the module itself on. Good candidates are stable UNIX servers.

When the LMD is started, it looks at a file containing the information about what should be supported. This file is called the License File. Actually, the LMD can only be started on the machine indicated in the license file. The license file could look like this:

```
SERVER licserv 000347e8b845
DAEMON dgbld /apps/opendtect/4.4.0/bin/lux64/lm.dgb/dgbld
FEATURE dTect dgbld 4.400 1-jan-2013 2 6592FDC619EA DUP_
GROUP=D
FEATURE dTectDS dgbld 4.400 1-jan-2013 2 011D5153D870 DUP_
GROUP=D
```

The first line tells us that the LMD must be started on the machine licserv, with FlexNet ID `000347e8b845`. The second line is interesting for the LMD only but then you see two actual license FEATURE lines (`dTect` and `dTectDS`). These licenses are valid for versions 4.4 and lower, until the 1st of January 2013, for two users (`4.400 1-jan-2013 2`).

The Client side: Your program

Now let's look at the machine that you run your software on. The program will at some point in time need to check whether there is a license for what you are trying to do. For this, the program looks at the same license file. It sees that it has to contact the machine 'licserv' to ask for permission. The LMD keeps track of the number of users already using the license feature. If a license is granted, your program will go on, otherwise you'll get an error message.

Non-floating licenses

In some cases the software will never be used other than on a certain machine. In that case a node-locked license can be issued. For such a license you do not need to start a license manager daemon - an unlimited number of users can use the module at the same time provided they work on that particular machine. A special case is the unlimited demo license, which grants unlimited access for any number of users on any machine. It goes without saying that this kind of license is always for short periods.

Host identification

For the above schemes to work, the license server or the running machine must be uniquely identified. Therefore, you will be asked to provide a unique host ID and a hostname when you want to obtain a license. Different operating systems require different ways to obtain this information:

- **Windows:** On windows, there is a FlexNet utility that delivers both in a simple file that can be sent by e-mail. It is delivered together with commercial plugins so you need to install one of those first. From the Start menu, select Programs-OpendTect-License Manager Tools. Select the tab 'System Settings'. Then push the 'Save HOSTID Info to a File' button
- **UNIX:** The hostname is obtained with the unix command hostname. The host ID differs per UNIX flavor, but can always be obtained by the 'lmhostid' tool. This tool is delivered with OpendTect, and can be run from the Utitlities-Batch Programs dialog.

If you need to obtain the host ID before OpendTect is installed:

- **Windows:** Open a 'command prompt' (For example, by running 'cmd') and issue a command like: `ipconfig /all > c:\Temp\ipcfg.txt` You can send ipcfg.txt or look for the 'Physical address'
- **Linux and Mac OS X:** Run `/sbin/ifconfig` in a terminal. On Linux look for `HWAddr`, on Mac `ether`. You want the MAC address, looking like `xx:xx:xx:xx:xx:xx` - that's 6 groups of 2 hex numbers. Example: `00:1C:C0:38:22:F1`. Usually the first one reported is the main card, in doubt you can provide all
- Solaris: Run `hostid`.

If for some reason one of these commands does not work: we need the MAC address of the main network card. Sending the IP address of a machine is never helpful.

Conclusion (Manager's summary)

The FlexNet license system is based upon internet technology. Therefore you can run your software on any machine, using any operating system, to get licenses from any other machine regardless of operating system or physical location. Thus, a Linux license server in Houston can manage the licenses for Windows, Linux and Mac OS X machines in Houston, Caracas and Paris. The only restriction is the number of users actually using the 'feature' at a certain time, but that is what you pay for.

For more information, see **FlexNet Licensing End User Guide**.

1.1 Licensing and Host IDs

OpendTect uses FlexNet to manage its licensing. There are two main types of license:

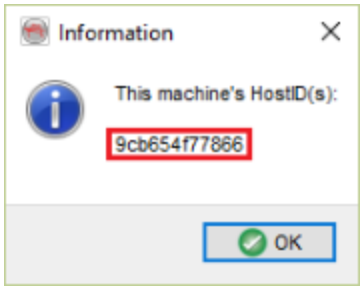
- **Node-locked:** The license file is tied directly to a specific client machine (or selection of machines) through its 'HostID'. This option is popular for laptops and for single-user desktop setups. Installation is very simple.
- **Floating License:** The license file is generated for, and tied to a dedicated server via its 'HostID'. The license manager on the server then issues licenses to client machines. This option is more suited for multiple users. Installation can be more involved.

In order to generate a license, we need the HostID of the machine or server, depending on license type:

- If Server-based (floating) license
  - Server (Host) Name
  - Server (Host) ID
- If node-locked license
  - Host ID

To discover the HostID:

- OpendTect Pro (all platforms): Utilities > Installation > Licenses > Show HostID…



Licenses > Show HostID… does not appear under the Utilities > Installation… options in the GPL version. You will have to install OpendTect Pro to access this utility.

For additional information (including alternate methods of accessing the HostID), please refer to the **FlexNet Licensing End User Guide**.

2 System Requirements

Supported Platforms

OpendTect needs good hardware with up-to-date drivers - especially for 3D graphics. You can run on:

- **Intel** / **AMD** under Linux (64 bits) or MS Windows (7/8/8.1/10 - 32 or 64 bits)
- **Mac** / **Intel** under OS X (10.6) and up.

Hardware Requirements

Graphics

OpendTect requires a recent well-patched **OpenGL** installation. OpenGL drivers should be updated at least every half year to ensure optimal performance and compliance.

- Intel/AMD: Recent **nVidia** and AMD (ATI) graphics cards/chipsets. Well behaved are nVidia GeForce 500, 600 and 700 series and AMD (ATI) Radeon 6xxx and 7xxx series
- Mac: Similar to the Intel/AMD platform.

Main stream and high-end GPUs within the series are recommended, since low-level GPUs keep showing poor performances through the generations. Shading functionaly requires special GPU features, present in the cards listed above. Nevertheless, under Linux, only nVidia provides drivers capable of using the shading feature. If you can't see any colors on graphic elements, try disabling shading (Utilities-Look and Feel).

Background

OpendTect will attempt to use 'shading' - this means that some calculations are done on the graphics card. Unfortunately, not all cards behave properly. Very old cards will be no problem because they report that shading is not supported. Very new cards usually support it correctly (e.g. all nVidia-based cards and chipsets). Some older cards do give problems. These report that they support shading, but they support only part or so badly that the system almost stops. There are two settings for the user to cope with this:

- Do you want shading if the card reports that it is capable of it?
- If so, do you also want it for volume rendering?

Some cards (Like some ATI cards) support shading well but things go bad for volume rendering. The default is:

- Yes, use it if the card says it supports shading
- No, do not use it for VR even if the card says it supports shading.

Thus:

- If users get colorless inlines, time slices etc, they need to try disabling shading usage
- If users want to try improved volume rendering, they can try enabling that
- The access to these options is in the user's menu 'Utilities-Settings-Look & Feel'.

Memory

OpendTect needs at least have 2 GB internal (RAM) memory available. Therefore we would recommend machines with at least 4GB RAM, as the operating systems (especially Windows) will need their share of this, too.

> 💡 *We are seeing an increasing number of crash reports from users attempting to use OpendTect v6 on machines with only 4GB RAM. With versions 4.6 & 5, machines of this grade appeared to be capable but we do see this difference when v6 is installed.*

Depending on the size of the surveys we recommend 8-16 GB+. In special cases (big surveys or many data cubes) more memory may be required and data processing in larger surveys may require considerably more RAM.

A rule of thumb is to have at least 10 times the displayed number of samples available. Thus, to be able to display 10 inlines with 2000 crosslines and 1000 samples per trace, you'll need a minimum of 200 million bytes of memory, i.e. 200 MB.

Processor

For Linux and MS Windows, a modern Intel or AMD processor is required. Although OpendTect will run on 2 GHz processors or even less, we recommend 3+ GHz multi-core for a good working environment. Note that OpendTect heavily uses all processors if necessary.

Operating Systems

Linux

A modern Linux distribution is required. **Minimum:**

- **SuSE** or **OpenSuSE** 11.0
- **Red Hat** Enterprise 5 (or the free **CentOS** counterpart).

Linux distributions should be LSB compliant. You can check this using the command lsb_release. This is particularly stringent for commercial plugins using the FlexNet system. There is documentation on **installing license files for commercial plugins**, and there is a page with **background information**.

For both SuSE and Red Hat-based distributions 64 bits releases are available. OpendTect is known to work under **Debian**, **Ubuntu** and other distributions, as well as earlier versions of the main distributions, too. **Fedora** usage is not recommended - although it may work it's the only distro that regularly fails to work in

combination with OpendTect. This is probably because the graphics vendors do not support it well in terms of drivers.

Mac OS X

Minimum is Mac OS X (10.6) - thus Mac/Intel. Mac/PowerPC support is not available. A 3-button mouse is highly recommended.

OpendTect v5 supports Mac OS X from 10.6 up to, and including, Yosemite. But El Capitan will not run OpendTect v5. OpendTect v6 supports all Mac OS X from 10.6 onwards, including El Capitan.

MS Windows

Windows 7, 8, 8.1 and 10 are supported. Windows needs to be updated with the latest updates from Microsoft. Releases are available in both 32 and 64 bits.

Recommendations

If you have mega-surveys with Tera-bytes of data, and you want to do very advanced calculations, then you'll need the best you can get. What is best? The main idea is to minimize the bottlenecks.

1. **Graphics:** use nVidia or maybe ATI-based cards. At least these manufacturers have good drivers for all cards. For nVidia, you may want to avoid the 'professional' series. This can be a waste of money (but may just give you that little bit extra you want, too). In doubt, buy the top gaming card(s) you can find
2. **CPU:** choose 64 bits. Many processors, high speeds. The more the better. OpendTect will automatically use multiple threads in many situations. It depends on the type of attribute, display, etc. but we put a lot of effort in getting time-consuming tasks multi-threaded. We are well aware that the number of processors will grow steadily
3. **Memory:** buy as much memory as you can afford (and that will fit in the computer). The big clients for example use nothing less than 64 GB. OpendTect doesn't have a lot of tricks to minimize memory consumption; we figure that memory gets cheaper by the day so we greedily use memory for our purposes (we try to not waste it, though)

4. **Disk storage:** this is usually under-valued, but it's very often the crucial performance component. RAID can speed up disks considerably. If you can, work on local disks. I've seen many examples of the total performance being miserable just because the data needed to stream through (relatively) slow networks.

It's clear that the number of variables is huge, and that it's simply very difficult to predict whether a certain configuration will be good enough for your specific needs.

2.1 Mac OS X 10.6 and up

Minimum is Mac OS X (10.6) - thus Mac/Intel. Mac/PowerPC support is not available. A 3-button mouse is highly recommended.

> 💡 *OpendTect v5 supports Mac OS X from 10.6 up to, and including, Yosemite. But El Capitan will not run OpendTect v5. OpendTect v6 supports all Mac OS X from 10.6 onwards, including El Capitan.*

If you are using Mac OS 10.9 or above please do the following before installing:

- Click on the 'Apple' button (top left), go to:
- System Preferences
- Security & Privacy
- General Tab
- Allow apps to be installed from anywhere, (may ask for login)
- Then run the installer. Once finished, change the security back (if you wish).

Installer

- **Mac OS X 10.6 and up**

3 Petrel* Plugin Administration

Installing the PIP file

💡 *The PIP files can be downloaded on the OpendTect download page.*

The plugin can also be installed to Petrel* with the help of the PIP file in the usual way, where you have to use the Plugin manager tool from the menu: File-Options-Plugin manager. Press 'Install plugin' and select the downloaded PIP file. After installation restart Petrel* to activate the plugin.

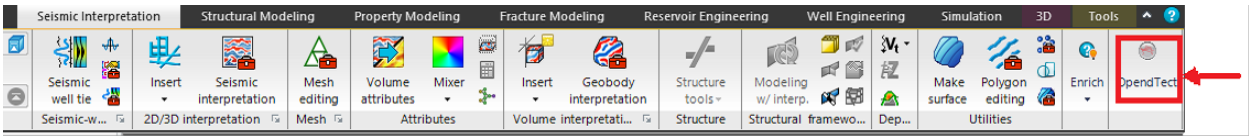
In order to install the updated version of the plugin, please remove the old one from the Petrel* plugin manager, and then restart Petrel* and install the plugin as described above.

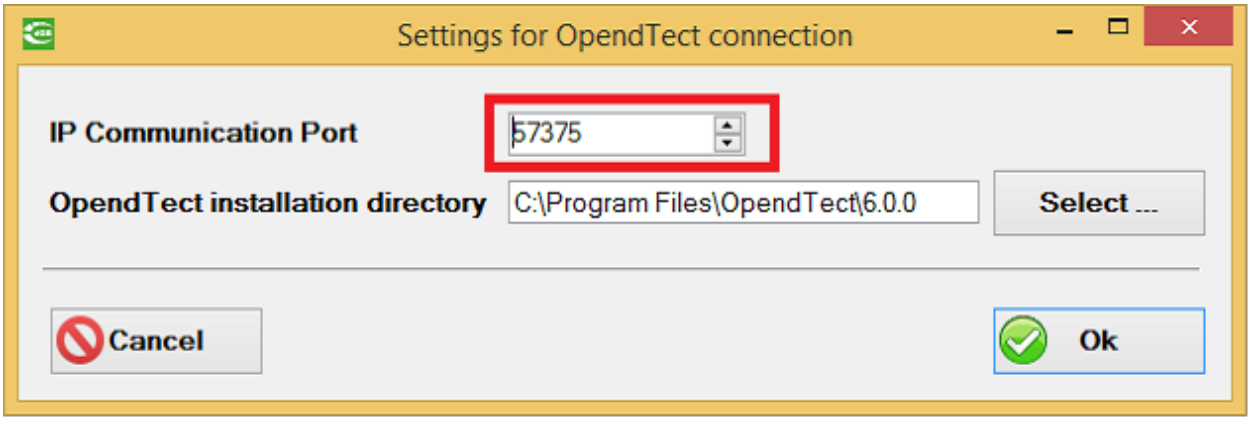
- **Download PIP file for Petrel* 2014**
- **Download PIP file for Petrel* 2015**
- **Download PIP file for Petrel* 2016**

Choosing the preferred Communication Port (TCP/IP).

By default the plugin should use the TCP/IP port 57375; in case this port is not available / accessible it can be changed in two ways:

- From plugin user interface, which is available under the “Seismic interpretation” tab in the Petrel* ribbons.





- By adding an environment variable DTECT_PETREL_PORT, and setting its value to the preferred port number which is available for access.

Petrel* documentation

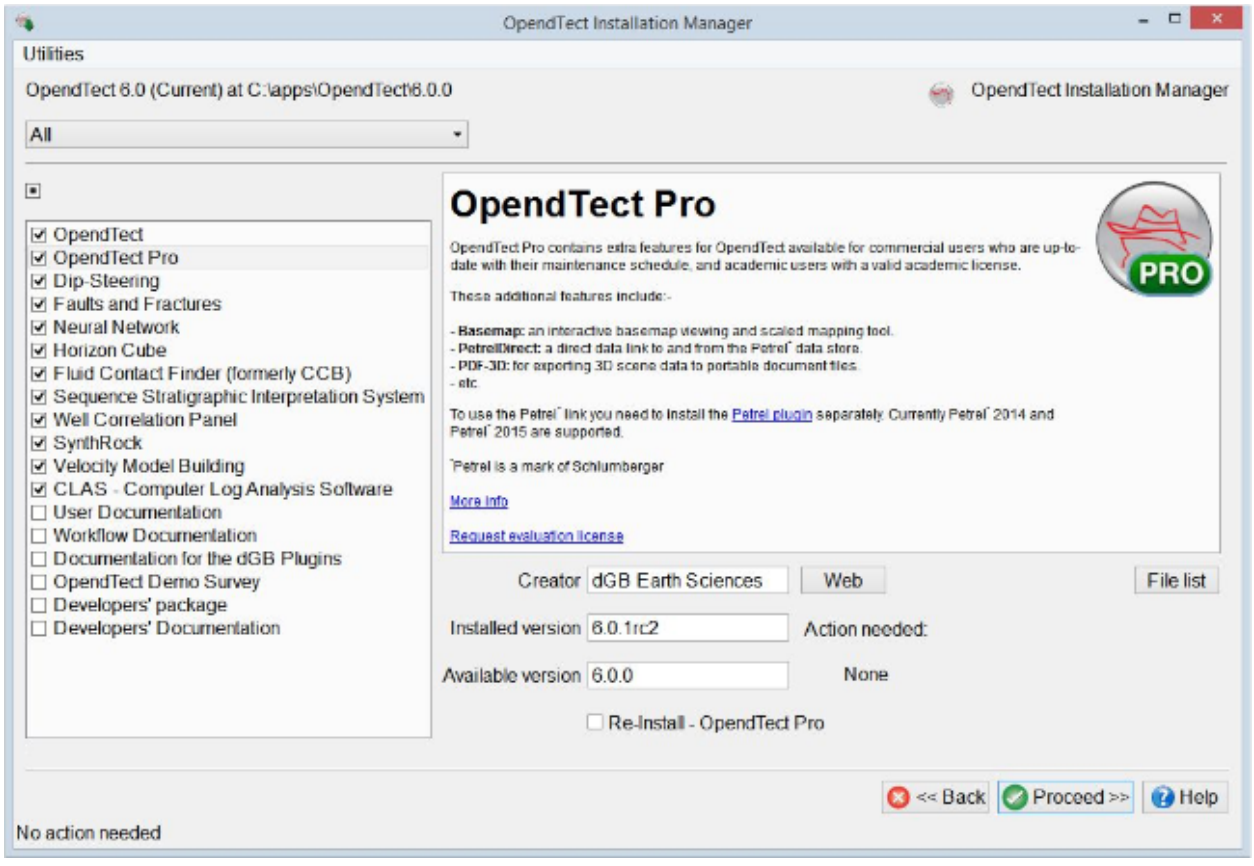
For information about Petrel* please go to the **PetrelDirect chapter of the dGB Plugins Documentation**.

** Petrel is a mark of Schlumberger*

3.1 Installation Guide

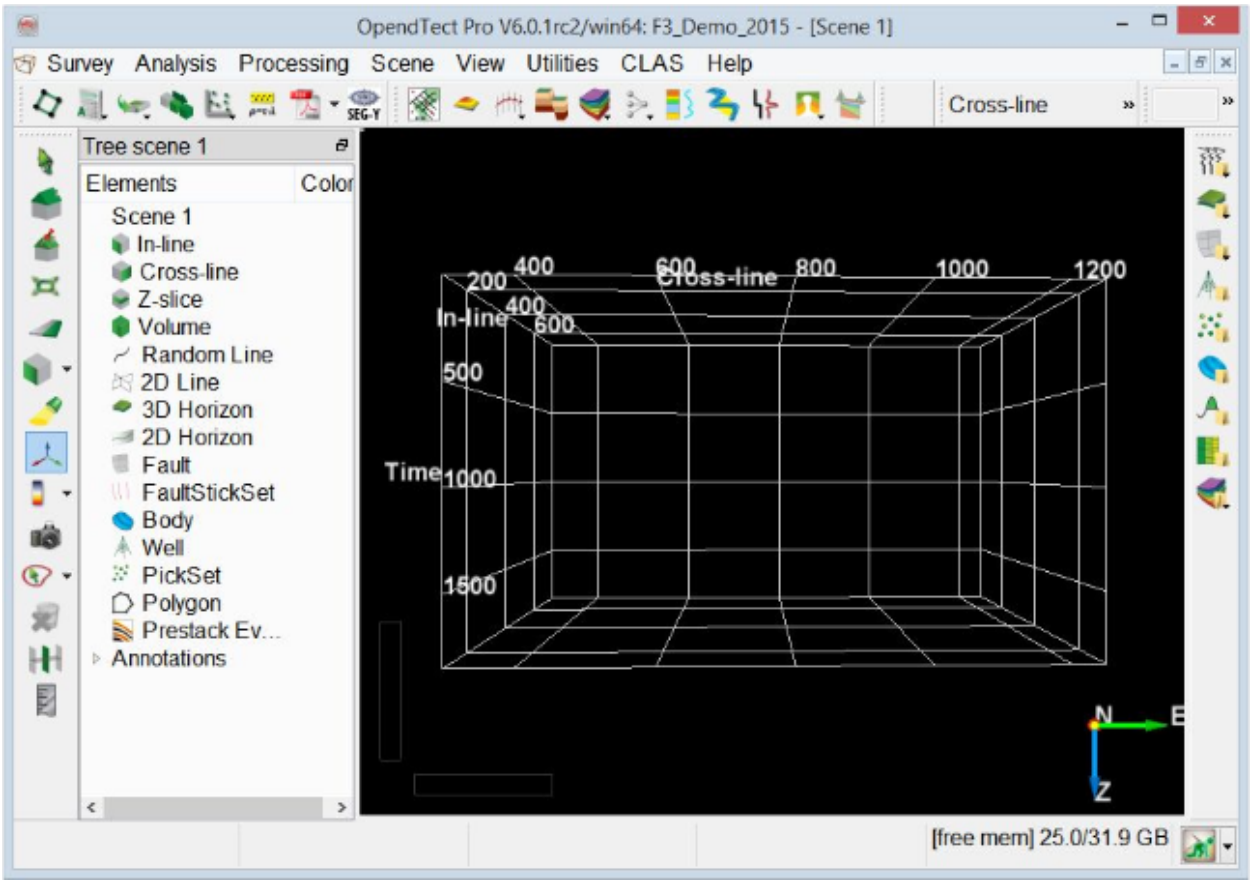
PetrelDirect plug-in allows OpendTect Pro users to seamlessly exchange data with the Petrel* data store of a running Petrel* project. On the OpendTect side, PetrelDirect plug-in is installed as a part of OpendTect Pro. On the Petrel* side, *Data access for OpendTect (dGB)* plug-in must be installed. Currently supported Petrel* versions are Petrel 2014*, Petrel 2015* and Petrel 2016*. This document is a step-by-step guide on how to install and configure PetrelDirect plug-in both in OpendTect and Petrel*. Once installed, more information on how to use it can be found in **PetrelDirect plug-in documentation**.

OpendTect 6.0: PetrelDirect plug-in is a part of OpendTect Pro:

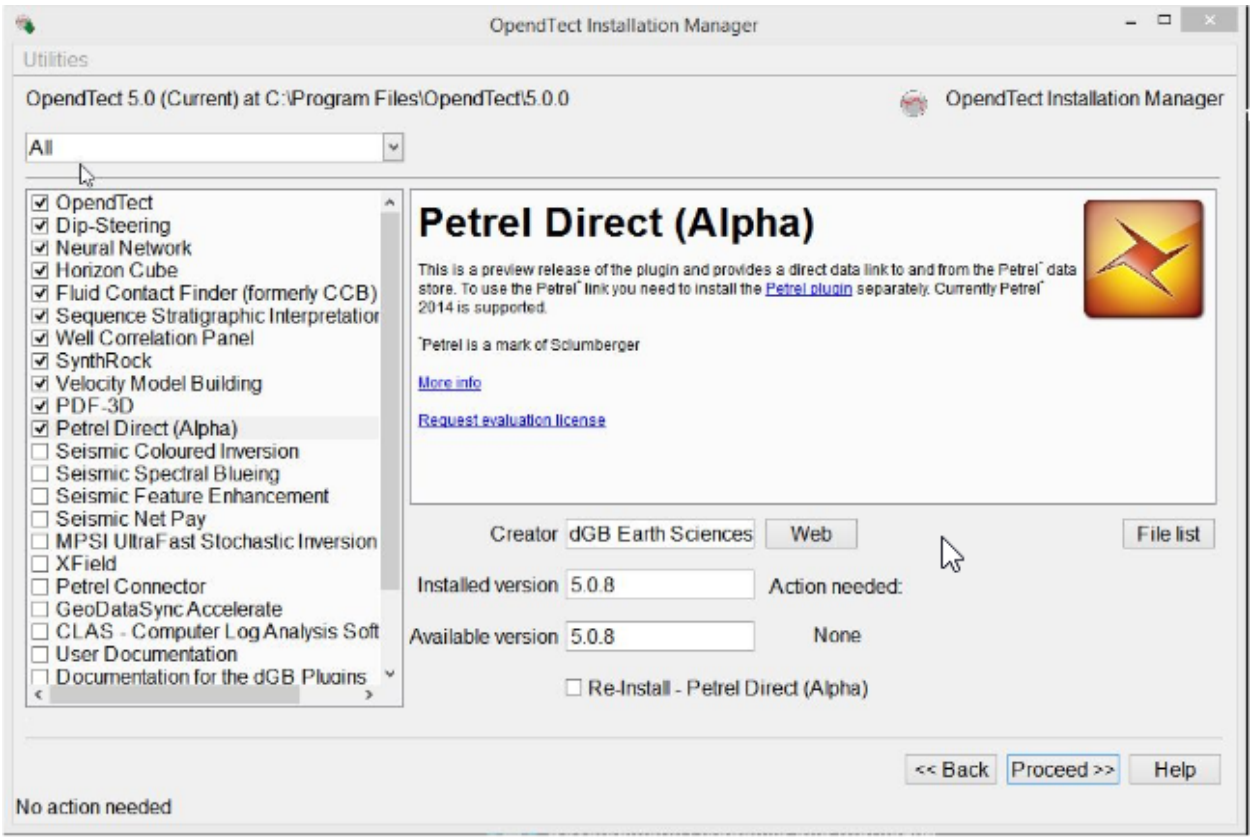


** Petrel is a mark of Schlumberger.*

Once OpendTect Pro is installed, PetrelDirect status button can be found in the lower right corner of the main OpendTect window:



OpendTect 5.0: alpha release of PetrelDirect plugin was available for preview and testing is no longer supported.



** Petrel is a mark of Schlumberger.*

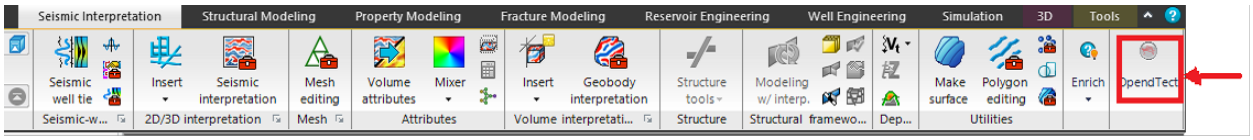
To be able to use PetrelDirect functionality in Opendtect Pro, *Data access for OpendTect (dGB)* plugin must be installed in Petrel*. Installation can be done either via Windows installer (MSI file) or Plugin Installer Package (PIP file).

Via Windows installer (MSI file)

Windows installer does both the first-time plugin installation and an update of already installed plugin to a newer version without any extra actions.

1. Download msi file via one of the links below or via **dGB's download page**:
    1. **MSI file for Petrel 2014**
    2. **MSI file for Petrel 2015**
    3. **MSI file for Petrel 2016**

2. Run the SMI file and follow the instructions
3. Start Petrel*, go to *Seismic Intepretation* tab and observe that OpendTect toolbar is ther now.



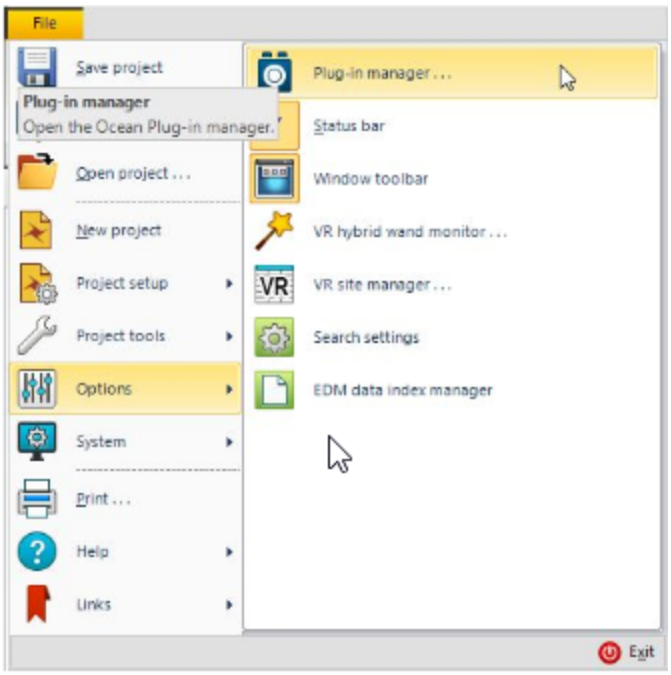
Via Plugin Installer Package (PIP file)

For the plugin update to a newer version, an old version must be uninstalled first:

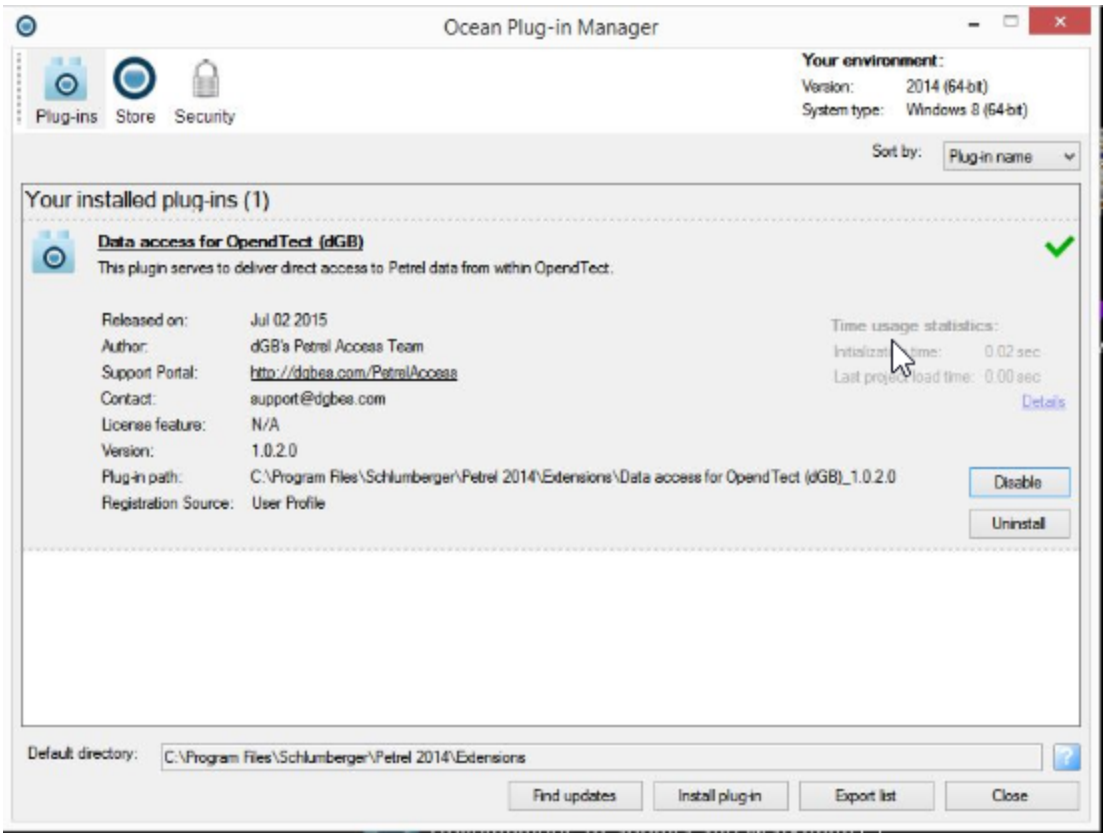
1. Start Petrel*
2. In Petrel* main window: go to *File* > *Options* > *Plugin Manager* ...
3. In *Ocean Plugin Manager* window: uninstall the old version of *Data access for OpendTect (dGB)* plugin by selectin it and clicking *Uninstall* button
4. Close Petrel*.

For the first time installation, or once the old plugin version is uninstalled:

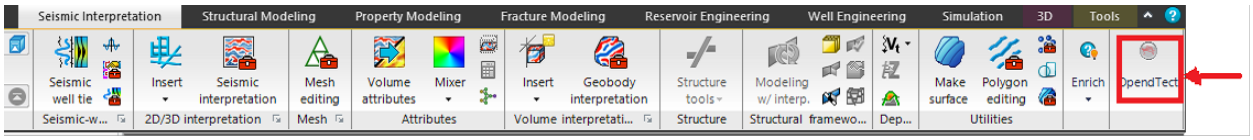
1. Download PIP file via one of the links below or via **dGB's download page**::
    1. **PIP file for Petrel 2014**
    2. **PIP file for Petrel 2015**
    3. **PIP file for Petrel 2016**
2. Start Petrel*
3. In Petrel* main window: *go to File* > *Options* > *Plugin Manager*...



4. In *Ocean Plugin Manager* window:
    1. Click on *Install plugin* button
    2. Locate PIP file and click *Open*
    3. Once the installation is finished click *Close* in both windows



5. Restart Petrel*
6. Once Petrel* is restarted go to *Seismic Interpretation* tab and observe that OpendTect toolbar is there now.



** Petrel is a mark of Schlumberger.*

4 OpendTect Presentation Maker Plugin

Introduction

python-pptx is a Python library for creating and updating PowerPoint (.pptx) files. The OpendTect 'Presentation Maker' plugin uses this library to create a Power-Point presentation from scene, window or desktop screenshots.

Pythonpptx Installation

General installation information is at **this page**.

Windows

Preparation

On Windows, three packages need to be installed. First of all `python` itself, then `lxml` and finally `python-pptx`. The three packages have to be installed in the given order and installation instructions are given below. Before you start, create a new folder to store the Python installation, eg `C:\apps`.

Python

Install Python itself from **this page**. Download the *Windows x8664 MSI installer* for 64bit systems or *Windows x86 MSI installer* for 32bit systems. Click on the link. During installation, choose C:\apps as the installation folder and select the option to add Python to the `PATH` environment variable. If you don't get this option, or missed it, edit the `PATH` environment variable and add the following:

`C:\apps\Python27\;C:\apps\Python27\Scripts;`. More information on settings environment variables in Windows can be found at **this page**.

lxml

The package python-pptx requires the lxml tools. Install binary for lxml from **this page**. I installed version 3.4.4. After clicking on the version, download the Windows 64 python 2.7 package. At time of writing: **lxml3.4.4.winamd64py2.7.exe**. After downloading, double click on the exe file and follow onscreen instructions.

Python-pptx

Open a Command Prompt (press Windows+R, type in cmd, and hit enter) and run: `pip install python-pptx`.

Linux

Start by checking if python has been installed. Open a command line window and enter: python. If it's installed, you'll see some information in the terminal, like the version number.

Currently, `python-pptx` requires Python 2.6, 2.7, 3.3 or 3.4.

If python is not installed, install using your distribution's package manager, or ask your system administrator. `python-pptx` is hosted on PyPI, so installing with `pip` is simple. First install lxml: `pip install lxml`, then install python-pptx: `pip install python-pptx` and you should be ready to go.

How to make the presentation

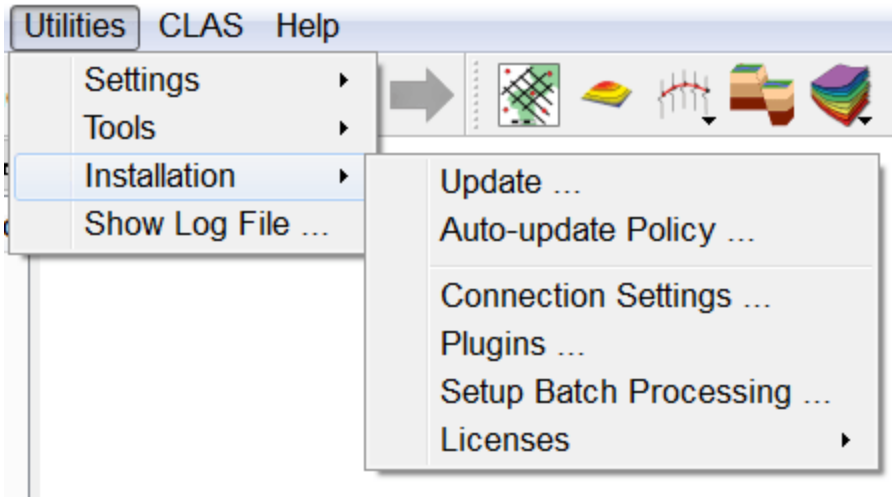
A presentation can be made in 2 different styles, as a blank presentation or by using a custom template (master) PowerPoint presentation. When you use the blank option, the template which is part of the python-pptx installation will be used

and all slides will have a white background. When you choose the custom option, you need to select an existing PowerPoint presentation. The plugin expects a PowerPoint file (a pptx file, not a potx!) with 2 slides. The first slide should be the title slide, i.e. a slide with the 'Title Slide' layout. The second slide should be a regular slide with 'Title and Content' layout. New slides will use the layout of the 2nd slide. Click on the settings icon to specify the Slide format and the image margins.

Three different images can be added as slides: Scene, Window or Desktop.-

- *Scene*: The scene will be captured in an image. If you have multiple scenes, choose the scene you'd like to add. The name of the selected treeitem will be the name of the slide.-
- *Window*: Image of the selected window will be added. Note that windows on top of the selected window will also be captured in the image-
- *Desktop*: An image of the full desktop will be added.

5 Installation

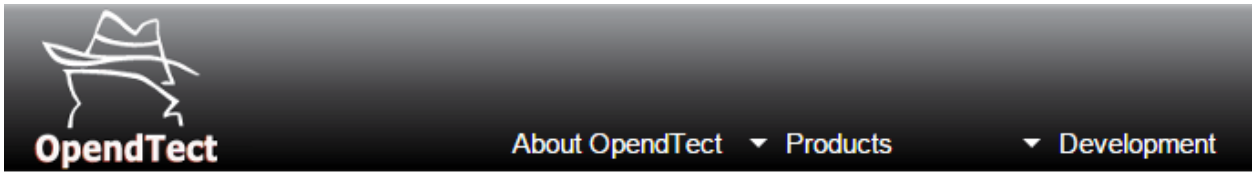


5.1 Update (Installation Manager)

Some improvements in the installation manager:

- Removing individual packages is now supported
- Windows program feature to update or uninstall OpendTect
- Improvements to proxy handling

The Installation Manager is available for download via the appropriate platform link on the **download page** of the OpendTect website.



Download

OpendTect Installation Manager

OpendTect is available under GPL, commercial license and academic license. Learn more about licenses here.

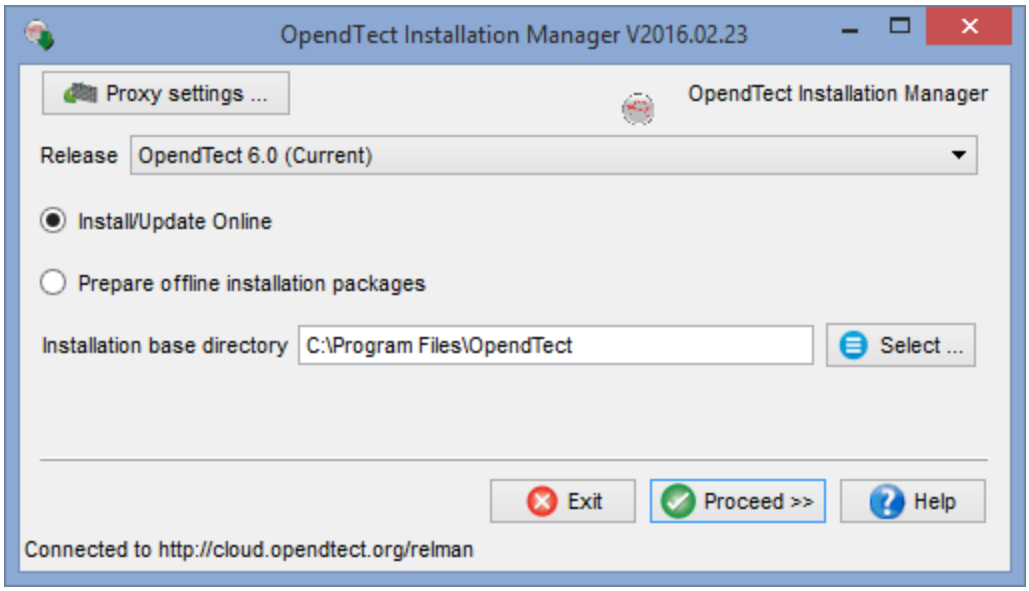
Download the OpendTect Installation Manager by selecting on of the platform links:

64 BITS

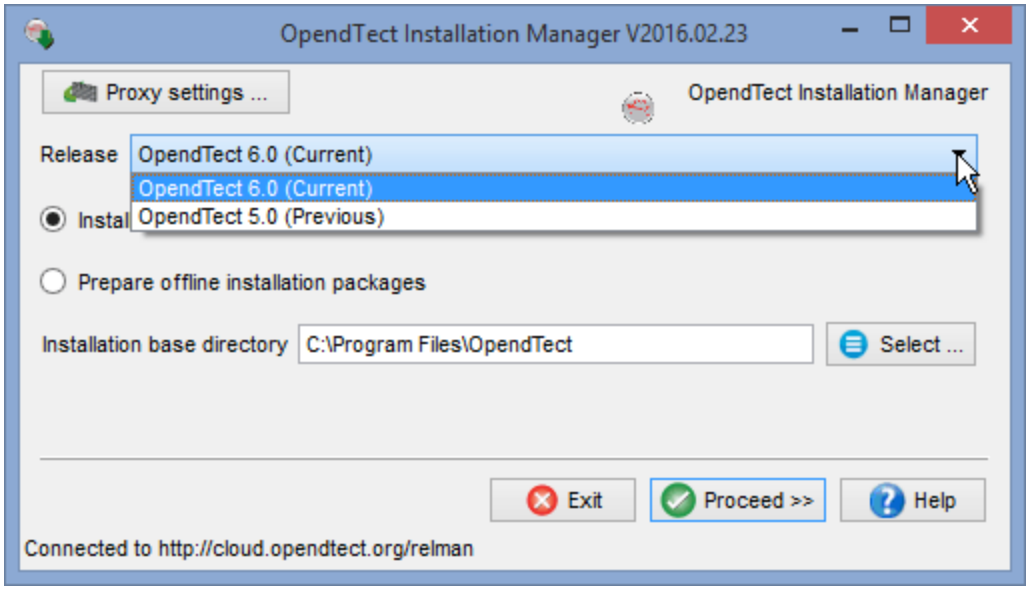
- PC / Linux
- Windows Vista / 7 / 8 / 8.1
- Mac OS X 10.6 and up

32 BITS

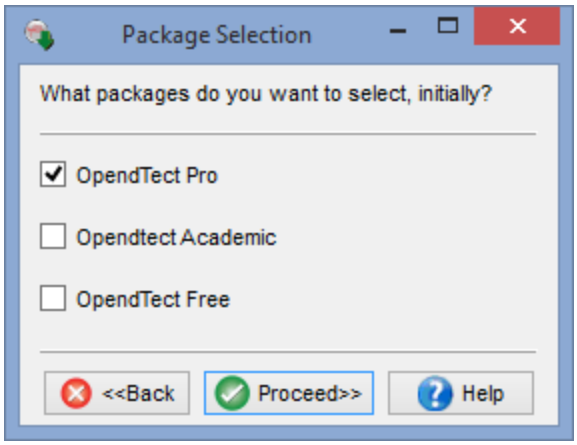
- PC / Linux
- Windows Vista / 7 / 8 / 8.1



The installation manager is a wizard to install/upgrade the existing OpendTect (Current / Previous) releases. The release type field is used to select the release that is needed to be installed/upgraded. The installer gives you the choices as seen below:



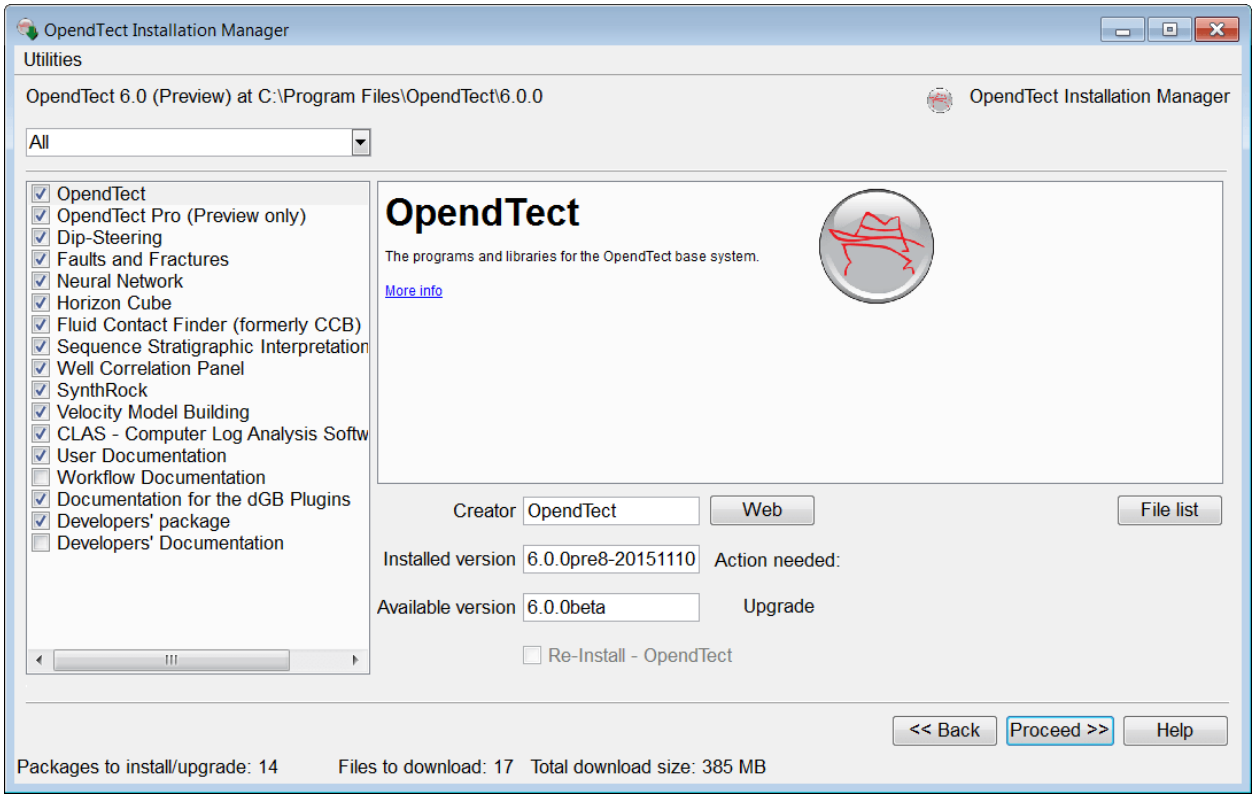
The information following in this section deals with online installation or upgrade. For creating offline installation packages, please see **Offline Installation**.



The figure above suggests to select the package type of OpendTect. To read more about OpendTect packages type, please refer to our **web-page** of licensing types.

The OpendTect Installation Manager identifies the platform on which it is running. This information is then anonymized prior to it being sent to OpendTect. We use this anonymous data solely for the purpose of getting a picture of OpendTect usage and thus improving our support capabilities.

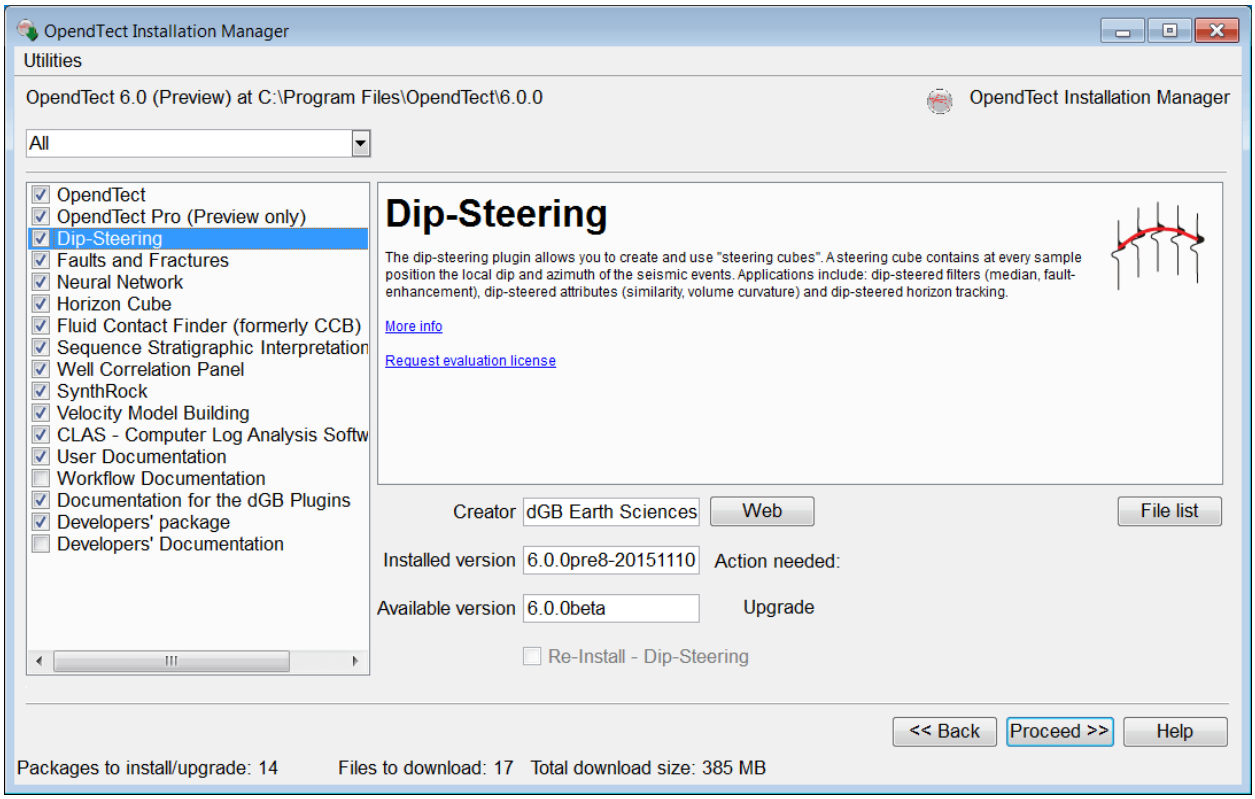
5.1.1 Package Manager



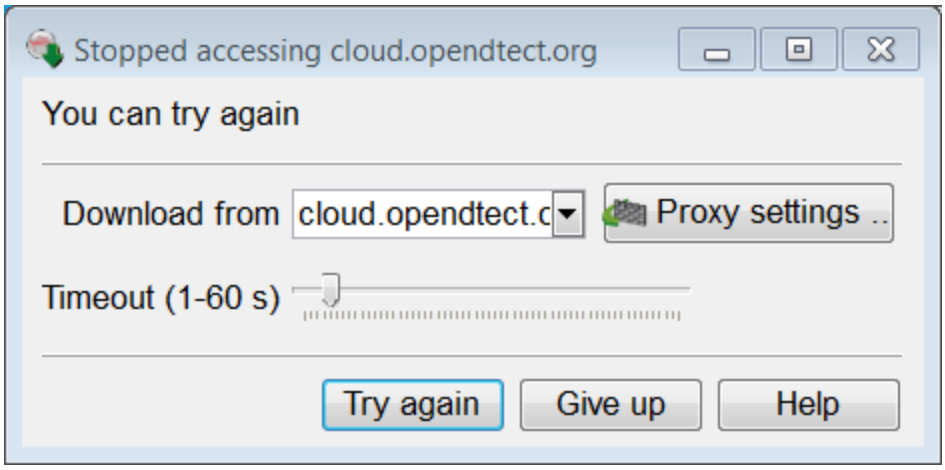
The last window of the wizard is the OpendTect Package Manager (see above figure). Multiple items can be selected from the list by checking the boxes (or not). Optionally, the relevant package combination could also be selected from the top list box.

The installation manager will automatically recognize the previously installed version at the selected path and will prompt it in the *Installed version* field.

To read more about a particular item in the list, select the item by clicking on it and read the description on to the right panel. For example, Dip-Steering:



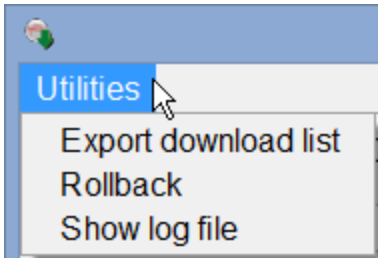
If, for any reason, you should choose to abort the installation mid-download, you will see the following window appear:



This gives you various options, including increasing the time-out from its default setting, changing the download server or changing the **Proxy settings**.

5.1.1.1 Utilities Menu

On the top left corner of the package selection window there is a Utilities menu, which offers some useful functions for the installation manager:



5.1.1.1.1 Export Download List

This option allows the user to download the list of URLs of the individual packages from the download site. This list is stored in a text file which can be used later to download these files directly without the help of the installer program. After downloading, user can run his/her own unzipping scripts to install the packages manually. This facility was only developed for the Linux users. Windows users can use this feature, provided they can prepare their own installation scripts for the installation.

5.1.1.1.2 Rollback

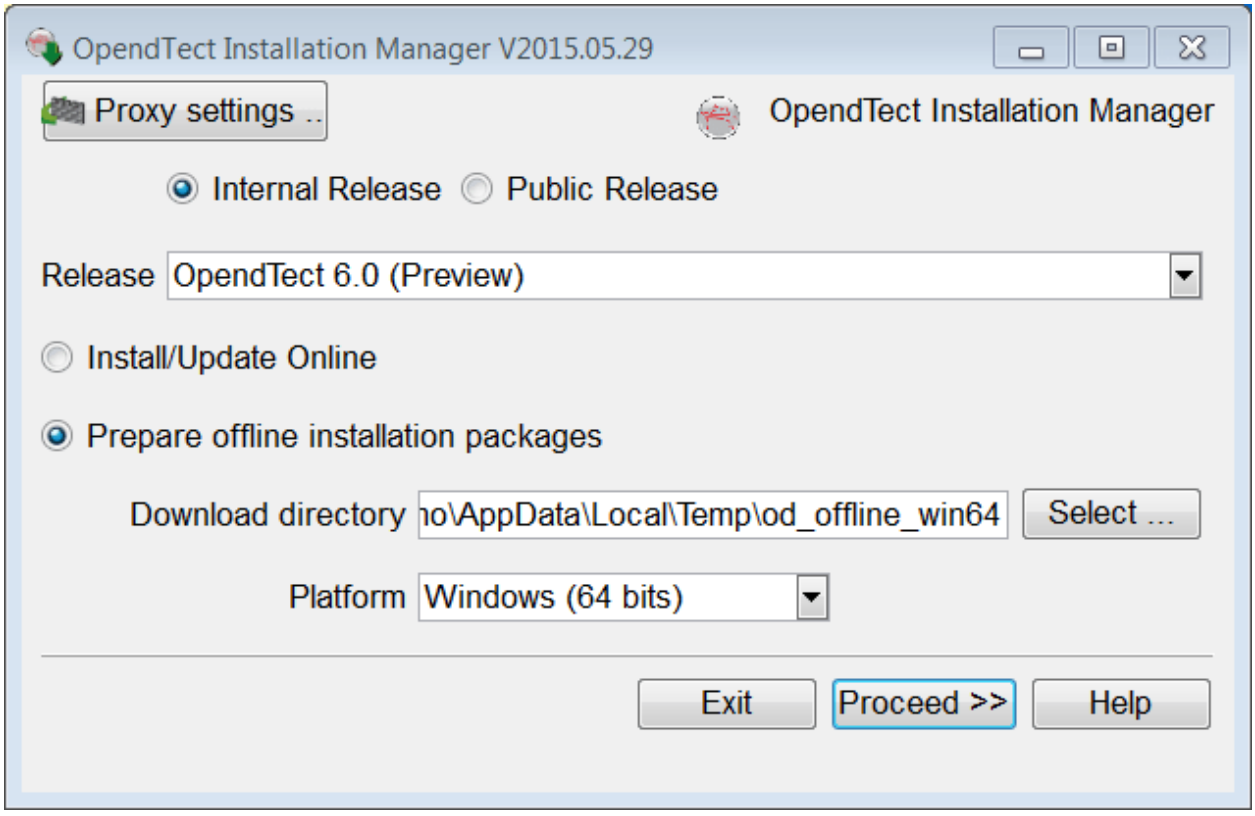
Rollback tool allows you to restore your previous version of the installation. If after updating the software you feel uncomfortable with some of the new features and want to go back to your previous installation, you have to use this tool. As this tool will change your entire installation so you have to use it cautiously.

5.1.1.1.3 Show Log File

The installation manager keeps track of all the action it is executing in a log file. This log file can be viewed from this tool. This is useful for debugging purposes. If you face any trouble during the installation process you can send this file to OpendTect support if needed.

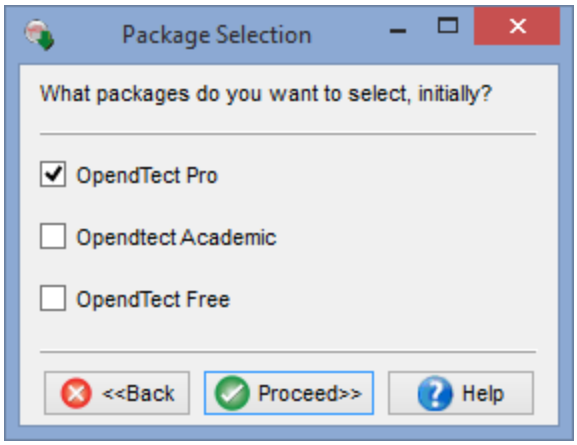
5.1.1.2 Offline Installation

You may also choose to create packages for offline installation. These packages are created in such a way as to function cross-platform. For example, you may download the Linux 64bit package onto a Windows machine and then transfer and install it onto the Linux system or vice-versa.

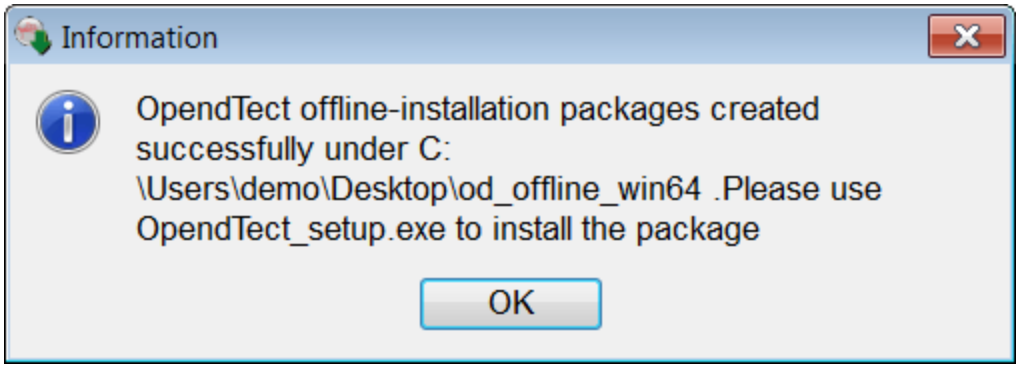


You will need to select the OpendTect version and toggle to 'Prepare offline installation packages'. You may either choose your download directory or leave the default.

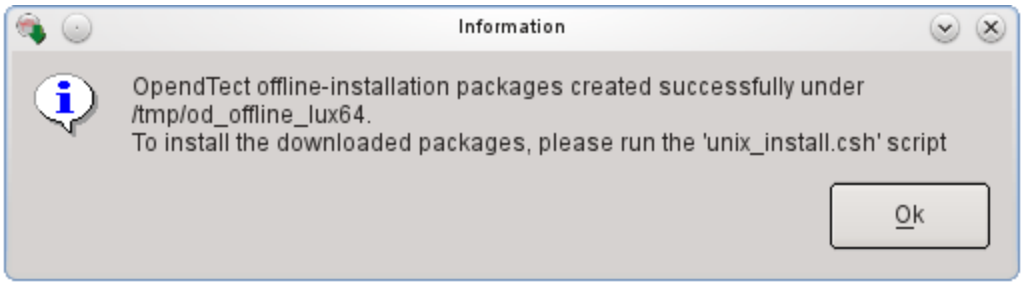
You will first be prompted to select the package type of OpendTect. To read more about OpendTect packages type, please refer to our **web-page** describing licensing types:



On completion of the download, you will be reminded of the location in a pop-up window and informed of how to launch the installation package:



Windows offline pop-up info



Linux offline pop-up info

The 'Platform' option refers to the intended installation platform, and not the platform of the machine currently being used to download the packages (if different).

(For information on how to verify packages installed offline, please see the link below:

5.1.1.2.1 Package Verification

We generate signature files for all packages. Normally, a package is a zip file downloadable from our website:

For OpendTect version 5.0, please visit: **OD version 5.0** page.

For each zip-file, there is a zip.sig file containing a digital certificate that can be used to verify that the package has not been tampered with during transit.

To verify a package, download the corresponding zip.sig file and place it in the same directory as the package file. gpg (or pgp) must be used (an encryption program). These programs are normally installed in most linux installations, and can be found at the **GNU license** page.

dGB's public key has to be downloaded to your keyring. This is only necessary for the initial verification. To obtain the key, use gpg itself:

gpg --keyserver pgp.mit.edu --search-keys "support@dgbes.com"

You may chose any keyserver you want, as they all share data. Once you have located our key, import it to your keyring.

Secondly, to avoid warning messages, edit the key and tell gpg that you trust it:

gpg --edit-key support@dgbes.com

and then type "trust" as command. Once you have our key installed, you are ready to verify the packages. This is done by gpg:

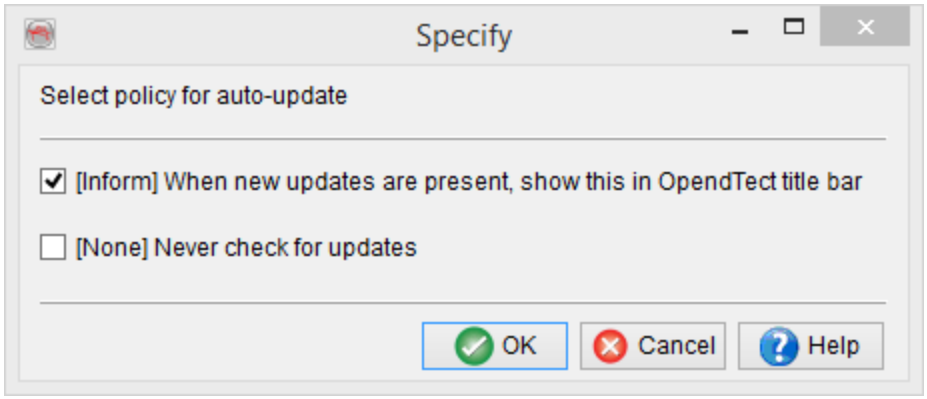
#bash-> gpg --verify demosurvey.zip.sig

This will check that demosurvey.zip has not changed since the file demos-urvey.zip.sig was generated in our office. A positive output may look like this:

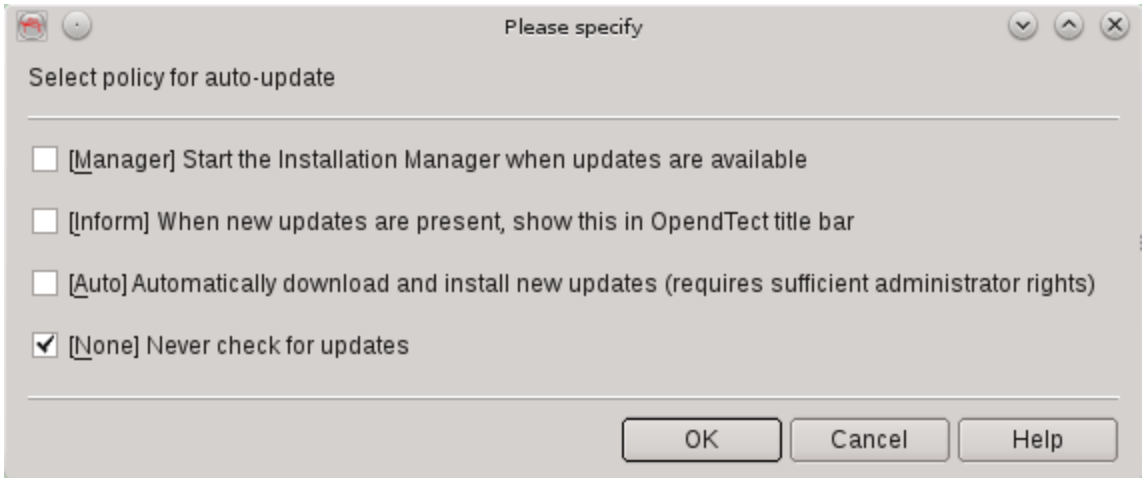
- gpg: Signature made Thu Oct 4 08:46:01 2012 CEST using DSA key ID A02F407E
- gpg: checking the trustdb
- gpg: 3 marginal(s) needed, 1 complete(s) needed, PGP trust model
- gpg: depth: 0 valid: 1 signed: 0 trust: 0-, 0q, 0n, 0m, 0f, 1u
- gpg: next trustdb check due at 2022-03-13
- gpg: Good signature from "dGB Earth Sciences B. V. (Software package signing key) "

5.2 Auto-Update Policy

The auto-update policy can be defined and changed by a user. By default the option is set to *[Inform]* when the updates are available. On Windows, this can be changed to *[None] Never check for updates* should you prefer.

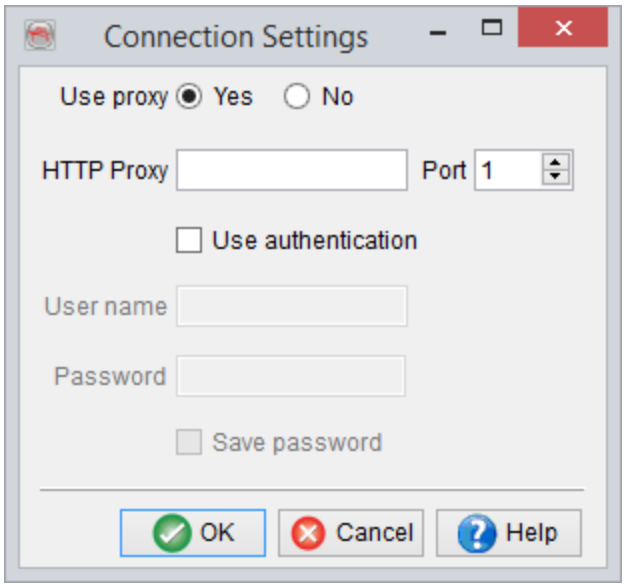


On Linux, there are two additional options - *[Manager]* and *[Auto]*:



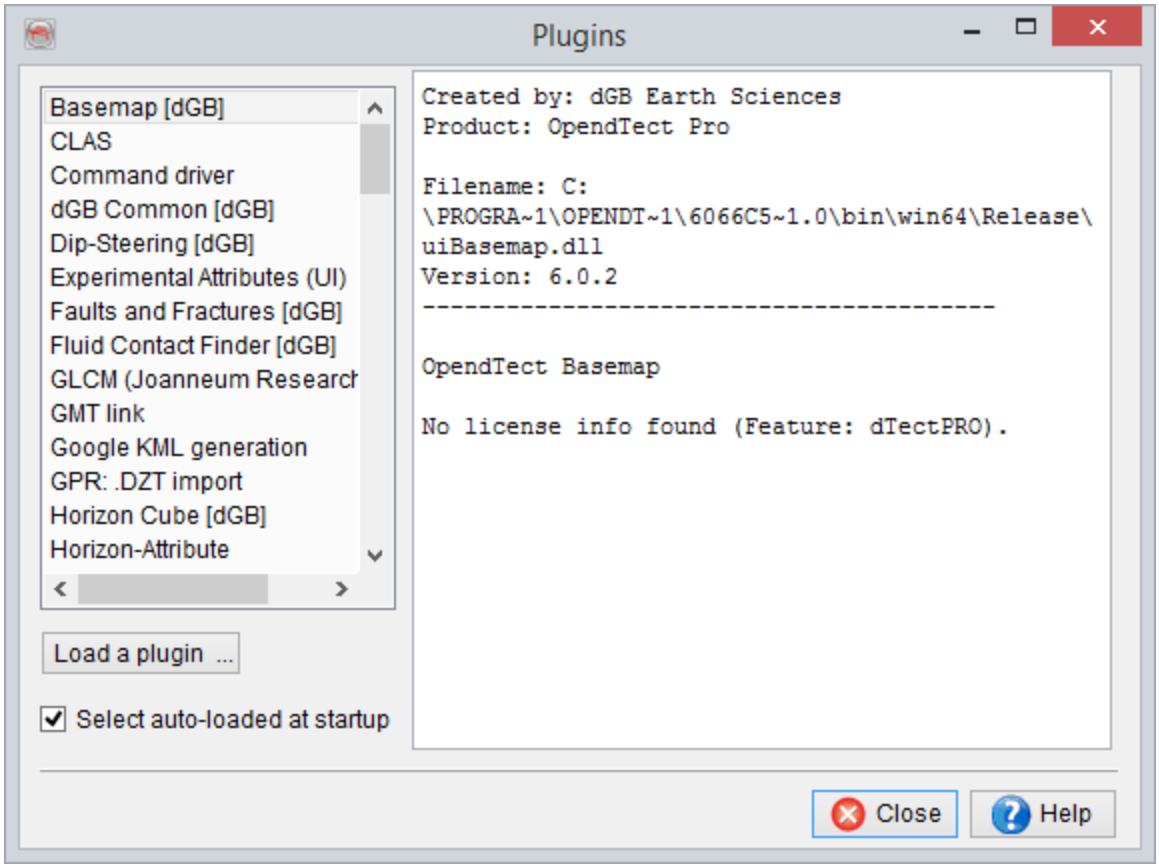
5.3 Connection Settings

To enter the proxy information, the correct proxy server information must be added in the *Connection Settings* before running the installation. This is done in the following dialog. This dialog is also available directly through the **Installation Manager** on clicking the *Proxy Settings* button.



5.4 Plugins

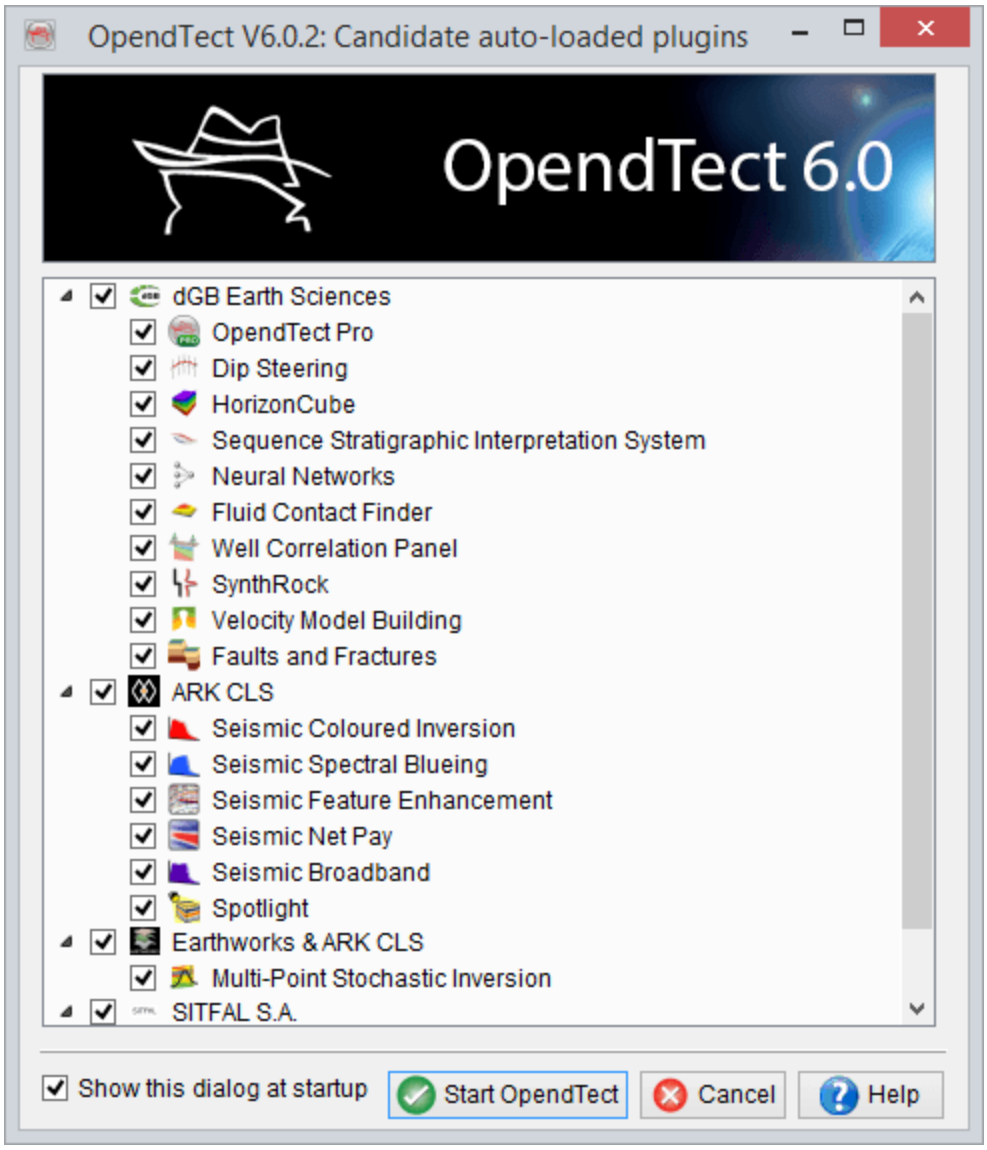
The plugins window lists the plugins that are currently loaded (or not) into OpendTect, and provides relevant license information.



Developers might want to use the option "Load a plugin" to manually load their plugin. The developers documentation describes how to add a plugin to the automatic loading procedure.

In OpendTect, there are several **commercial plugins** available. Each plugin adds extra functionality to OpendTect. To load a new plugin, browse to the appropriate file. More information on plugin design is available in the *Programmer manual*.

In general most plugins are loaded automatically at startup, based on the chosen options:

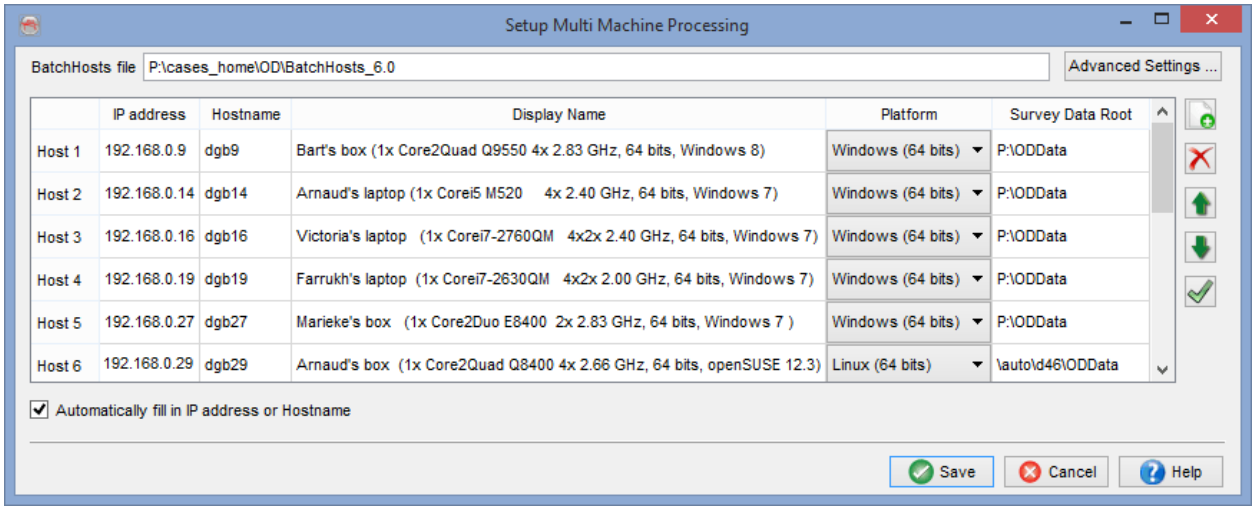


If you choose to toggle off the option "Show this dialog at startup" all plugins will be loaded at startup. It is recommend to install only the plugins for which you do have a license and to load them all automatically at startup.

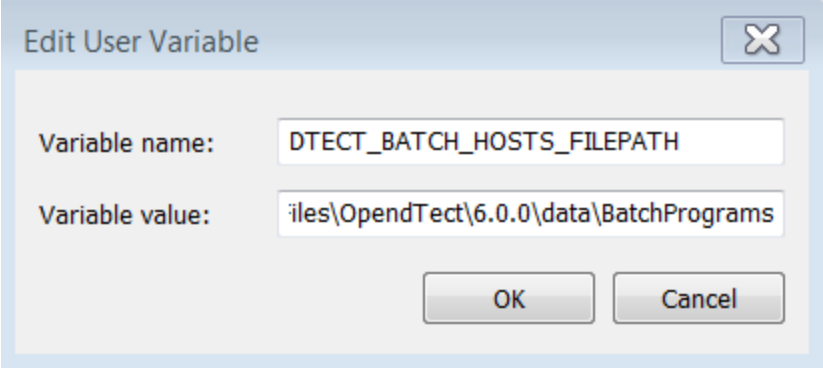
5.5 Setup Batch Processing

In order to utilize OpendTect's capability for Multi-Machine Processing (MMP), a *BatchHosts* file must be created and used. This file contains the list of remote machines (*host machines* or *nodes*) and some relevant details about these machines and the path to the Survey Data Root. OpendTect will use this file to communicate to the remote hosts and launch processes remotely on them. Follow the example format (shown below) to add the list of remote machines and their details in the respective fields.

In order to minimize complications, the Setup Batch Processing tool (**Start OpendTect as ADMIN**) can be used to create a tailor-made BatchHosts file (via *Utilities--> Installation--> Setup Batch Processing...*):



BatchHosts file: This field is not editable in the User Interface. It is set as a user environment variable:



IP address: IP address of the node machine(s)

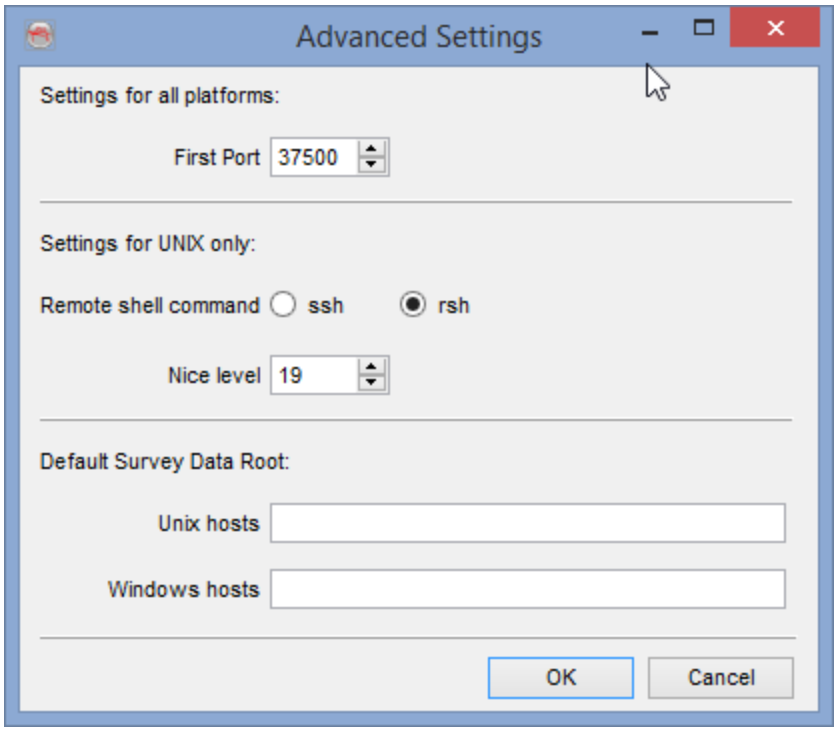
Hostname: Hostname of the node machine(s)

Display name: Free-text field. Text entered here appears in the Multi-Machine Processing window.

Platform: Select platform type.

Survey data root: Location of the survey (the path to the survey data root folder from the host machine)

Advanced Settings: Here you may change the first port value (in the case that it is blocked/in use). Linux users may decide to change the shell command from the default *ssh* to *rsh*. The *Nice level* sets the priority on the host machines, 19 being nicest and 1 being least nice). Finally, the Default Data Root can be set per platform:

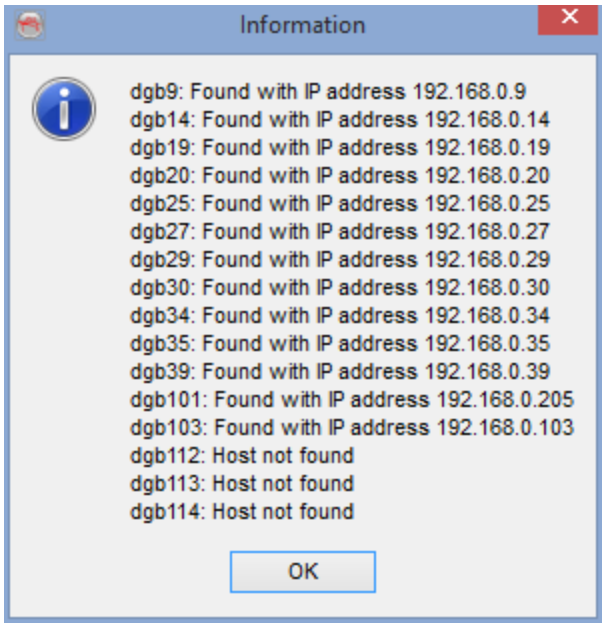


Add new host.

Remove selected host.

Move host up or down.

Test hosts. Will perform tests to ensure that the server and nodes can communicate to the necessary extent to perform the MMP. (ie: can the nodes find the data root folder and read/write into it)

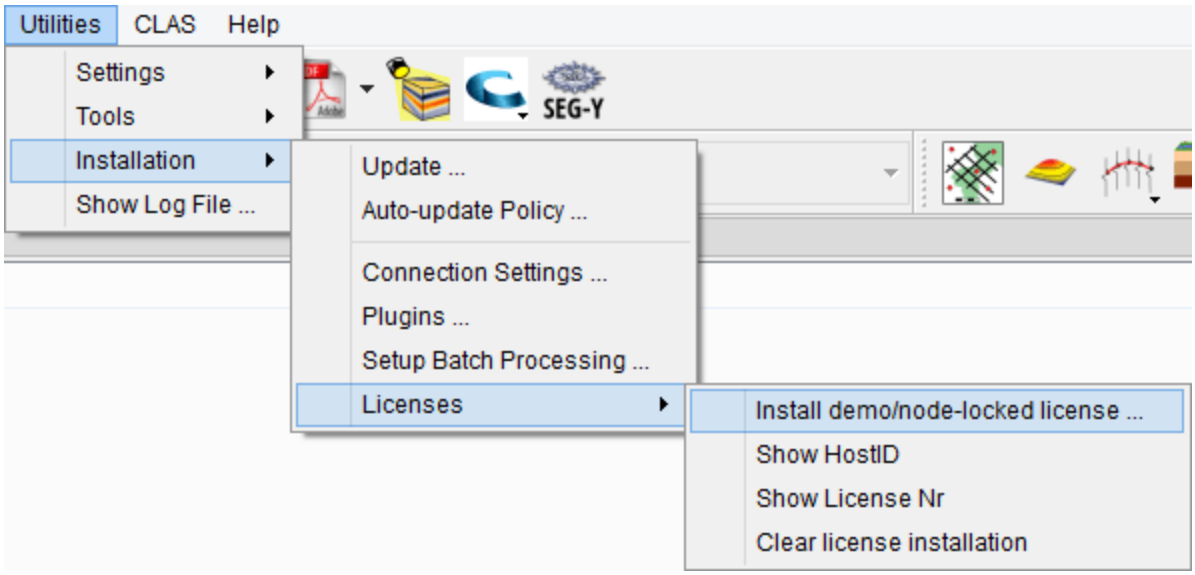


For more information on this topic, please refer to **OpendTect's Youtube Channel** where you may find the webinar: **Multi-Machine Processing Setup**.

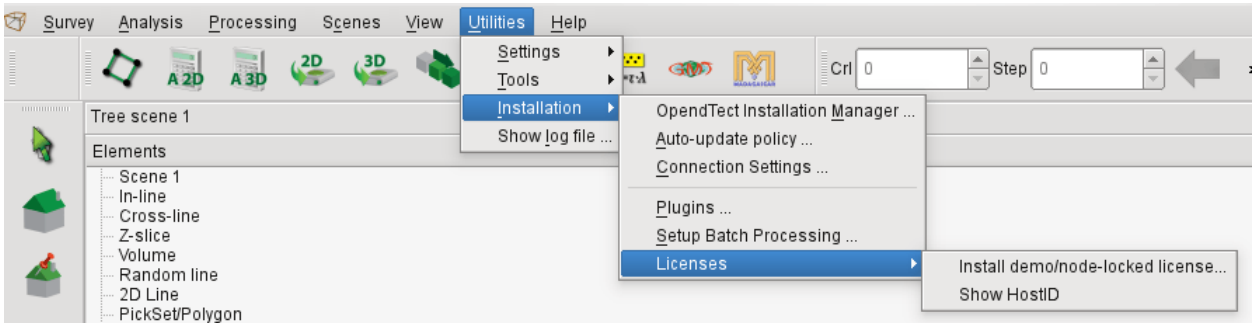
Alternatively, refer to the webinar on the **webinar** page.

5.6 Licenses

Under *Utilities--> Installation--> Licenses* you will see two sets of options, differing per platform:



License options under Windows



License options under Linux

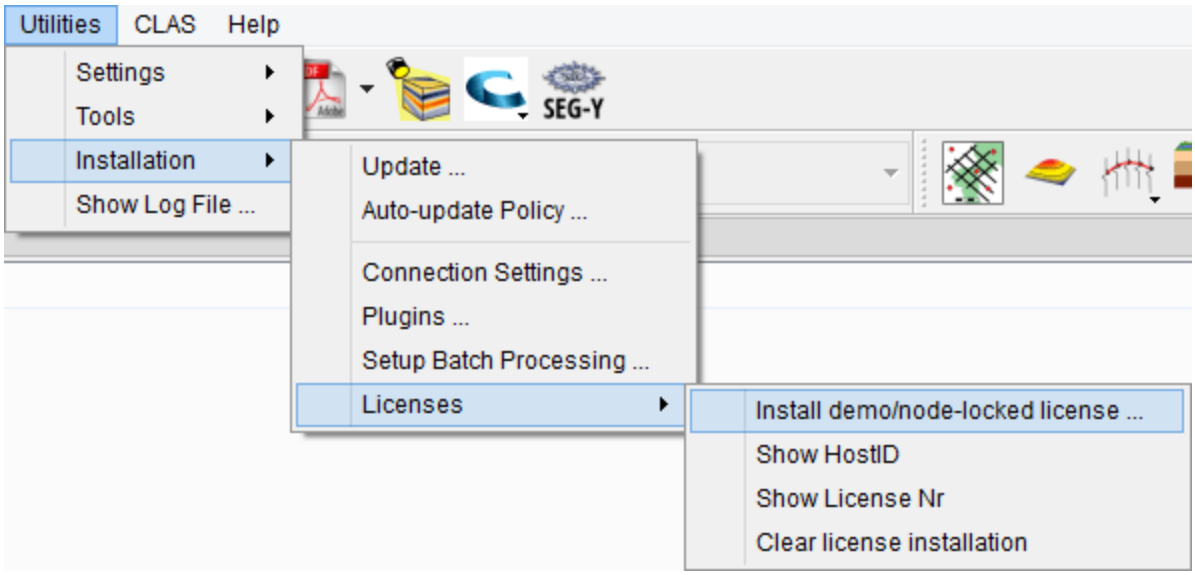
For information about floating or server-based licenses, please refer to the **flexnet installation guide** page

For more general information about OpendTect licensing options, please see the **support licenses** page

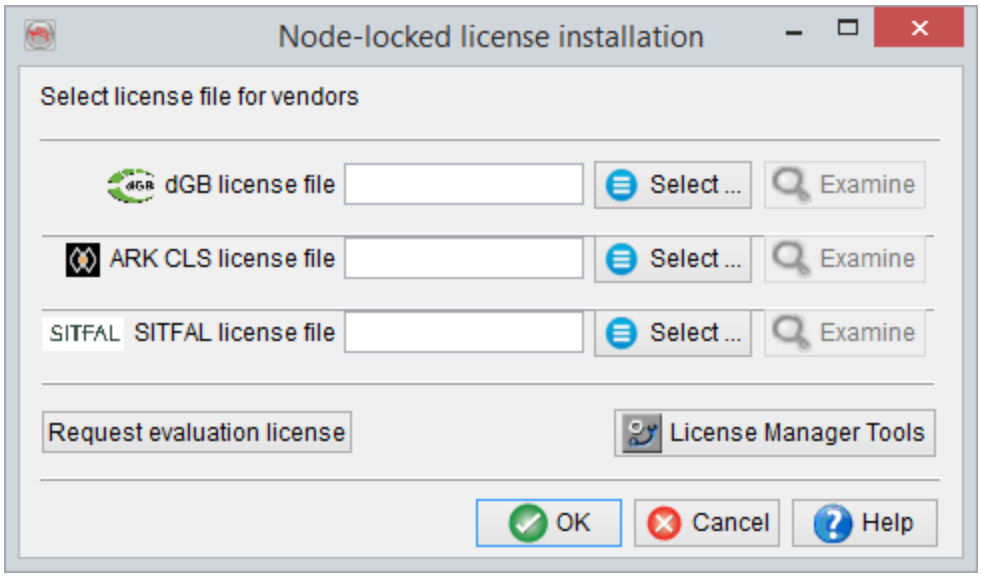
A more complete explanation of OpendTect license Installation can be found in the **License Installation Webinar**, available on **OpendTect's Youtube Channel** or via the **webinar** page

5.6.1 Install demo/node-locked license

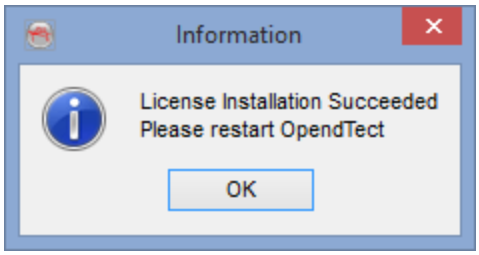
Plugins to OpendTect can be run either by using a license server or by using demo (evaluation) licenses. This second case is case called "node-locked license installation".



Use the following window to specify the path to the node-locked (demo/evaluation) license files that were given to you:

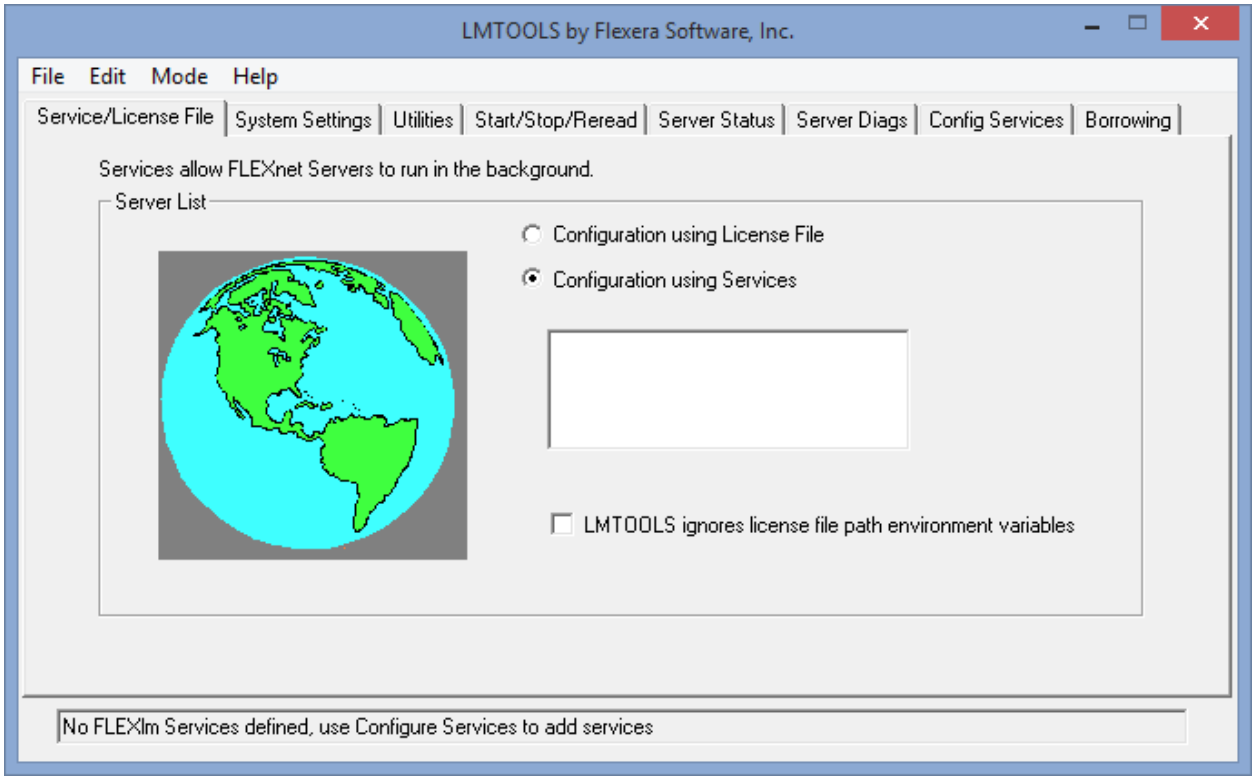


Here you can install each of the licenses by simply clicking ‘Select’, choosing the appropriate license file and clicking ‘Ok’ in the file selection window. Once you have selected all the licenses you are evaluating, click ‘*Ok*'. Your installation will be confirmed and you will be prompted to re-start OpendTect:



In addition to the core functionality, you may click '*Request Evaluation License*' to bring you to the following web-form on the dGB website: **request a demo** page

And, on Windows only, use the '*License Manager Tools*' button to pop up the Flex-era LM Tools window for more direct access to it features:

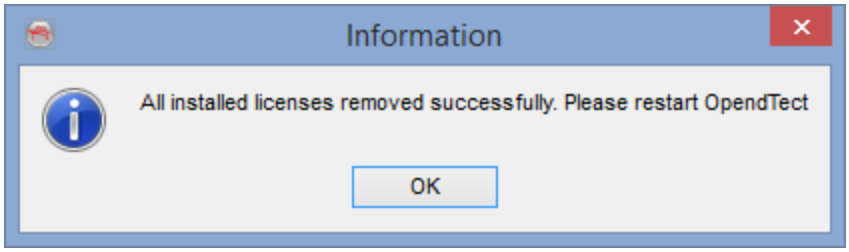


5.6.2 Clear License Installation

This option (Windows only) will clear:

- Demo or node-locked licenses installed via any route, including the 'Install demo license' option.
- Floating (or 'server') licenses that may have been installed (without stopping the license server).

Once cleared, you will be prompted to restart:



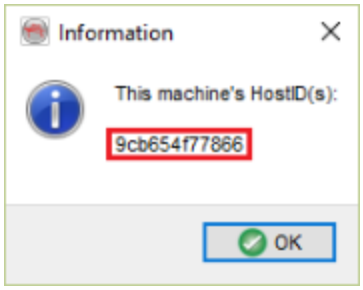
Users of Linux systems wishing to clear their license installation will need to do the following:

- Locate the .flexlmrc file in your HOME directory (eg: $HOME/.flexlmrc)
- Check in the file for specific lines referring to the OpendTect vendors (DGB, ARKCLS, SITFAL)
- If the file contains lines relevant to other software, then just delete the individual lines. Otherwise, you may choose to delete the file.

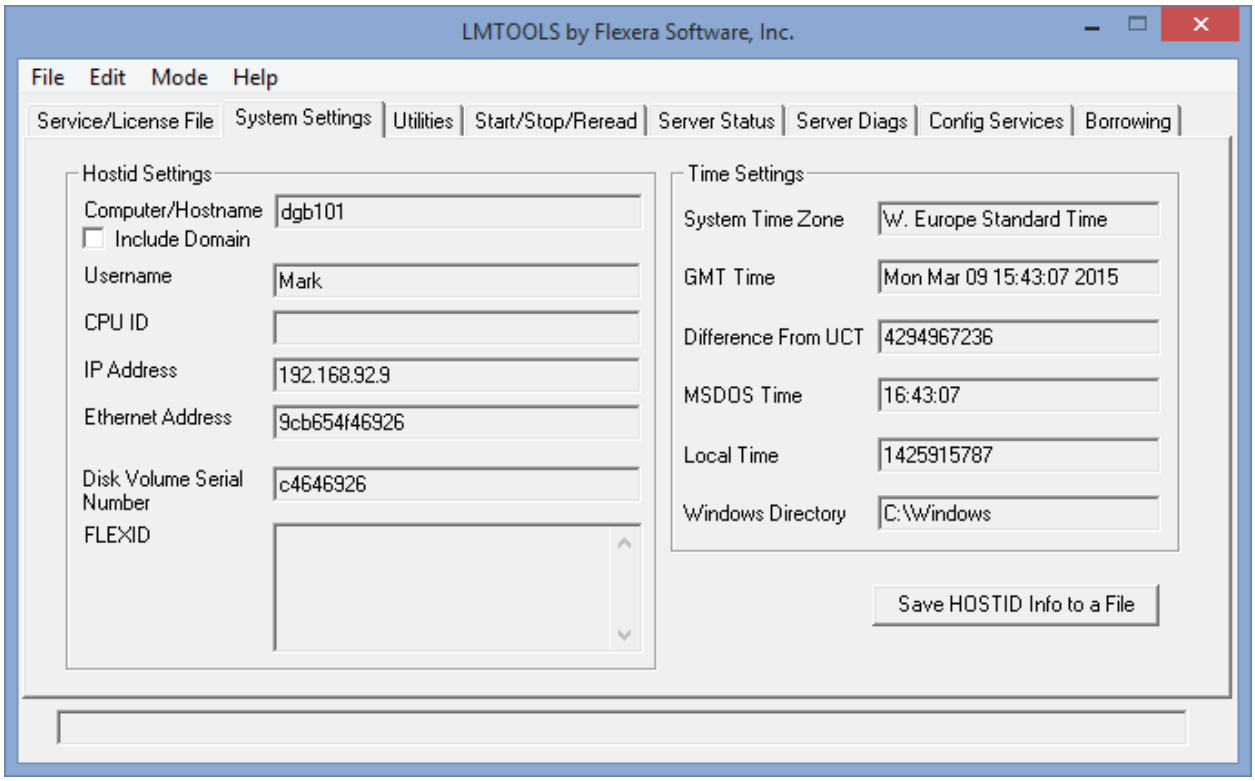
This method also applies to both demo/node-locked and floating licenses and will also not stop the server.

5.6.3 Show HostID

Clicking this option will pop up a simple dialogue showing the HostID of the machine:



Additionally, on Windows, accessing the HostID of the machine can be done via the LM Tools (available via the Start Menu or directly from ..\OpendTect\5.0.0\bin\win64\lm.dgb\lmtools.exe):



The option 'Save HOSTID Info to a file' will simply save the information displayed above into a .txt file for reference.

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