

Floating license system installation for DeskArtes Expert Series 7.1 programs



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About this document

This document explains the operations needed to configure the DeskArtes Expert Series programs to use the FLEXlm floating license system, instead of the default DeskArtes nodelocked licenses.

The instructions in this document are written for the DeskArtes Expert Series version 7.1 installation packages, containing FLEXlm version 8 license server and tools.

The document is written using the 3Data Expert as an example, but the same instructions are valid also for the other DeskArtes Expert Series programs (View Expert, Render Expert, Design Expert, Dimensions Expert and Spectral Expert).

Requirements

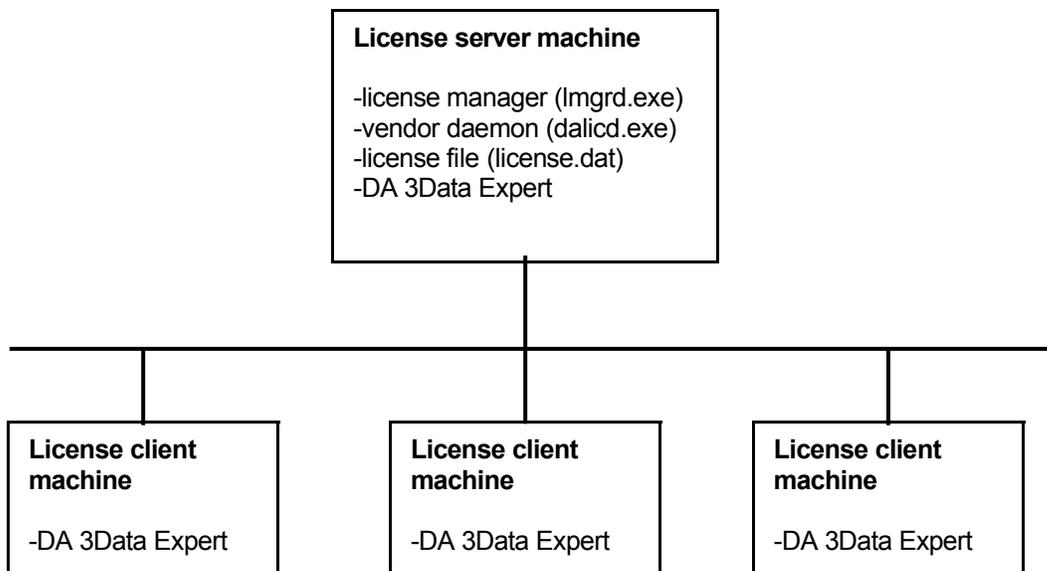
The FLEXlm floating license system is supported for DeskArtes Expert Series programs only on Windows NT, Windows 2000 and Windows XP.

The machines running the DeskArtes Expert Series programs with the FLEXlm floating license system have to be connected to the machine running the license server with a network using the TCP/IP protocol.

The user account doing the installation must have the administrative rights.

Terminology

The FLEXlm floating license system for DeskArtes 3Data Expert consists of the parts illustrated in the following figure.



License server machine	The machine where the license manager is running.
License client machine	A machine where DeskArtes 3Data Expert is running, but not the license manager.
License manager	The program (lmgrd.exe) controlling the license usage in the network, with help of vendor daemons.
License file	A file containing the list of all available licenses and vendor daemons.
Vendor daemon	The program controlling the licenses for the applications of one vendor (dalicd.exe for DeskArtes programs).

Installation steps

The installation of the FLEXlm floating license system for DeskArtes 3Data Expert consists of the following steps:

1. Select one machine in your network to be the license server machine.
2. Run DeskArtes 3Data Expert floating license server installation on the license server machine. (See "Installing license server components" Step 2)
3. In the license server machine use the lmtools.exe program, found in the installation directory of the DeskArtes 3Data Expert, to get the system ID and other information needed to get the license. (See "Getting the license" Step 3)
4. Send the information to your distributor or to DeskArtes.
5. When you get the license, install it in the license server machine. (See "Installing the license" Step 5)
6. In the license server machine start the license manager using the lmtools.exe program found in the installation directory of the DeskArtes 3Data Expert. (See "Starting the license server" Step 6)
7. Run DeskArtes 3Data Expert floating license client installation on other machines in the network. (See "Floating license client installation" Step 7)
8. Start the DeskArtes 3Data Expert on any client machine.

Floating license server installation

Note: The floating license server installation also automatically installs the client parts of the floating license system, so that you can run DeskArtes 3Data Expert on the license server machine too, without any additional client installation.

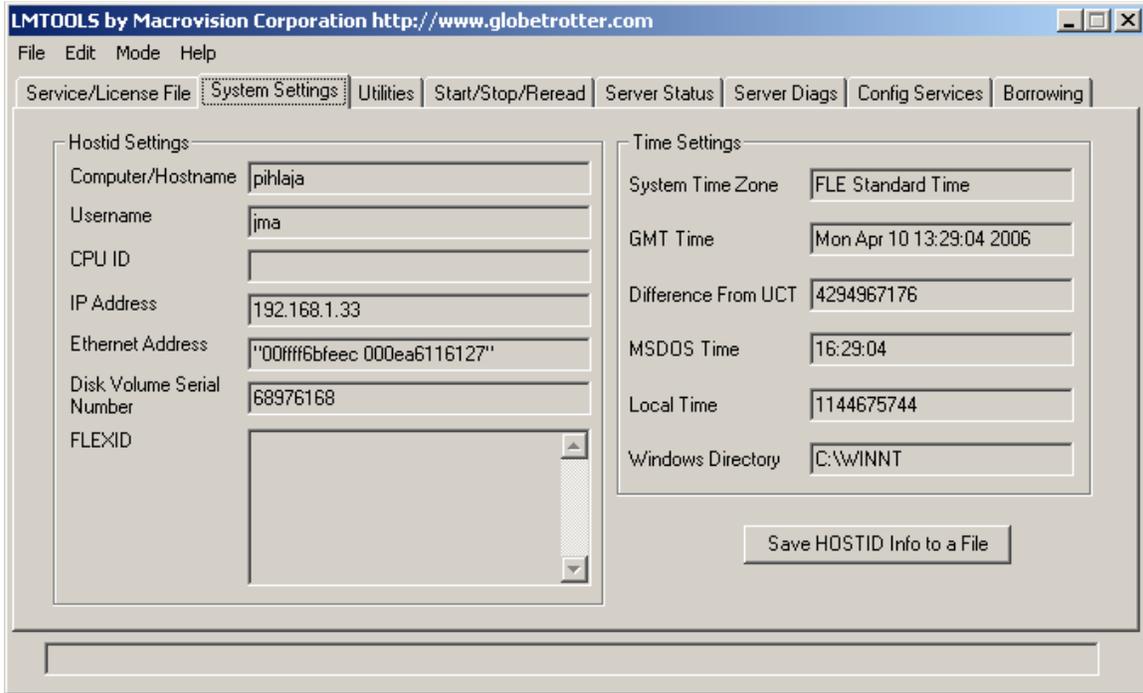
Installing license server components (Step 2)

- Start normal DeskArtes 3Data Expert installation on the license server machine.
- In Setup type dialog, select "Custom" setup type instead of the default "Typical".
- From the components list select "Floating license server" - component, in addition to the defaults.

Getting the license (Step 3)

After the DeskArtes 3Data Expert installation has finished on the license server machine, start the "Imtools.exe" program in the installation directory of the 3Data Expert (default for version 7.1: "C:\Program Files\DeskArtes 3Data Expert 7.1").

Then select the "System Settings" page.



From the "System Settings" page write down the values of the "Computer/Hostname", the "IP address", the "Ethernet Address" and the "Disk Volume Serial Number" fields.

For example:

Computer/Hostname	=	pihlaja
IP address	=	192.168.1.33
Ethernet Address	=	"00ffff6bfeec 000ea6116127"
Disk Volume Serial Number	=	68976168

You can also get the same information into a text file by clicking the "Save HOSTIDInfo to a File" button.

Send the information to your distributor or to DeskArtes.

Installing the license (Step 5)

When you get the license, insert the license code lines in the file "license.dat" in the 3Data Expert installation directory (default for version 7.1: "C:\Program Files\DeskArtes 3Data Expert 7.1").

The license file has to be in plain ASCII text format to be able to be read correctly. You can create and edit the license file with any ASCII text editor, like Windows **notepad**.

If you received the license via email, the easiest way to copy it to the license file is with Windows clipboard copy/paste commands:

1. Open at the same time your email reader and the notepad program.
2. In the email reader open the message containing the license.
3. In the email reader select the license lines with the mouse.
4. In the email reader run the "Copy" command from the "Edit" menu.
5. In the notepad program run the "Paste" command from "Edit" menu.
6. In the notepad program use "File" menu "Save As" command to save license file as "license.dat" in the DeskArtes 3Data Expert installation directory.

Starting the license server (Step 6)

After the license has been installed, start the "**Imtools.exe**" program in the installation directory of the 3Data Expert (default for version 7.1: "C:\Program Files\DeskArtes 3Data Expert 7.1").

Select the "Config Services" page and check that the paths to the license manager, license file and the debug log file are pointing to the installation directory of the 3Data Expert.

Select the "Start/Stop/Reread" page and press the "Start Server" button.

If the status message at the bottom left corner of the Imtools window says "Server Start Successful", then the license server should be running.

In case of any problems see the "Troubleshooting the floating license system" section below.

Floating license client installation (Step 7)

- Start a normal DeskArtes 3Data Expert installation.
- In the Setup type dialog, select "Custom" setup type instead of the default "Typical".
- From the components list select "Floating license client" - component, in addition to the defaults.
- When the installation program asks the name of the license server machine, type in the hostname of the machine where you have installed the floating license server.

The hostname of the license server machine is also found in the set of information collected from the license server machine for creating the license.

After the license server is installed and started, and the DeskArtes 3Data Expert installed on a client machine you can try to start 3Data Expert on that client machine.

Combining the FLEXlm floating license systems of multiple vendors

If there are many FLEXlm based programs from different vendors installed on the same customer site, conflicts of the license systems are possible. There are however different solutions available to those conflict situations. These solutions can be divided in two different main categories.

1. Using the same license server machines

In this case you have still two different solutions: keeping the license files for different vendors separate or combining the license files.

If keeping the license file separate, you need to run two license managers (lmgrd.exe), one for each license file. If using this solution, make sure that the port numbers given in the SERVER lines of the license files are different. Otherwise there will be a port conflict.

The client side LM_LICENSE_FILE environment variable has to then combine the paths of both license managers. For example if the name of your license server machine is "licserver1", and the port numbers used by the two license managers are 1700 and 1701, then the LM_LICENSE_FILE value would be "1700@licserver1:1701@licserver1".

If combining the license files, take the SERVER lines from only one of the license files and add all the other lines (DAEMON, FEATURE, INCREMENT, PACKAGE, UPGRADE etc.) from both license files. Then configure and run only one license manager (lmgrd.exe) using this combined license file.

In this case the client side LM_LICENSE_FILE environment variable only needs to contain one path telling the name of the license server machine and the port number of the license manager. For example if the name of the license server machine is "licserver1" and the port number is 1700, then the value of the LM_LICENSE_FILE value would be "1700@licserver1".

2. Using different license server machines

In this case you need to have separate license files and separate license managers (lmgrd.exe), one for each license server machine.

The client side LM_LICENSE_FILE environment variable has to then combine the paths of both of the license server machines. For example if you have two license server machines, "licserver1" and "licserver2", and they both use port number 1700, then the LM_LICENSE_FILE value would be "1700@licserver1:1700@licserver2".

Troubleshooting the floating license system

If there are any problems in installation of the floating license system or running DeskArtes 3Data Expert with a floating license, the following tests will help you in isolating and fixing the problem.

Floating license server installation

Environment variables

Check that the following two environment variables are set and have correct values:

```
DA_LICTYPE      flexlm
LM_LICENSE_FILE C:\PROGRA~1\DESKAR~1\license.dat
```

Here the value of LM_LICENSE_FILE has to be the path of the license file in your installation, the one above is an example. The correct path can be checked also from the "Config Services" page of the lmtools.exe program. The path should be same as in the "Path to the license file" field.

Note: If you don't know how to check/change environment variables in Windows, see the "Handling environment variables in Windows" section below.

License manager paths

The paths for the license manager are shown in "Config Services" page of the lmtools.exe program.

The paths there are normally pointing to the DeskArtes 3Data Expert installation directory. The license manager program (lmgrd.exe) is copied there during the installation and also the license file and log file are as default put there.

If some of the paths are incorrect, you can use the corresponding "Browse" button to select a correct path.

License file

The license file for the DeskArtes 3Data Expert floating license system is as default read from the DeskArtes 3Data Expert installation directory.

The license file is not yet there after the program installation because at that point the information needed for the license is not yet known. So when installing the license, the file just has to be created there.

The license file for the floating license system contains three kinds of lines:

1. The SERVER line contains information about the machine where the license manager is running.

2. The DAEMON line contains information about so called vendor daemon. The vendor daemon is started by the license manager and it controls the features of the programs from one vendor. The vendor daemon for DeskArtes Expert Series programs is called dalicd.exe.
3. The FEATURE lines contain information about features supported in this license.

In the license there are some parts that can be changed also by the user without invalidating the license:

1. In the SERVER line the hostname and the TCP port number can be changed but not the machine ID number.
2. In the DAEMON line the vendor daemon path can be changed. The dalicd vendor daemon resides as default in the DeskArtes 3Data Expert installation directory, so this path should point to that directory too.

Also this path has to be in the short format (MSDOS 8+3) for the vendor daemon to start successfully. For example if the DeskArtes 3Data Expert installation directory is

“C:\Program Files\DeskArtes 3Data Expert 7.1”

the correct DAEMON line would then be something like

```
DAEMON dalicd C:\PROGRA~1\DESKAR~1.1\dalicd.exe
```

The short names for the files and directories can be listed in the Windows Command Prompt with command “dir /x”.

If you have problems in setting the correct short path for the DeskArtes 3Data Expert installation directory, you can also copy the vendor daemon binary dalicd.exe into another directory with simpler name, like “C:\flexim”. Then just change the path in the DAEMON line of the license file to point to the dalic.exe in that directory.

If other parts of the license are changed, the license will not work correctly.

Lmtools program

The “lmtools.exe” program, that is used to configure and start the license manager, is also useful in testing the floating license system. The most important functions for testing are found in the “Server Status” and “Server Diags” pages.

In the “**Server Status**” page you can get information about the server status by pressing the “Perform Status Enquiry” button. If the server is working normally you should get information similar to the following:

```
-----
Status
-----
Flexible License Manager status on Wed 4/12/2006 15:53

[Detecting lmgrd processes...]
License server status: 1700@pihlaja
  License file(s) on pihlaja: C:\Program Files\DeskArtes 3Data Expert
7.1\license.dat:
  pihlaja: license server UP (MASTER) v8.3
```

```
Vendor daemon status (on pihlaja):
  dalicd: UP v5.12
```

Feature usage info:

```
Users of trans: (Total of 1 license issued; Total of 0 licenses in use)
Users of visplus: (Total of 1 license issued; Total of 0 licenses in use)
Users of clitool: (Total of 1 license issued; Total of 0 licenses in use)
Users of igs2vda: (Total of 1 license issued; Total of 0 licenses in use)
```

If there are problems in the system you get information about the type of the problems and possible causes, for example

```
-----
Status
-----
Flexible License Manager status on Wed 4/12/2006 15:41

[Detecting lmgrd processes...]
License server status: 1700@pihlaja
  License file(s) on pihlaja: C:\Program Files\DeskArtes 3Data Expert
7.1\license.dat:

lmgrd is not running: Cannot connect to license server
  The server (lmgrd) has not been started yet, or
  the wrong port@host or license file is being used, or the
  port or hostname in the license file has been changed.
Server name:   pihlaja
License path:  1700@pihlaja
FLEXlm error: -15,10. System Error: 10061 "WinSock: Connection refused"
For further information, refer to the FLEXlm End User Manual,
available at "www.globetrotter.com".
```

In the “**Server Diags**” page you can get more detailed information of the status of specific features. This is useful in situations where you cannot use a specific feature. To get information about a feature type its name into “Feature Name” field and then press “Perform Diagnostics” button.

If the feature exists in the license file and is available for checkout, you get the following kind of information.

```
-----
Diagnostics
-----
FLEXlm diagnostics on Thu 4/13/2006 11:34

-----
License file: C:\Program Files\DeskArtes 3Data Expert 7.1\license.dat
-----
"tr2stl" v7.000, vendor: dalicd
  License server: pihlaja
  floating license starts: 29-dec-2005, expires: 31-dec-2006

This license can be checked out
-----
```

If the feature is not available, then the information looks for example like the following.

```
-----  
Diagnostics  
-----  
FLEXlm diagnostics on Thu 4/13/2006 11:34  
  
-----  
License file: C:\Program Files\DeskArtes 3Data Expert 7.1\license.dat  
-----  
No licenses for vis in this license file
```

Log file

When trying to resolve problems in the floating license system it is also useful to check the floating license system debug log file.

The floating license system log file, with default name FLEXLM.LOG is as default stored in the DeskArtes 3Data Expert installation directory. The actual path can be checked from the "Config Services" page of the "lmtools.exe" program. The path of the log file is found in the "Path to the debug log file" field of that page.

The license manager and vendor daemon startup and shutdown, all feature checkouts and checkins, and other floating license system events are stored in the log file. Also if an operation fails the license manager writes its error messages into the log file. So especially in case of any problems the log file usually contains very useful information.

The log file is also a plain ASCII text file and can be easily handled with any text editor.

Client installation

Environment variables

Check that the following two environment variables are set and have correct values:

```
DA_LICTYPE      flexlm  
LM_LICENSE_FILE 1700@licserver
```

Here "licserver" must be the hostname of the machine where you are running the floating license server.

Note: If you don't know how to check/change environment variables in Windows, see the "Handling environment variables in Windows" section below.

Lmclient program

After installing the 3Data Expert with the "Floating license client" component included, there is also a program called "**lmclient.exe**" found in the 3Data Expert installation directory. This program is useful in testing the connection to the license server from the client machine.

You can use the lmclient to test the license connection as follows:

1. Start Windows Command Prompt (Start->Programs->Accessories->Command Prompt).
2. Change current directory to the DeskArtes 3Data Expert installation directory with "cd" command. For example "cd C:\PROGRA~1\DESKAR~1.1".
3. Start Imclient with command "Imclient".
4. When the program asks the feature to checkout, give a feature found in the license file.
5. If everything went well, you can then press return to checkin (release) the feature.
6. Check the license server log file to see that the feature checkout and checkin were marked there. There should be one line for each.

The license server log file is by default in the DeskArtes 3Data Expert installation directory in the machine where the floating license server is running. The actual path can be checked from the "Config Services" page of the "Imtools.exe" program .

If "Imclient.exe" doesn't manage to checkout the given feature, it gives an error message telling what went wrong.

Handling the environment variables in Windows

The environment variable values can be listed and changed in "Environment Variables" dialog in Windows. The "Environment Variables" dialog is opened slightly differently in different Windows versions.

Windows XP:

Start->Control Panel: System: Advanced: Environment Variables

Windows 2000:

Start->Settings->Control Panel: System: Advanced: Environment Variables

Windows NT:

Start->Settings->Control Panel: System: Environment

Also the procedure for changing values is different between Windows versions.

To change a value of a variable do the following:

Windows XP or 2000:

1. Select the variable you want to change from list
2. Click the "Edit" button.
3. Change the value in the value field.
4. Click the "OK" button to update the new value in the list.
5. Click "OK" button to commit the changes.

Windows NT:

6. Select the variable from the list so that you can see it in the "Variable" and "Value" fields below.
7. Change the value in the value field.
8. Click "Set" button to update the new value in the list.
9. Click "OK" button to commit the changes.