

Reactis[®]

License Manager

User's Guide
Version 2016.2

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Reactis License Manager User's Guide

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Chapter 1

The Reactis License Manager

The Reactis License Manager facilitates the sharing of floating licenses for the various software applications of the Reactis product line. Floating licenses can be shared by different members of your organization. If your organization has purchased such licenses, then the Reactis License Manager should be installed on a server visible over the network to all users of the Reactis products. Users install the Reactis client software on their own computer and then check out and occupy a license from the Reactis License Manager when they wish to use the Reactis software.

1.1 Installing the Reactis License Manager

The steps for installing the Reactis License Manager are as follows:

1. Execute the self-installing executable

```
reactislm-setup-V2016.exe
```

and follow the instructions. The 64-bit Reactis License Manager installer is named

```
reactislm-setup-win64-V2016.exe
```

but otherwise installing the 64-bit Reactis License Manager proceeds exactly as the 32-bit install. The latest version of `reactislm-setup-V2016.exe` can be downloaded from the Reactive Systems web site:

```
http://www.reactive-systems.com/login.msp
```

2. To obtain a Reactis license file, select the following from the Windows Start Menu:

```
Start → Programs → Reactis License Manager V2016 → License
```

This will open a text editor showing the (incomplete) license file `rsilicense.dat`. Copy the information you find there into an e-mail message and send this message to Reactive Systems at help@reactive-systems.com. You will receive a response containing the completed license as an attachment. When you receive this e-mail, detach the license file and save it to a file named `rsilicense.dat` in the folder where the Reactis License Manager was installed. If you installed in the default location the license should be saved to:

C:\Program Files\Reactis License Manager V2016\rsilicense.dat

3. The Reactis License Manager may be started as either a normal application or as a Windows service. Starting, stopping, or installing a Windows service requires Administrator privileges. Under Windows Vista and later you may need to take special actions even if you are installing as a user with Administrator privileges. The operations described below may be performed by right-clicking on the stated menu item and selecting Run as administrator.

Running as an application To start the Reactis License Manager as an application, select the following from the Windows Start Menu:

Start → Programs → Reactis License Manager V2016 → Start License Manager Application.

You must be logged in when running the Reactis License Manager as an application and it will not be restarted automatically when rebooting. For these reasons, running the Reactis License Manager as a service as described below is preferred.

Running as a service Alternatively, the License Manager may be installed as a service. Note that you need to have Administrator privileges on your computer to install services. To install the Reactis License Manager as a service, select the following from the Windows Start Menu:

Start → Programs → Reactis License Manager V2016 → Install License Manager Service

Then, to start the service, you may either use the **Services** entry in the **Administrative Tools** folder of the Windows Control Panel, or select the following from the Windows Start Menu:

Start → Programs → Reactis License Manager V2016 → Start License Manager Service

After starting the Reactis License Manager service, it will run continuously on your computer and will be automatically started when rebooting. You do not need to be logged in for the Reactis License Manager service to run.

1.2 Monitoring License Usage in Real-Time

Two options are available for communicating with the Reactis License Manager to observe license usage in real-time. First, the License tab of the Settings dialog in the main Reactis application displays the number of licenses served by the Reactis License Manager, the number currently in use, and information describing which users currently occupy licenses. This information may alternatively be obtained from the Reactis License Monitor utility, which is invoked by selecting the following from the Windows taskbar:

Start → Programs → Reactis License Manager V2016 → License Monitor

1.3 Disconnecting Users from License Manager

When using the Reactis License Manager, it is possible to forcibly disconnect users from the License Manager. Disconnecting a user will free up the license occupied by that user. The user's Reactis session will be terminated after a grace period of 15 minutes, allowing them to save any work in progress.

1.3.1 Setting up the License Manager to Allow Disconnecting Users

The Reactis License Manager will only allow disconnecting users if a password is defined. A user attempting to disconnect another user will be queried for the password before proceeding.

To define the password, do the following

1. Start a “Windows Command Processor” (DOS) window in *administrator* mode
2. Change the working directory within the Command Processor Window to the Reactis License Manager binary directory (e.g. `cd "C:\Program Files\Reactis License Manager V2016\bin"`)
3. Enter:

```
reactisl -p password
```

where *password* is the password to be entered when disconnecting a user.

This will create file `reactisl.pwd` in the Reactis License Manager installation directory. Removing that file will disable the functionality to disconnect users.

1.3.2 Disconnecting a User

To disconnect a user, either open the License tab of the Reactis Settings dialog or start the Reactis License Monitor as described in Section 1.2.

In the “License users” list on the bottom of the window, right-click on the user you wish to disconnect. This will bring up a menu containing a “Disconnect” entry. Select “Disconnect” and enter the password established as described in Section 1.3.1. This will disconnect the user.

1.3.3 Effect of Disconnecting a User

When a user is disconnected from the Reactis License Manager, they are presented with a window allowing a 15 minute grace period to save any work currently in process (see Figure 1.1). Clicking the “Retry” button in the window will allow the user to re-connect to the Reactis License Manager and continue using Reactis. After the grace period expires, Reactis will be blocked until a connection to the license manager can be restored.

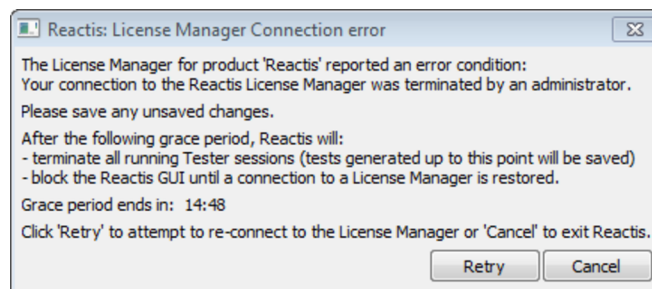


Figure 1.1: User being disconnected from Reactis License Manager

1.4 License Manager Logging

The Reactis License Manager may be configured to log license usage to two different locations: the Windows Application Event Log and a log file.

1.4.1 Logging to the Windows Application Event Log

When run as a service, the Reactis License Manager currently logs the following messages to the Windows Application Event Log.

ID	Message
100	The Reactis License Manager V2016 service was installed.
101	The Reactis License Manager V2016 service was removed.
105	The service was started.
108	The service was stopped.
109	xxx.xxx.xxx.xxx: License granted. Number of occupied licenses: 1
109	xxx.xxx.xxx.xxx: User is 'John Smith; 919-324-3507'
109	xxx.xxx.xxx.xxx: License Request Denied
109	xxx.xxx.xxx.xxx: License released. Number of occupied licenses: 0
109	xxx.xxx.xxx.xxx: Lost connection
109	Cannot listen on port N => License service not available

The 'xxx.xxx.xxx.xxx' placeholders represent IP addresses of clients requesting or releasing licenses. After a client was granted a license, the client will send a message back to the License Manager indicating the user currently running Reactis. This is indicated by the "User is" message in the log.

The "Lost connection" message indicates that the License Manager did not receive a heartbeat from a client for over 4 minutes. When this happens, the License Manager considers the connection to be broken and releases the license (indicated in a subsequent message).

The "Cannot listen on port N" message indicates that the License Manager was unable to accept incoming connections on port N (default is 3999). The most likely reason for this is that another application (possibly another instance of a Reactis License Manager) is already using that port. You must either terminate other applications using the port or contact Reactive Systems to obtain a new license file instructing the License Manager to use a different port.

The logging of the messages with ID 109 can be disabled by setting the following Windows registry key to 0:

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\...
  Reactis License Manager V2016\Parameters\SystemLogLevel
```

You need to stop and restart the License Manager Service in order to make changes to this registry key become effective.

1.4.2 Logging to a File

The Reactis License Manager may be configured to record license usage information to a comma separated value (CSV) file. The log file is named `reactis1_log.csv` and is located in the Reactis License Manager root folder. If you installed in the default location this is:

C:\Program Files\Reactis License Manager V2016\reactisl_log.csv

The CSV file will log all messages listed above except those with ID 100 and 101. Logging to the CSV file is disabled by default, but can be enabled by setting the following Windows registry key to 1:

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\...
Reactis License Manager V2016\Parameters\CsvLogLevel

The location of the CSV file is stored in the following Windows registry key and can be modified if you prefer a different location:

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\...
Reactis License Manager V2016\Parameters\CsvLogFile

You need to stop and restart the License Manager Service in order to make changes to these registry keys become effective.

Each line in the CSV log file consists of six columns as can be seen in the following example:

```
"01/25/06 11:27:34", "", "License Manager Started", 0, "", "n/a"
"01/25/06 11:27:59", "192.168.1.107", "License granted", 1, "Reactis", "5555"
"01/25/06 11:27:59", "192.168.1.107", "User: John Doe on XYZ", 1, "Reactis", "5555"
"01/25/06 11:28:03", "192.168.1.107", "License released", 0, "Reactis", "5555"
```

The following lists the meaning for each of those columns:

- The date and time of the entry
- The IP address of the client (where applicable)
- The log message
- The total number of currently occupied licenses. By importing the CSV file into a spreadsheet application (such as Microsoft Excel) and then plotting the value in this column over the date and time given in the first column you can easily produce graphs displaying the usage of your licenses.
- The product that the license was granted/released for. Current products are: "Reactis," "Reactis for C Plugin," "Reactis for EML Plugin," "Reactis Model Inspector" or "Reactis for C."
- The license number of the license that was granted or released.

The license manager can also produce a log file when run as an application when initiated from the command-line. When running as a service, the license manager reads the Windows Registry keys as described in Section 1.4.2 to determine whether logging is enabled and the location of the log file. When running as an application, those registry keys are NOT read. Instead, you can give a command-line argument to enable logging and specify the location of the log file.

For example, to run the license manager as an application, you would type the following commands:

C:\Program Files\Reactis License Manager V2016\bin\reactisl.exe -a -l

This is equivalent to clicking the Start menu item:

```
Reactis License Manager V2016\Start License Manager Application
```

To enable logging to a .csv log file, type the command:

```
C:\Program Files\Reactis License Manager V2016\bin\reactisl.exe -a -l  
-c "c:\....\reactis_license_log.csv"
```

where -c is followed by the path to the .csv file.

Note: When run as an application, the License Manager currently does not log the "License Manager Started" and "License Manager Terminated" messages but it does log all other messages as described in Section 1.4.1.

Chapter 2

The Reactis License Monitor

The Reactis License Monitor allows users and administrators to connect to a Reactis License Manager and view information about currently occupied licenses. If the License Manager is configured to allow it (see Section ??), the License Monitor also permits administrators to forcibly disconnect users in order to free up licenses.

The Reactis License Monitor can be installed alongside the Reactis License Manager or on any computer to monitor a remote license manager. To install the Reactis License Monitor only, run the Reactis License Manager setup executable (see Section 1.1) and de-select the License Manager component during install.

2.1 The License Monitor Window

The License Monitor window, shown in Figure 2.1, enables you to query license information from specified license managers running on local or remote servers. The first section displays the MAC addresses of the machine on which the License Monitor is running.

The second section of the window displays a list of servers running the Reactis License Manager. The lowest portion of the pane displays a list of users currently using licenses for the License Manager/product currently selected.

Each of the window items labeled in Figure 2.1 is interpreted and used as follows.

1. The MAC address of the computer on which the Reactis License Monitor is running.
2. This is the list of servers running the Reactis License Manager. Each entry in the list includes the following:

Host The name or IP address of the server running the License Manager.

Status The status of the connection to the License Manager.

For each product managed by the server:

Product Name of the product (Reactis, Reactis for C Plugin, Reactis for EML Plugin, Reactis Model Inspector, or Reactis for C).

Total The total number of licenses for the product.

In Use The number of currently occupied licenses for the product.

3. Add a new License Manager to the list.

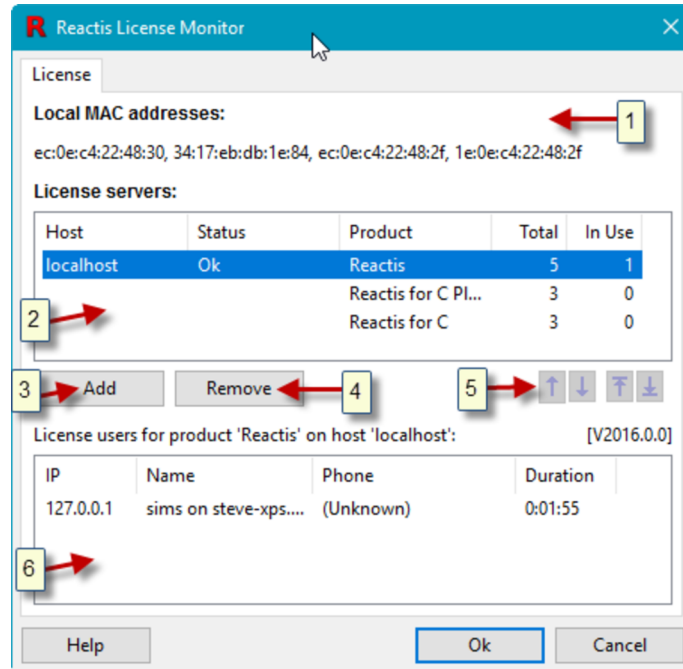


Figure 2.1: The Reactis License Monitor window.

4. Remove the currently selected License Manager from the list.
5. Move the currently selected License Manager up one spot in the list, down one spot in the list, to the top of the list, or to the bottom of the list.
6. Information regarding the currently selected License Manager is displayed here. If there is a problem with the connection to the License Manager, then a description of the error condition is listed here. If no problem exists, then for each license currently occupied, this section lists:

IP Address. The IP address of the computer on which the Reactis application occupying the license is running.

Name. The contents of the Name field in the User Info pane of the Reactis instance occupying the license.

Phone. The contents of the Phone field in the User Info pane of the Reactis instance occupying the license.

Duration. The length of the time this computer has been holding the license.

Right-clicking on a line in this list will bring up a menu allowing you to disconnect the user. For more information see Section ??.

Chapter A

Revision History

A.1 V2016 (20 October 2016)

The V2016 release of Reactis License Manager is the first release of the license manager as a separate product. Earlier versions of the license manager were included in the installers of Reactis, Reactis for C and Reactis Model Inspector.

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