

SEQUENCHER®

RLM Server Guide

For Macintosh and Windows

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Gene Codes Corporation

T C A G E N E
A G T C O D E S

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Sequencher RLM Server Network Overview

DESCRIPTION

The **Sequencher** RLM Server is a concurrent user floating license system. Gene Codes provides you with Reprise License Management Software for use with **Sequencher** licenses.

In this system, one computer on your network is designated as a '**Sequencher** Server'. The operating system of this **Sequencher** License Server computer is independent from the type of **Sequencher** licenses you've purchased. Windows **Sequencher** Servers can provide **Sequencher** licenses for both Mac and Windows clients and vice versa. To create a Sequencher Server, you need to install the server software and a license file. While the license for **Sequencher** Server may be installed on either Mac OS X or Windows, the **Sequencher** licenses may not be inter-changeable between platforms. You may purchase Windows-specific licenses, Macintosh-specific licenses, or a license that works on either. For instance, a single network might have 2 Mac, 1 Windows, and 3 Dual platform licenses. This would mean that 2 licenses are reserved for use on Macintosh only, 1 license is reserved for Windows-only use, and the 3 remaining licenses may be used on any client computer. Please note that **Sequencher** versions older than 5.2 cannot be served by an RLM-based **Sequencher** Server, you must use KeyServer to serve older **Sequencher** licenses.

The **Sequencher** Server requires a license file that locks it to run on a particular computer. Once you choose a host computer, a server license file will be created specifically for that computer. You will also need to install a client license on each client computer to obtain a license over the network and run Sequencher. **Sequencher** Server limits the number of concurrent users, not the number of clients. The same client license may be installed on as many computers as you'd like, including the **Sequencher** Server host computer.

Each time you launch **Sequencher**, the following events take place:

1. **Sequencher** searches for a locally installed standalone license. If one is found, **Sequencher** launches.
2. If no standalone license is found, **Sequencher** searches for a client license that identifies where the **Sequencher** Server is installed in order to locate a floating license over the network. The Server then checks the number of available licenses, and if one is available, **Sequencher** launches. Platform-specific licenses will be used first.

INSTALLING ALL THE PARTS

The **Sequencher** Server is made up of 3 parts: rlm server, genecodes server, and a **Sequencher** Server license file. The rlm server controls the license management and is installed to run automatically whenever the computer is started. It, in turn, automatically starts up the genecodes server (rlm can manage multiple companies' Servers, but genecodes is the only one you need to deliver **Sequencher** licenses). And the **Sequencher** Server license file dictates the count and kind of **Sequencher** licenses that will be available.

The following is an overview of the process you'll follow. The detailed installation instructions below will guide you through setting up **Sequencher** network licensing:

1. Install **Sequencher** RLM Server.
2. Run the License Tools to activate and install your license(s).
3. Reread/Restart Servers to start serving your licenses (or just restart the computer).

Please note: In the event there is already an rlm server running on the system managing the licenses for some other programs, **Sequencher** licensing should be added to that server rather than installing a second rlm server with the **Sequencher** RLM Server installer. Add the genecodes server and the SequencherRlmServer license file to your rlm folder. The genecodes server application may be found in the bin folder inside the downloaded Sequencher-RLMServer archive.

INSTALLATION REQUIREMENTS

- Minimum Operating Systems: Mac OS X 10.5.8 (intel only) or Windows XP SP3.
- Download the appropriate Macintosh or Windows Sequencher-RLM Server from www.genecodes.com/support/sequencher-server-download – includes the **Sequencher** RLM Server Installer, the License Tools utility, and links to server administration tools and instructions.

Setup Sequencher RLM Server

GETTING STARTED

Choose one Mac OS X or Windows computer on your network to be your **Sequencher** RLM Server. This computer must remain on and connected to your network at all times in order for the client computers to be able to launch **Sequencher**. We recommend that your **Sequencher** RLM Server computer have a static IP address or DNS hostname.

1. Choose a computer that you can leave running. On Mac OS X, launch System Preferences from the  menu and choose Energy Saver. Change the Sleep setting to Never. On Windows, configure the power options to never turn the hard disks off.
2. Download [Sequencher-RLMServer for Mac \[DMG\]](http://www.genecodes.com/support/sequencher-server-download) or [Sequencher-RLMServer for Windows \[ZIP\]](http://www.genecodes.com/support/sequencher-server-download) from the Gene Codes website at: www.genecodes.com/support/sequencher-server-download
3. For a Mac Server, double-click to open the downloaded Sequencher-RLMServer.dmg file. For a Windows Server, double-click to open the downloaded Sequencher-RLMServer.zip file and choose Extract all files to unzip the Sequencher-RLMServer folder.

Install Sequencher RLM Server* on Mac OS X

1. Double-click the **Sequencher** RLM Server installer to begin installation.



2. Click **Continue** and **Install** buttons.
3. Provide an Administrator's name and password in the Authentication dialog and click **Install Software**.

A **Sequencher** Server folder has been added to Applications and com.genecodes.rlm.plist is installed in Library/LaunchDaemons. This file will run **Sequencher** Server whenever the computer is started.

In the event there is already an rlm server running on the system managing the licenses for some other programs, **Sequencher licensing should be added to that server rather than installing a second rlm server with the **Sequencher** RLM Server installer. Add the genecodes server and the **Sequencher** RLM Server license file to your rlm folder. The genecodes server application may be found in the bin folder inside the downloaded **Sequencher** Server archive.*

Install Sequencher RLM Server* on Windows

Note that you have to have Administrator privileges to run this installer.

1. Double-click SequencherServer.exe to begin installation.
2. Click **Next** and **Install** buttons to accept all of the default settings during installation.

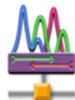
The installer creates a **Sequencher Server** folder in Program Files\Gene Codes or Program Files(x86)\Gene Codes (on 64bit systems). It also installs the rlm Windows Service that will automatically start **Sequencher** Server whenever the computer is started.

In the event there is already an rlm server running on the system managing the licenses for some other programs, **Sequencher licensing should be added to that server rather than installing a second rlm server with the **Sequencher** Server installer. Add the genecodes.exe server and the **Sequencher** Server license file to your rlm folder. The genecodes.exe server may be found in the bin folder inside the downloaded **Sequencher** Server archive.*

ACTIVATE YOUR LICENSE

In order to serve network licenses to **Sequencher**, you will need two different license files. The SequencherRlmServer license file is installed on the server and the SequencherClient license file must be installed on every computer where **Sequencher** will run. If you are upgrading a **Sequencher** Server from a network hardware key, it may be necessary to install updated drivers. This will require a restart.

Request a license for your server



1. Double-click to launch License Tools.
2. Click on the RLM Server tab.
3. You will be sent a 16-digit Activation Key for each set of **Sequencher** licenses on your network (Mac licenses, Windows licenses, and Dual Platform licenses). Please use all of them at the same time. Enter them into the "Enter Activation Key(s)" fields and click the **Activate** button.

Get a license to serve Sequencher network clients.

TO ACTIVATE THE RLM SERVER LICENSE, enter each 16-digit activation keys you received from Gene Codes below and click the "Activate..." button.

Enter Activation Key(s):

1234-1234-1234-1234

4321-4321-4321-4321

Example: xxxx-xxxx-xxxx-xxxx

Activate...

Automatic activation may take a few minutes. When it succeeds, you'll be prompted to save the SequencherRlmServer.lic file to the installed **Sequencher Server** folder.

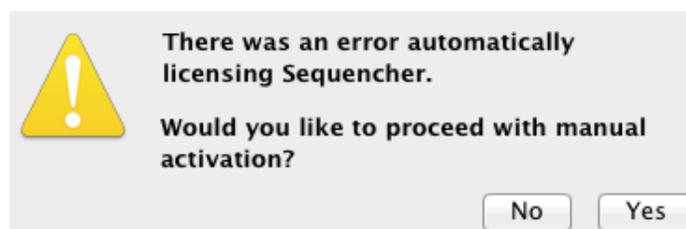
4. Click **Save** to save the license in the default license location.

Program Files(x86)\Gene Codes\Sequencher Server on Windows 64bit computers
 Program Files\Gene Codes\Sequencher Server on Windows 32bit computers
 /Applications/Sequencher Server on Mac OS X computers

If the **Sequencher Server** folder cannot be found, then just save the license file to your Desktop and copy it into the correct location. The license file and genecodes ISV server must be in the same folder as the rlm server. If automatic activation fails to create a license file, you can manually activate the license by email.

Manual License Activation

If automatic installation fails, you may activate your license through email. You will be prompted to save a **Sequencher** license request file collecting licensing data for the **Sequencher** Server computer. Send the licensing data to Gene Codes to receive your **Sequencher** RLM Server license file.



5. Click **Yes** to proceed with manual activation and click **Save** to save the file to your Desktop.

A SequencherLicenseRequest file will be created on your Desktop.

6. Email the SequencherLicenseRequest file to ActivateMe@gencodes.com. You may click on the ActivateMe@gencodes.com link to create an email message to send to Gene Codes. Attach the SequencherLicenseRequest file to the email before sending.

The information in the SequencherLicenseRequest file will be used to generate a server license file for this host computer. This file will be emailed back to you.

Manually Install a License File

If you've received a license file from Gene Codes rather than Activation Keys, just copy it into the **Sequencher Server** folder. Your license is permanent and will always work for the version of **Sequencher** purchased as well as any updates released within a year. Newer versions will require a maintenance contract and a new license file. Or, you may wish to change the number of network licenses at your site for which we'll send you a new license file. There is no need to re-install **Sequencher** Server. Simply replace the old file with the new one.

1. Once you have received your SequencherRlmServer license file, navigate to and open the **Sequencher Server** folder.

Program Files(x86)\Gene Codes\Sequencher Server on Windows 64bit computers

Program Files\Gene Codes\Sequencher Server on Windows 32bit computers

/Applications/Sequencher Server on Mac OS X computers

2. Drag and drop or copy the **Sequencher** Server license file into the **Sequencher Server** folder.

START SERVING SEQUENCHER

Restart* the computer to start serving **Sequencher** licenses.

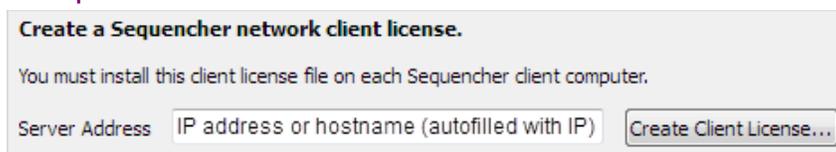
If you'd prefer not to Restart and/or want to learn more about managing the rlm and gencodes servers and licenses, then please read the Reprise License Server Administration section on Page 9 of this guide: **START USING A NEW LICENSE FILE** (Reread/Restart Servers).

CREATE A CLIENT LICENSE FILE

Sequencher uses the address specified in its SequencherClient.lic file to request a **Sequencher** license from the **Sequencher** Server. You may use License Tools to create this client license file with your server's address in it. The Server Address for this computer will be filled in automatically. *Note: you may edit the Server Address to use the DNS hostname if you prefer. Also if you plan to use a non-default port number, simply type it in after the address—i.e*

192.2.2.2 5053

1. Launch License Tools.
2. Click on the **"RLM Server"** tab and then on the **"Create Client License..."** button and save the SequencherClient.lic file.



Create a Sequencher network client license.

You must install this client license file on each Sequencher client computer.

Server Address

You'll need to copy this SequencherClient.lic file and install it on each client computer in order to access network licenses from this **Sequencher** Server.

Installing the Client License

You must install a client license file on each computer where **Sequencher** will be run.

1. **Sequencher** Server must be installed **and** running on the **Sequencher** Server computer.
2. Install **Sequencher** on each client computer.
3. Copy your SequencherClient.lic to your computer (we recommend the Desktop).
4. Launching **Sequencher** without a license will open the Sequencher License Manager. If it doesn't open automatically, you may choose the **Sequencher License Manager...** command from the **Sequencher** menu on Mac OS X or the **Help** menu on Windows.
5. Select the **Activate Sequencher** button followed by the **Install License...** button, browse to your license file location, select your license file, and click on the **Install** button to install the license. Select **Start Sequencher** to launch **Sequencher** or **Quit** if you don't wish to launch **Sequencher** at this time.

Please refer to the "Sequencher Installation Guide" for Mac or Windows on our website Support page at <http://www.genecodes.com/support> for more detailed information on installing **Sequencher** and installing license files.

For more information about the client license, please see Appendix: **ABOUT CLIENT LICENSES**

Reprise License Server Administration

The Reprise License Server Administration web interface allows you to perform status and administration functions on the **rlm** server. It may be run on any computer on the network by typing the address of the **Sequencher** Server computer into a browser. On the **Sequencher** Server computer itself, you may use the address `localhost:5054`. You may, however, administer the server from any computer as long as you know the correct address. For instance, if the IP address of the **Sequencher** Server computer was `123.123.2.42`, then the address to use in the browser would be `123.123.2.42:5054` using the format: `<hostname>:<port>`. By default, the web interface is run on port 5054. The images displayed below were created on Mac using the web browser Safari, but the same commands and views would be available using Internet Explorer, Chrome, or Firefox.

This section of the **Sequencher** RLM Server Guide contains information on a small subset of the features available from the web interface. For detailed information on using other capabilities, please refer to the RLM Manual, which may be accessed from the  button on the left sidebar, or from the RLM License Administration Manual web location shortcut in the installed **Sequencher Server** folder.

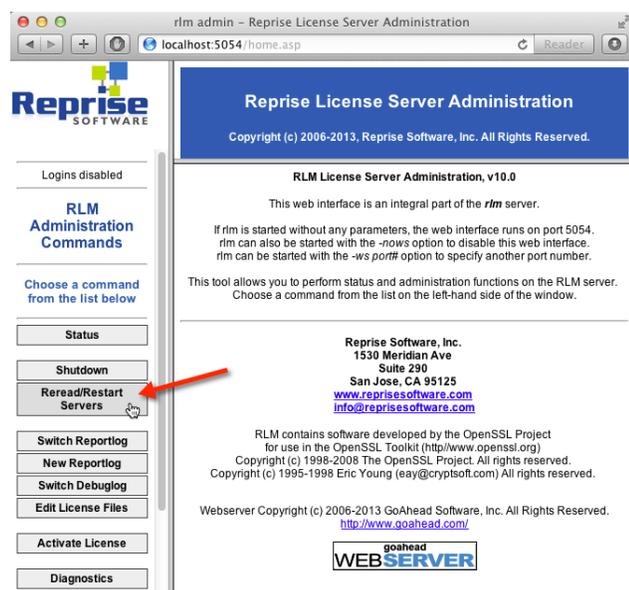
START USING A NEW LICENSE FILE (REREAD/RESTART SERVERS)

If you have installed a new **Sequencher** Server license file, you may choose to perform a Reread/Restart rather than restarting the **Sequencher** Server computer.

Double-click on License Server Administration to open a browser to the web interface of the **rlm** server.

This shortcut opens the address `localhost:5054`, which works because we are running it on the same computer as the installed **Sequencher** Server. This webservice is part of **rlm**. If you've just installed **Sequencher** Server on Windows and haven't restarted, then **rlm** may not be running. You may right-click on **Start Sequencher Server.bat** in the **Sequencher Server** folder and choose Run as Administrator to start the service, or start it from the Services program.

1. Click on the **Reread/Restart Servers** button.
2. Click on the **REREAD/RESTART** button.
3. Click the **Status** button in the left-hand sidebar.



The server should be ready to serve **Sequencher** licenses. You may check the licenses by clicking the **genecodes** button under ISV Servers, Server Status:

ISV Servers										
Name	port	Running	Restarts	Server Status	License Usage	Debug Log	REREAD	OPTIONS	TRANSFER	SHUTDOWN
genecodes	55244	Yes	0	genecodes	genecodes	genecodes	genecodes	genecodes	genecodes	genecodes

Appendix

FIREWALLS

Please open ports *5053*, *5054*, and *50541*.

You may have a firewall that blocks communication with **Sequencher** RLM Server. Launching **Sequencher** with a properly formatted client license file will fail with the message "Error communicating with server (status code: 17)". Firewall rules must be configured to allow communication with clients. There are 3 ports that may need to be opened. By default, rlm server listens on ports *5053* (license server) and *5054* (admin web interface), and the genecodes server listens on port *50541*. The top two lines of the server license file define the 2 license server ports:

```
HOST localhost licenseid=775d6116ae7c99d61b14c5b6aa124103 5053
ISV genecodes port=50541
```

Both of these ports may be changed to suit the needs of your network. Editing the port values will not invalidate the license. Please see your System Administrator.

ABOUT CLIENT LICENSES

Setting up **Sequencher** to use a network, floating license requires defining the IP address or DNS host name of the **Sequencher** RLM Server computer in the **Sequencher** Client license file. And the file extension must be .lic (a .txt extension will not work). The following is provided for troubleshooting and informative purposes.

The SequencherClient.lic license file contains a single line:

```
HOST hostname port
```

Replace *hostname* with name or IP address of the **Sequencher** RLM Server computer. The hostname is the computer's name on the network. The default port for **Sequencher** Server communication is 5053. Replace *port* with the port rlm is configured to use (it can be left blank for the default 5053). This will always be 5053 unless your System Administrator hand-configured a different setup. Examples:

HOST JanesMacPro	The port # is not listed so it's assumed to be 5053.
HOST JanesMacPro 5053	This is equivalent to the first example.
HOST 123.123.2.42	If you use an IP address as the <i>hostname</i> make sure it's a static address. If it's dynamic, then the server may be assigned a different IP when restarted and Sequencher won't have the right address.
HOST localhost or HOST 127.0.0.1	Either of these lines in a client license file will tell Sequencher to look for a network license from the computer it's running on. This will always work for running Sequencher on the Sequencher Server computer.

A SequencherClient.lic file on the Server computer contains the line `HOST localhost`. You can always use hostname "localhost" on the Server computer for both OS X and Windows.

A note about host names on OS X: You will find the hostname in System Preferences Sharing in the Computer Name field. OS X appends .local to the computer's name when referring to itself. If the Computer Name is JanesMacPro, for instance, other computers on the network will see licenses served from hostname "JanesMacPro". But if you're actually asking JanesMacPro to find itself, then you must use "JanesMacPro.local" instead. This is a Mac-only issue.