



MATE GUI Installation Guide

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MATE GUI Installation

The MATE GUI is used by MATE Design users and by administrators who are creating plan templates for use in the MATE Live or MATE Design Archive applications.

This chapter describes key directories created by the installation provides instructions for installing the MATE GUI. You additionally need to install the MATE license and if applicable, install the floating license server.

[License Installation](#)—Description of MATE Design license types (dedicated and floating) and instructions on how to install them.

[MATE Design Floating License Server](#)—Procedure for installing and setting up the FlexNet Publisher license server. This is needed only if administering floating licenses.

The installation process does not install any drivers or require any changes to the operating system. You can download and install the files to any folder or directory.

Prerequisites

A license is required for all features except for the example plan files. If you have questions about obtaining a license or questions about connecting to the floating license server, contact your support representative or system administrator.

For a list of system requirements and package dependencies, see the *System Requirements* document posted on the [Cisco download site](#) for this release.

Windows and Mac Installation

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- Step 1** Download the MATE software package (Windows .zip file or Mac OS X .tar.gz file) from the MATE download page on the [Cisco download site](#) for this release. Navigate to the MATE Software Package page for MATE Design.
 - Step 2** Extract the files in a location of your choice.
 - Step 3** Install and verify the license. See the [License Installation](#) chapter.

Linux Installation

Installer

An *installer* is an executable that runs a script to install the software in the proper locations. Although both MATE and WAE packages are installed, they are used only if you have a license for them.

If you accept all the defaults by answering yes to all questions, the installer performs the following tasks.

- Verifies the following.
 - Whether the device has the appropriate system requirements, including proper operating system, disk space, total memory, and required software packages.

If the installer sees that you do not have the appropriate system requirements, it either exits, gives a warning, or prompts you whether to continue. Since the installer might be checking for more than what your specific requirements are, you can press “y” to attempt to continue.
 - Whether there are existing package installations; if there are, they are preserved
- Installs MATE Design software under `/opt/cariden/software/mate`.
- Creates `/opt/cariden/software/mate/current` symbolic link to the most recently installed MATE package.
- Upon logging out and back in as the WAE user after an installation, the environment variables are automatically set using `.sh` scripts in `/etc/profile.d` directory

Installation

Step 1 Download the WAE software package, which contains both MATE and WAE software. In a web browser, go to the [Cisco download site](#). Navigate to the MATE Software Package page for MATE Design.

Step 2 Log in to the server as root or a user with administrative capabilities.

Step 3 Create an installation directory that has root privileges. The best practice is to use the default installation directory, which is `/opt/cariden`.

```
cd ~/
mkdir -p /opt/cariden
```

If using a different installation directory, create it instead of `/opt/cariden`.

```
cd ~/
mkdir -p /<custom_installation_directory>
```

Step 4 Go to the directory where you downloaded the software, and execute the installer as root using a bash command. The software package is, itself, the installer executable that automates the installation process.

```
sudo bash <package>.bin
```

Installer Options	Description
<code>sudo bash wae-k9-<version>.bin</code>	Be prompted through the installation process.
<code>sudo bash wae-k9-<version>.bin -d <installation_directory></code>	Specify a different installation directory. You are prompted through the remainder of the installation process.
<code>sudo bash wae-k9-<version>.bin -h</code>	Shows a usage statement for the installer
<code>sudo bash wae-k9-<version>.bin -y</code>	Automatically respond “yes” to all questions without being prompted.

The process verifies the integrity of the installation using checksums. If a checksum fails, error messages appear and the installation process is terminated.

Depending on what the installation process finds, it might prompt you throughout the process to continue or not.

- Step 5** The process prompts you for an installation directory. The default is `/opt/cariden`. If this is an upgrade, the recommendation is that you maintain the same installation directory as in the previous release. If this is a new installation, the recommendation is to keep this default.
- Step 6** The process prompts you for a WAE username.
 The default is "cariden" only if that username exists; its existing password remains intact. Otherwise, the default WAE username is "wae." The default password for the wae username is "ciscowae."
 The recommendation is that you keep whichever default you receive. Also, consider that if you have previously installed the MATE Live datastore (mld), you cannot restart mld unless you start it with the same username used to install it.
- Step 7** The process prompts for whether you want to start SDN platform services, which include `wae-core`, `wae-db`, `wae-messaging`, and `wae-cdl`. The default is "No." Unless you have the appropriate license, this service is of no use, but will still use memory and disk space. The recommendation is that you keep the default unless you have the necessary license.
- Step 8** Once the installation process stops, log out of the device or VM.
- Step 9** Log back in using the WAE username.
- Step 10** Install and verify the license. See the [License Installation](#) chapter.



License Installation

A license is required for all features except for sample plan files used in the MATE Design application. If you have questions about obtaining a license, contact your Cisco support representative or system administrator.

There are three methods of installing a license, and the method used depends on the type of license you are installing.

- Stand-alone MATE Design—Use either the MATE GUI or the CLI method.
- Collector and web applications—Use either the web UI or the CLI method.
- WAE Core—Use the CLI method.

MATE Design Licenses

Dedicated	Floating
<ul style="list-style-type: none"> • Each license is unique to a specific device. • Always available (until expiration). • No network connectivity is required. • Must be downloaded to an accessible device. 	<ul style="list-style-type: none"> • A single license is shared among users who have permission from the license server. • After installing the license file once, licenses are automatically checked out from the server when starting the GUI or any CLI tool. When the GUI is closed or the tool stops, the license is checked back into the license server for use by others. • You must have connectivity to the license server. • There are a maximum number of licenses, and you cannot check one out if they are all in use. • The FlexNet Publisher license server must be set up (usually by a system administrator). • You must either download the floating license to an accessible device, or know the hostname and MAC address of the license server. To connect to a different port, you need to know the license server's port number.

Install License from MATE GUI

To use the MATE GUI, you need either a dedicated or a floating license. Regardless of the license type, you need only install it one time. If it is a floating license, thereafter when you start MATE Design the floating license will be checked out to you if it is available. By default, licenses are stored in `~/.cariden/etc`.

**Note**

If you previously installed a WAE license, do not use the overwrite option when installing a MATE Design license.

Step 1 Start the MATE GUI from the directory that contains the MATE software package.

Step 2 Select the File->Install License menu.

- If you are installing a dedicated license or if you are installing a floating license and you have it downloaded to an accessible device, follow these steps.
 - a. Select the “From license file” option.
 - b. Browse to the location or enter the name of the license file (.lic extension), and click Open.
 - c. Click OK to confirm the license installation. If there is already a license installed, you are prompted to either merge or replace the existing license. If you are uncertain whether you have a complete set of desired features in the new license, the best practice is to merge the licenses.

- If you are installing a floating license from the license server (that is, you do not have the license file), follow these steps.

Best practice: If using Windows, it is recommended that you specify the port.

 - a. Select the “Specify license file” option.
 - b. Enter both the hostname and the MAC address of the license server. The MAC address must be a 12-digit hexadecimal number without any colon (:) separators.
 - c. If the port is not specified, ports 27000-27009 are scanned to find the license server port and connect to it. Optionally, you can enter the license server’s TCP port number using a range of 1024 to 65535. The default license server port is 27000.
 - d. Click OK to confirm the license installation.

Step 3 To verify a license and its features, select the File->License Check menu.

Install License from CLI

You can use the CLI to install licenses for all products, both MATE and WAE.

**Note**

If you are installing both a MATE and a WAE license, you must use the default method that merges the licenses. You are given an option on where to put the license. Choose the same location for both licenses.

- For each license you are installing, run the `license_install` tool, passing it the name of the license file (.lic extension). By default, the tool merges the features granted by the new license with those in an existing license.

```
license_install -file <path>/<filename>.lic
```

When prompted, enter the number associated with the directory in which you want to install the license.

By default, when using `license_install -file`, the tool merges the features granted by the new license with those in an existing license. If you are using only MATE licenses, you can overwrite the existing license using the `-existing-lic` overwrite option. Before executing this option, be certain that the new license contains all the necessary features because previous features will no longer be available. Do not use this overwrite option if installing licenses for both MATE and WAE.

```
license_install -file <path>/<filename>.lic -existing-lic overwrite
```

Example: `license_install -file acme/setup/MATEDEDICATED12345678910111213.lic -existing-lic overwrite`

- If you are installing a floating license from the license server (that is, you do not have the license file), use both the `-server-host` and `-server-mac` options. The MAC address must be a 12-digit hexadecimal number without any colon (:) separators.

```
license_install -server-host <license_server_hostname> -server-mac <license_server_MAC_address>
```

If the `-server-port` option is not specified, ports 27000-27009 are scanned to find the license server port and connect to it. Optionally, you can enter the license server's TCP port number using a range of 1024 to 65535. The default license server port is 27000.

Example: `license_install -server-host lic.cisco.com -server-mac 1a2b3c4d5e6f -server-port 27000`

To verify a license and its features, run the `license_check` tool. To see descriptions of the license features, use the `-detail` option (which defaults to true).

Example: `license_check -detail`

Install License from Web UI



Note Do not use the web UI for WAE licenses.

Step 1 Start the web server.

```
service wae-web-server start
```

Step 2 Select System->Licenses.

Step 3 Click Upload Licenses.

Step 4 Click Select Licenses.

- Browse to the location or enter the name of the license file (.lic extension), and click Open.
- If there is already a license installed, the default is to overwrite the existing license. To merge the two licenses instead, select the merge option. If you are uncertain whether you have a complete set of desired features in the new license, we recommend that you merge the licenses.

c. Click Upload License.

Step 5 Verify the license installed correctly by locating it on the System->Licenses page.



MATE Design Floating License Server

The FlexNet Publisher license server must be set up if MATE Design users are to use floating licenses. Using this server, you can control access to the licenses, monitor who has them checked out, and check log activity.



Note

All instructions and examples assume you used `/opt/cariden` as the default installation directory. If you did not, then substitute your installation directory for `/opt/cariden`.

The FlexNet Publisher license server has two interfaces. One is a CLI, which requires that you start an `lmgrd` daemon so all users can access the floating licenses. The other is a web UI, wherein you must install and configure an `lmadmin` tool; this option offers more flexibility and administration tools. Best practice is to use only one or the other interface (CLI or web) to administer the license server.

For information about FlexNet Publisher, refer to the *FlexNet Publisher License Administration Guide* (`FlexLM_EndUser_LicAdmin.pdf`), which is located in `$CARIDEN_HOME/docs`.

Prerequisites

You must have the required packages installed. For a list of package dependencies, see the *System Requirements* document posted on the [Cisco download site](#) for this release.

Pre-Installation: Windows, Mac, or Different Linux Devices

Follow these steps under these circumstances.

- If you are installing the FlexNet Publisher license server for use with Windows or Mac operating systems.
- If you are installing the FlexNet Publisher license server on a different Linux device than the one on which MATE Design Linux resides.

Step 1 Log in to the FlexNet Publisher license server as root or as a user with administrative capabilities.

Step 2 Create a lowercase, alphanumeric username where the first letter is an alphabetical character.

```
/usr/sbin/useradd <username>
```

Set a password.

```
passwd <username>
```

- Step 3** Create an installation directory that has root privileges. The best practice is to use the default installation directory, which is `/opt/cariden`.

```
cd ~/
mkdir -p /opt/cariden
```

- Step 4** Change the owner of the installation directory to the newly created user.

```
chown <username> /opt/cariden
```

Pre-Installation: All Operating Systems

Follow these steps on the device where FlexNet Publisher license server resides.

- Step 1** Ensure there are no local firewalls blocking the services. This step is beyond the scope of these instructions, though following is an example. For a list of ports used, see the *System Requirements* document on the [Cisco download site](#) for this release.

Example: This shows how to disable the iptables firewall as root.

```
service iptables save
service iptables stop
sudo chkconfig iptables off
```

- Step 2** Download the License Server package from the [Cisco download site](#). Navigate to the MATE Design, MATE License Server Software page.

- Step 3** The MATE license file's SERVER statement must be the same hostname as the output from the hostname CLI command.

- a. Determine the hostname.

```
hostname
```

- b. Edit the `/etc/sysconfig/network` file to include the hostname returned in the above step.

```
HOSTNAME=<hostname>
```

- Step 4** Ensure the `/etc/hosts` file on the client devices contains the same hostname as identified in step 3. (Client devices are the devices that will be checking the licenses in and out of the server.)



Note

If you need the license server to listen to a different port other than the default 27000 port, contact your support representative.

Install MATE License

- Step 1** Download the MATE floating license file (.lic extension) to a directory of your choice on the device where the license server will be installed.
- Step 2** Install the license. You are given the option of where to put the file. Best practice is to put the license in `~/.cariden/etc`. Once the license is installed, it is renamed to `MATE_Floating.lic`.
- ```
license_install -file <path>/<license_name.lic>
```
- Example:** `license_install -file /opt/cariden/licenses/MATEFLOATING12345678901234567.lic`

## Install License Server

- Step 1** Go to the directory where you installed FlexNet Publisher license server package, and execute the installer. The package is, itself, the executable that automates the installation process.
- ```
chmod 755 ./<License server package>.sh;./<License server package>.sh
```
- Example:**
- ```
chmod 755
./MATE_License_Server-2.0rc2-Linux-x86_64.sh;./MATE_License_Server-2.0rc2-Linux-x86_64.sh
```
- Step 2** If you are going to run the license server web UI, run the `lmadmin` installer from the `/opt/cariden/software/flexlm/current/bin` directory.
- Although the default is to install `lmadmin` into `/opt/FNPLicenseServerManager`, the best practice is to install it into `/opt/cariden/software/flexlm/current/web`.
- ```
chmod 755 ./<lmadmin_package>.bin;./<lmadmin_package>.bin
```
- Example:** `chmod 755 ./lmadmin-i86_lsb-11_11_1_1.bin;./lmadmin-i86_lsb-11_11_1_1.bin`

Start License Server



Note

The following instructions are for using either the CLI or license web server, but not both. The recommended practice is to install and use one or the other.

CLI

To start the license server daemon (`lmgrd`), enter the following from `/opt/cariden/software/flexlm/current/bin`.

```
./lmgrd -c <license_filename> -l <log_filename>.log
```

Example: `./lmgrd -c ~/.cariden/etc/MATE_Floating.lic -l /opt/cariden/logs/lmgrd.log`

Web UI

- Step 1** To start the license server using the web UI, first configure the following parameters from the `/opt/cariden/software/flexlm/current/web` directory. For more information, see `lmadmin -help`.
- By default, the `lmadmin` server has a user named “admin” with a password of “admin.” If needed, add another user to this `lmadmin` server.
- ```
./lmadmin -useradd <username> - pass <password>
```
- Import the MATE license file that was installed.
- ```
./lmadmin -import <path>/<license_filename>
```
- Example:** `lmadmin -import ~/.cariden/etc/MATE_Floating.lic`
- Start the `lmadmin` process with its default settings.
- ```
./lmadmin
```
- Step 2** Start the license server web UI, which by default uses a non-secure port of 8090. By entering the following in a web browser, you are redirected to the secure port.
- ```
http:<server_hostname>:8091
```
- Step 3** Click the Administration link, and log in using the an administrative username and password. Both have a default of “admin.”
- Step 4** Click the Vendor Daemon Configuration tab, click the Administer link, and then and click Start.

Post-Installation

- Step 1** Verify the license server port 27000 is running. For example, you can telnet to this port to verify that it is running.
- Step 2** Verify the license server is running and listening to port 27000, as well as to the established connections.
- Example:** `netstat -a | egrep '27000[0-9]'`

tcp	0	0	*:27000	*.*	LISTEN
tcp	0	0	localhost:48245	localhost:27000	ESTABLISHED
tcp	0	0	localhost:27000	localhost:48245	ESTABLISHED

- Step 3** Either distribute the same floating `.lic` file that you installed to all MATE Design users who need it, or give them both the MAC address and hostname for the license server.
- After end users install the floating license once, the license is automatically validated from the server each time the user opens the MATE GUI or runs the MATE CLI tools.

Set Up Access Control List for Web Server

If you are using the web server to administer licenses, you can set up an access control list. This is optional, but doing so can improve the security of who can access the web server, as well as give you an easily maintainable list of license users. To do this, you need to know the user ID for all users who are checking out licenses from the license server. The user ID is what they use to log in to their operating systems.

For more information about setting up access control lists, refer to the *FlexNet Publisher License Administration Guide* (FlexLM_EndUser_LicAdmin.pdf), which is located in `$CARIDEN_HOME/docs`.

Step 1 Create and open a file named `cisco.opt` in `/opt/cariden/software/flexlm/current/bin`.

Step 2 For each user that you want to grant license access, add an `INCLUDEALL USER` line.

```
INCLUDEALL USER <user ID>
```

Example:

```
INCLUDEALL USER akd123
```

```
INCLUDEALL USER gbd456
```

```
INCLUDEALL USER odd789
```

Step 3 For each user you want to exclude from accessing the license server, add an `EXCLUDEALL USER` line.

```
EXCLUDEALL USER <user ID>
```

Example:

```
EXCLUDEALL USER fea123
```

```
EXCLUDEALL USER rgu456
```

```
EXCLUDEALL USER ilt789
```

Step 4 Save the file.

