



# HP Remote Graphics Software Licensing Guide

Part number: 519542-003

Third edition: May 2009



i n v e n t

Introduction 1

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# Contents

1	Introduction	
1-1	RGS licensing overview .....	4
1-2	What this guide covers .....	6
1-3	RGS products .....	7
1-3-1	Release Version Number .....	7
1-3-2	Release Version Date .....	8
1-3-3	RGS license policy .....	8
1-4	RGS Software Assurance products .....	9
1-5	Summary of RGS and Software Assurance products .....	10
1-6	If you have questions or need assistance .....	10
2	Downloading the HP RGS Trial Edition and its License Key	
3	Obtaining your RGS product and its License Key	
3-1	RGS delivery methods .....	13
3-2	Obtaining your RGS node-locked License Key .....	14
3-3	Obtaining your RGS floating License Key .....	15
4	Installing and configuring the FLEXnet license server	
4-1	Before you install the license server .....	16
4-2	Installing the Windows license server .....	17
4-3	Configuring the license server .....	19
5	Accessing the RGS license on Windows and Linux	
5-1	Installing and accessing the node-locked License Key file .....	20
5-1-1	Storing the node-locked License Key file .....	20
5-1-2	Configuring the Windows RGS Sender to access the node-locked License Key file .....	20
5-1-3	Configuring the Linux RGS Sender to access the node-locked License Key file .....	22
5-2	Accessing the RGS floating license .....	23
5-2-1	Configuring the Windows RGS Sender to access a floating license .....	23
5-2-2	Configuring the Linux RGS Sender to access a floating license .....	25
5-3	Installing the Trial Edition License Key file .....	25
6	Obtaining and installing your RGS Software Assurance License Key	
6-1	Obtaining your Software Assurance License Key for the node-locked license HP RGS Desktop product 27	
6-2	Obtaining your Software Assurance License Key for floating license RGS products .....	28
6-3	Installing your Software Assurance License Key file .....	29
	Appendix A: License Key information	
A-1	Viewing the RGS Version Date .....	30

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## Tables

Table 1-1	RGS and Software Assurance products that can be purchased .....	10
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# 1 Introduction

This document describes licensing of HP Remote Graphics Software (RGS). RGS licensing has been implemented beginning with the RGS 5.2.0 release in December, 2008, and applies to the RGS Sender only—the RGS Receiver is a free download, and can be installed and used on a broad range of computers. Therefore, all discussion of RGS licensing applies to the RGS Sender only.



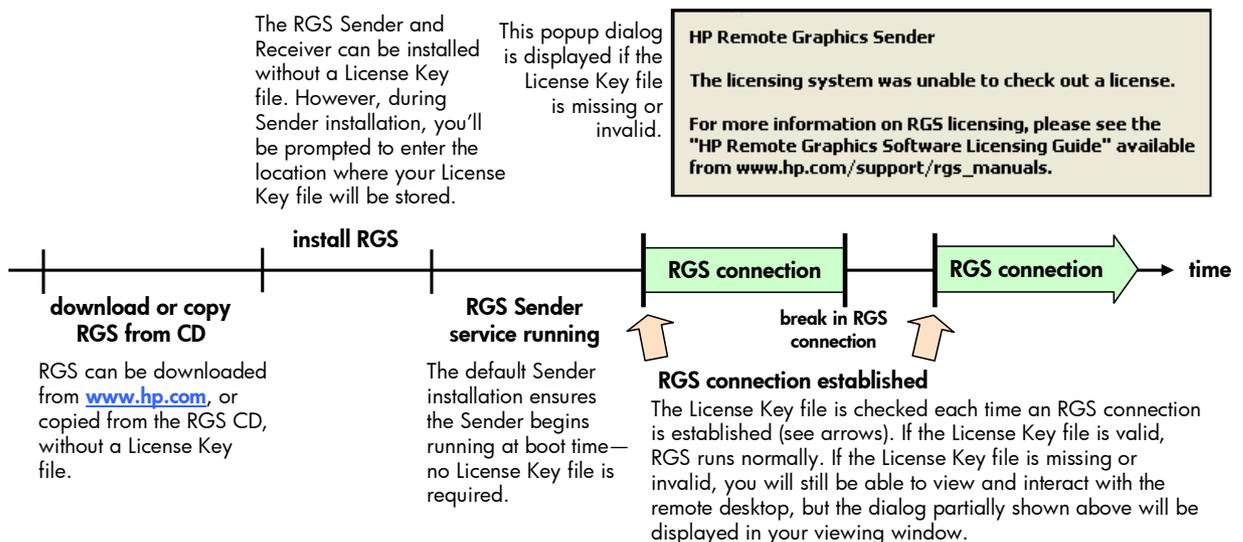
**NOTE:** For detailed RGS information, see the latest version of the *HP Remote Graphics Software User Guide*, available at [www.hp.com/support/rgs\\_manuals](http://www.hp.com/support/rgs_manuals). This website may also contain a more recent version of this licensing guide.

## 1-1 RGS licensing overview

RGS Sender licensing is based on a *License Key* that is obtained from HP after your purchase of RGS. Once you have your License Key, you'll save it in a file called the License Key file. The License Key file is checked each time an RGS connection is established. Therefore, you can download, install, and run the RGS Sender without a License Key file, as shown in the timeline in Figure 1-1.

If a valid license is not found, you'll still be able to view and interact with the Remote Computer desktop from your Local Computer—however, the popup dialog partially shown in Figure 1-1 will be displayed in your viewing window.

**Figure 1-1** RGS download/install/license timeline



Three types of licenses are supported by the RGS Sender:

1. **Node-locked license**—With a node-locked license, RGS connections are permitted only on computers whose hostid (the MAC—Media Access Control—address) is contained in the License Key file. The License Key file is stored on each RGS Sender computer.
2. **Floating license**—With a floating license, a pool of RGS licenses is purchased. These licenses are dynamically allocated on a first-come, first-served basis whenever an RGS Receiver attempts to connect to an RGS Sender. In licensing terminology, a floating license is *checked-out* when a connection is established to the RGS Sender, and is *checked-in* when the connection terminates. If multiple RGS Receivers are connecting to a single RGS Sender (for example, when conducting a collaboration session), only *one* license is consumed by the RGS Sender—when the first RGS connection is established.

Floating licenses allow a company to purchase, for example, 75 licenses, but support a user community of perhaps hundreds of users, as long as no more than 75 RGS Sender connection sessions are attempted simultaneously. As noted above, a single RGS Sender connection session might include multiple Receiver connections. Therefore, what's being licensed are the number of *simultaneous RGS Sender connection sessions* that can be established, regardless of how many RGS Receivers are connected to each RGS Sender.

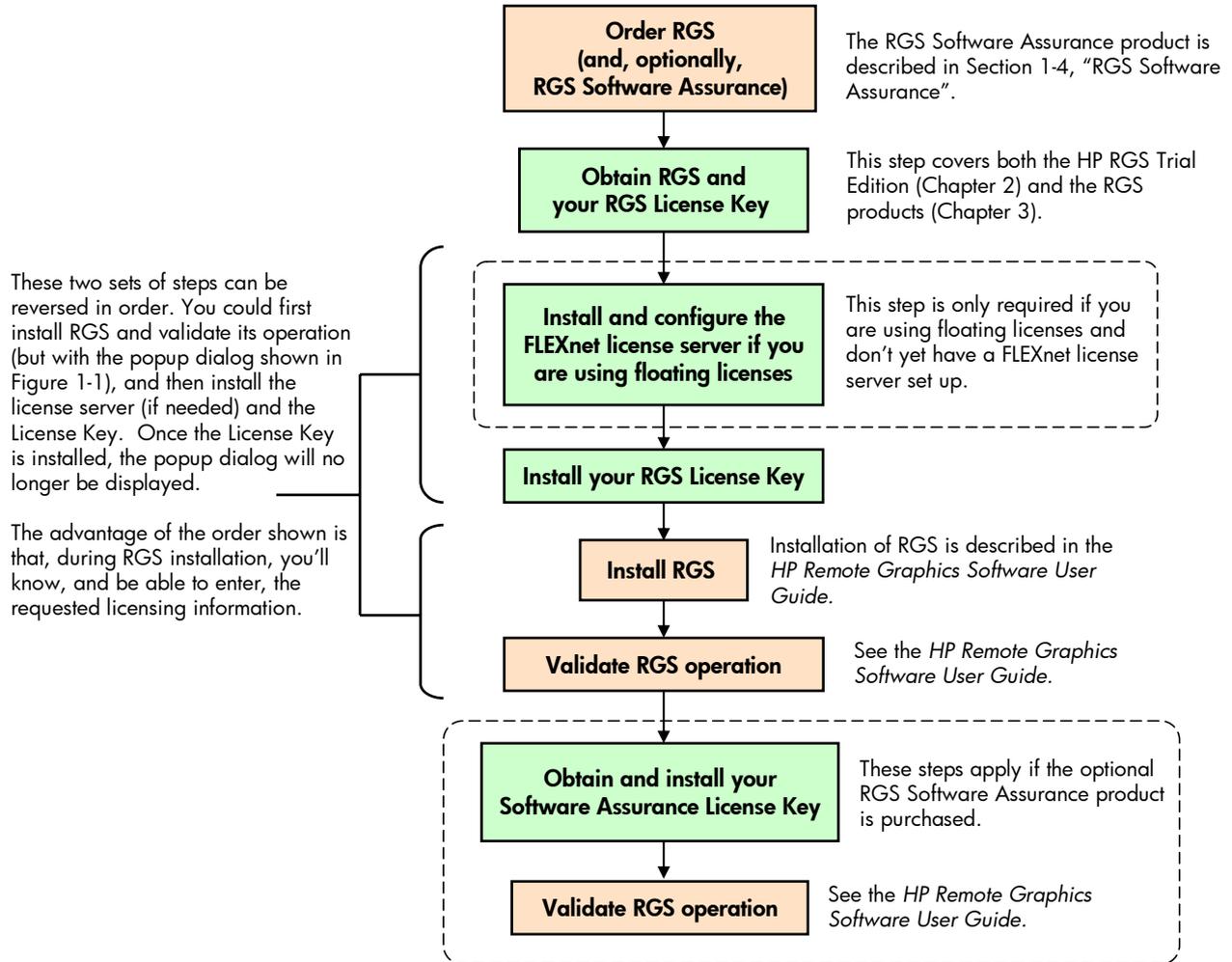
Floating licenses require a license server, which can be installed on one of the computers running the RGS Sender or on a separate computer. The RGS product includes a `Setup.exe` file that installs the FLEXnet license server—see Chapter 4, "[Installing and configuring the FLEXnet license server](#)," for installation information.

3. **Trial license**—A 60-day trial license is provided with the **HP Remote Graphics Software Trial Edition** ("Trial Edition"). The License Key file provided with the Trial Edition is stored on the RGS Sender computer.

## 1-2 What this guide covers

Figure 1-2 shows the recommended steps to install and license RGS. The steps shown in green are described in this guide. Note that variations to this sequence are possible—for example, as indicated below, you can reverse the order of license installation and RGS installation.

**Figure 1-2** Steps to install and license RGS, including the optional RGS Software Assurance product



The *HP Remote Graphics Software User Guide* is included with RGS, and is also available at [www.hp.com/support/rgs\\_manuals](http://www.hp.com/support/rgs_manuals). The web version of the *RGS User Guide* may be more recent than the version included with RGS.

## 1-3 RGS products

With RGS 5.2.0, HP began offering the following four RGS products:

1. **HP RGS Desktop**—Supported on HP Personal Workstations and HP Mobile Workstations, this product is available in two versions:
  - HP RGS Desktop based on a node-locked license
  - HP RGS Desktop based on a floating license
2. **HP RGS Blade Workstation**—Supported on HP ProLiant Blade Workstations, this product supports floating licenses only.
3. **HP RGS Blade PC**—Supported on HP Blade PCs, this product supports floating licenses only.
4. **HP RGS VDI**—Supported on any VMWare certified platform running VMWare, this product supports floating licenses only.

In addition, HP also offers the **HP RGS Trial Edition**, which is a free, 60-day trial version of RGS that can be run on any platform supported by the RGS Sender. For information on downloading the Trial Edition, see Chapter 2, “[Downloading the HP RGS Trial Edition and its License Key](#) .”

For detailed information on the RGS products, please see the *HP RGS Datasheet* and the *HP RGS QuickSpecs*, available at [www.hp.com/go/rqs](http://www.hp.com/go/rqs). All RGS products include the same RGS Sender and the same RGS Receiver. The RGS Receiver is unlicensed, and can be installed on a broad range of computers



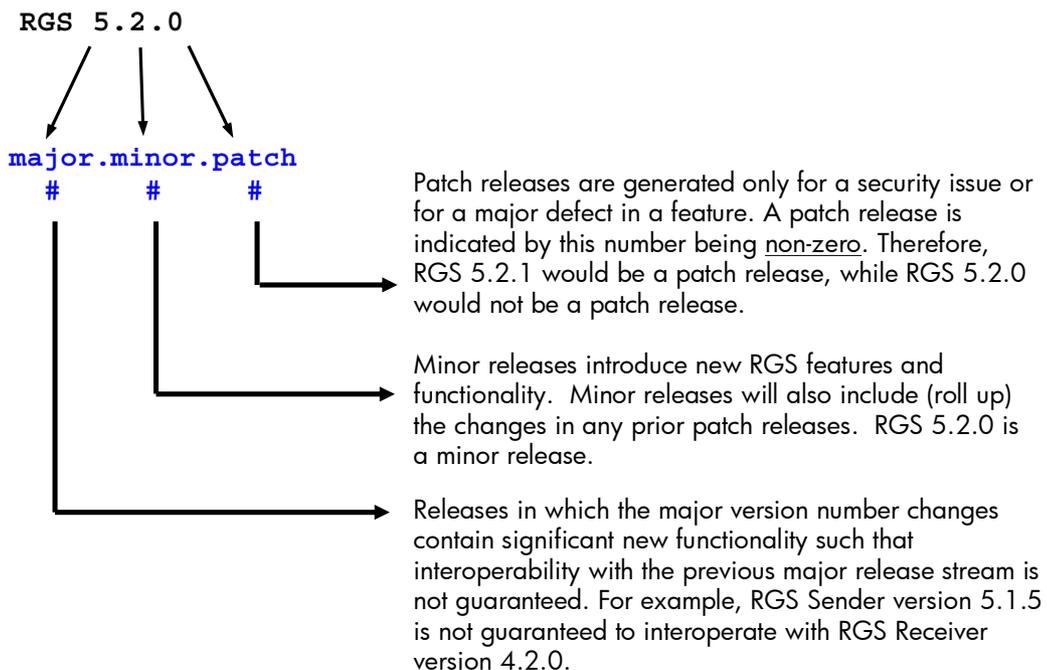
**IMPORTANT:** Except for the 60-day **HP RGS Trial Edition**, the RGS products never expire once they are installed and licensed.

The RGS products are identified by a Release Version Number and a Release Version Date, as described next.

### 1-3-1 Release Version Number

The Release Version Number (“Version Number”) consists of the three numbers shown in Figure 1-3.

**Figure 1-3** Version Numbering used by RGS



**NOTE:** Each RGS patch release (as well as each minor and major release) are a *complete release* of the entire RGS product, regardless of what components have changed. For example, if a patch release is generated to make an RGS Sender security fix available, the entire RGS product (including both the RGS Sender and Receiver) will be included in the patch release.

## 1-3-2 Release Version Date

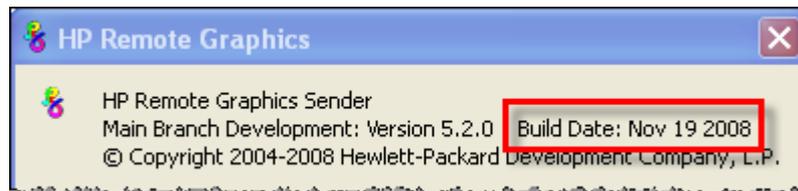
In addition to the Version Number, each release of RGS has a Release Version Date (“Version Date”) that is used by the RGS licensing mechanism. For example, the RGS 5.2.0 Version Date is November 15, 2008, which is formatted 2008.1115 (YYYY.MMDD).

You won’t normally need to view the Version Date for your RGS product—only the RGS licensing mechanism typically needs to access the RGS Version Date. However, to assist in troubleshooting any license problems, RGS provides the ability to view the Version Date of your RGS product—see [Appendix A: License Key information](#) for details.



**NOTE:** The Version Date should not be confused with the RGS *Build Date*, which can be viewed by selecting **About** from the RGS Sender menu in the system tray (see Figure 1-4). The Build Date is not used by the RGS licensing mechanism.

**Figure 1-4** The RGS Sender **About** dialog displays the Build Date



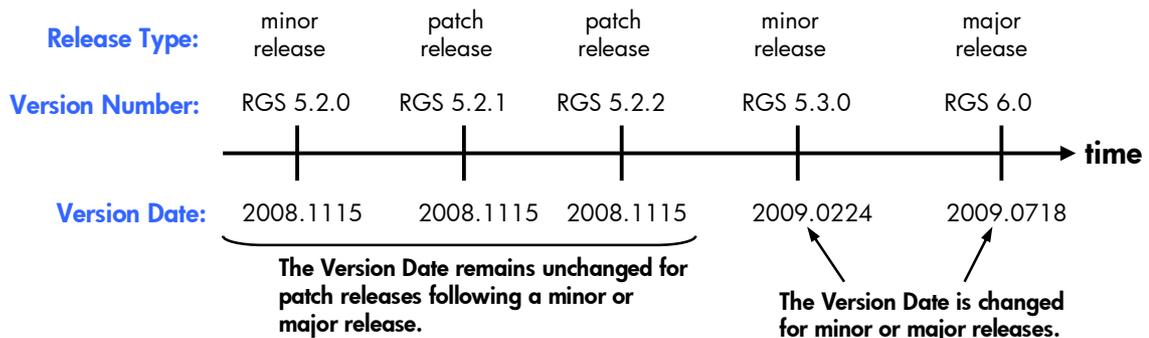
## 1-3-3 RGS license policy

The RGS Version Date, in concert with one or more dates embedded in your License Key file, is used to implement the following RGS license policy:

1. After purchasing a major or minor release, you are entitled to download, install and use associated patch releases at no cost. For example, if you have purchased RGS 5.2.0, and if HP releases an RGS 5.2.1 patch, you can use the RGS 5.2.1 patch release at no cost.
2. New major or minor releases need to be purchased. For example, if you’re using RGS 5.2.0, and if HP releases the RGS 5.3.0 minor release, RGS 5.3.0 would need to be purchased (unless you have purchased HP RGS Software Assurance—see Section 1-4, “[RGS Software Assurance products](#)”). Similarly, if you’re using RGS 5.2.0, and if HP releases the RGS 6.0 major release, RGS 6.0 would also need to be purchased (again, unless you have purchased RGS Software Assurance).

When RGS patches are released, the RGS Version Date is *not* changed, whereas, with major or minor releases, the Version Date *is* changed. Figure 1-5 presents an example timeline showing how the RGS Version Date is not changed for patch releases, but is changed for major and minor releases.

**Figure 1-5** RGS Version Number and Version Date examples



## 1-4 RGS Software Assurance products

To ensure you can upgrade to future major and minor releases of RGS, HP offers the following 1 Year and 3 Year RGS Software Assurance products for *each* of the RGS products (except the **HP RGS Trial Edition**):

- **1 Year RGS Software Assurance**—This product entitles you to upgrade to new major/minor releases of RGS for one year.
- **3 Year RGS Software Assurance**—This product entitles you to upgrade to new major/minor releases of RGS for three years.



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**NOTE:** The 1 Year and 3 Year Software Assurance products expire at the end of their specified periods. For example, during the 1 Year RGS Software Assurance period, you are entitled to free upgrades of new major and minor RGS releases. After the 1 year period expires (and if your Software Assurance product is not renewed), you will no longer be able to freely upgrade to new major/minor RGS releases. You will, however, be able to continue upgrading to new patch releases that have the same major/minor numbers as the last RGS release you installed. Any RGS products that are currently installed will continue to work indefinitely

To ensure you have access to the latest RGS features and functionality, HP recommends purchasing one of the two RGS Software Assurance products (1 Year or 3 Year) at the time you purchase your RGS product.

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RGS Software Assurance must be purchased no later than 120 calendar days after either of the following dates:

- Your original purchase date of your RGS product.
- The expiration date of a current Software Assurance product



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**IMPORTANT:** If the 120 calendar day purchase requirement isn't met, your RGS Software Assurance product will not be useable, and the Software Assurance License Key should not be obtained and installed. Likewise, new major/minor releases of RGS will not run, and therefore should not be installed.

If you're not sure if your purchase of RGS Software Assurance meets the 120 day requirement, please see Chapter 6, "[Obtaining and installing your RGS Software Assurance License Key](#)." If you have questions not answered in Chapter 6, please contact Hewlett-Packard Licensing Services, as listed in Section 1-6, "[If you have questions or need assistance](#)."

If your RGS Software Assurance product does not meet the 120 day requirement, return the product to HP within 14 days after your purchase for a refund.

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## 1-5 Summary of RGS and Software Assurance products

Table 1-1 lists the RGS products, the platforms they are supported on, and the license types, followed by checkmarks for each unique product that can be purchased. For example, two **HP RGS Desktop** products are offered, one with a node-locked license and one with a floating license. For each of these products, the associated 1 Year or 3 Year Software Assurance products can be purchased. Associated with each checkmarked product is a unique License Key that you'll need to obtain from HP in order to enable that particular product.

**Table 1-1** RGS and Software Assurance products that can be purchased

RGS Product Name	Platforms	License Type	RGS Product (Software Assurance not included)	1 Year RGS Software Assurance	3 Year RGS Software Assurance
HP RGS Desktop	<ul style="list-style-type: none"> <li>HP Personal Workstations</li> <li>HP Mobile Workstations</li> </ul>	Node-locked	✓	✓	✓
		Floating	✓	✓	✓
HP RGS Blade Workstation	<ul style="list-style-type: none"> <li>HP ProLiant xw460c Blade Workstation</li> <li>HP ProLiant xw2x220c Blade Workstation</li> </ul>	Floating	✓	✓	✓
HP RGS Blade PC	<ul style="list-style-type: none"> <li>bc2000 BladePC</li> <li>bc2200 BladePC</li> <li>bc2500 BladePC</li> <li>bc2800 BladePC</li> </ul>	Floating	✓	✓	✓
HP RGS VDI	Any VMWare certified platform running VMWare	Floating	✓	✓	✓

## 1-6 If you have questions or need assistance

If you have questions or need assistance with RGS or Software Assurance licensing, please contact the appropriate HP Regional Licensing Center listed below.

Hewlett-Packard Regional Licensing Centers: <a href="http://licensing.hp.com">http://licensing.hp.com</a>		
<b>Americas</b> Phone: +1 (800) 538-1733 Fax: +1 (800) 541-2633 E-mail: <a href="mailto:hplicense.na@hp.com">hplicense.na@hp.com</a> Business hours: Monday to Friday 6:00am - 4:30pm PT	<b>Europe, Middle East &amp; Africa</b> Phone: +353 (0)91 75 40 06 (Ireland) Fax: +353 (0)91 70 10 02 (Ireland) E-mail: <a href="mailto:codeword_europe@hp.com">codeword_europe@hp.com</a> Business hours: Monday to Friday 8.30am - 5.30pm GMT	<b>Asia Pacific &amp; Japan</b> Phone: +81.426.48.9312 (Japan) or 0120.42.1231 Fax: +81.426.48.6279 (Japan) or 0120.52.1231 or +800.2052.1231 Toll-Free from AP countries except from India, Indonesia, Vietnam and Japan E-mail: <a href="mailto:sw_codeword@hp.com">sw_codeword@hp.com</a> Business hours: Monday to Friday 9:00am - 5:30pm GMT+9

## 2 Downloading the HP RGS Trial Edition and its License Key

This chapter describes how to download the 60-day **HP RGS Trial Edition**, including its License Key. The Trial Edition License Key is similar to the node-locked License Key—they are both installed on the computer running the RGS Sender. However, unlike the node-locked License Key, the Trial Edition License Key doesn't require inclusion of the hostid (MAC address) of the Sender computer—the Trial Edition RGS Sender can be run on any of the platforms shown in Table 1-1 independent of their hostid. To download the Trial Edition RGS Sender and its License Key, perform the following steps:

1. Go to the RGS homepage at [www.hp.com/go/rgs](http://www.hp.com/go/rgs), and click the **HP RGS Trial Edition** link.
2. Click the **Receive free Trial** link to bring up the Trial Edition registration page. Select the RGS 5.2.0 product in the software specification box, provide the requested information, and click **Next**.
3. The next page will display two buttons, both labeled **Download Directly**. The top button can be used to download a ZIP file for Windows, while the bottom button can be used to download a TAR file for Linux. Click the button corresponding to the OS you're using, and specify the location to save the file. If you're using both operating systems (for example, Linux on the Sender computer and Windows on the Receiver computer), you'll want to download both files. As noted previously, only the RGS Sender needs to be licensed.
4. Next, click the **Get Licensing** link, which will bring up the **Receipt** web page shown in Figure 2-1. Follow the steps in Figure 2-1 to download and save your Trial Edition License Key.

**Figure 2-1** Downloading the Trial Edition License Key

Click **Get Licensing** to continue.

The RGS Trial Edition License Key is listed on this web page, and is also on the *License Key Certificate* below.

Click this link to email you the *HP Remote Graphics Software License Key Certificate*.

Save your RGS Trial Edition License Key to a file.

```
licenseFileA3YUUDGGYHY[1].lic - Notepad
File Edit Format View Help
FEATURE RGS_Trial HPQ 2099.1231 01-feb-2009 uncounted HOSTID=ANY
NOTICE=License Number = A3YUUDGGYHY # SIGN=02E8 7F80
1C51 \ AFB ASSF 9D23 5EB4 D326 6045 9BES 9CCB A319 6C7C 6668
D075 \ 1FB6 EF7F A26D 76DE A76D CCA9 B78D EFCC B1A8 2E55 E811
7129 \ E4F6 4A33 DECE
```

HP recommends that you obtain this certificate, and retain it for your records.

5. After you've saved your Trial Edition License Key, see Section 5-3, "[Installing the Trial Edition License Key file](#)," for information on installing the License Key.

# 3 Obtaining your RGS product and its License Key

Depending on your country, the RGS products listed in Section 1-3, "[RGS products](#)," can be ordered on CD-ROM, or can be ordered for electronic delivery (downloadable from HP). This chapter describes both delivery methods, and how to obtain the required RGS License Key.



**NOTE:** Ordering of the RGS products is not described in this guide. For RGS ordering information, please see the *HP Remote Graphics Software QuickSpecs*, available on the RGS homepage at [www.hp.com/go/rqs](http://www.hp.com/go/rqs).

Before presenting the RGS delivery methods and describing how to obtain your License Key, several general guidelines are provided:

1. If you're acquiring RGS on CD, HP recommends checking to see if a patch release is available for the RGS version on your CD. For example, if your CD contains RGS 5.2.0, you should check to see if patch release RGS 5.2.1 (or later) is available. If one or more patch releases are available, HP recommends downloading the latest patch release—however, before doing so, please read the following note.



**IMPORTANT:** Care should be taken in downloading and installing versions of RGS that have a version number higher than the RGS version on your CD. For example, if your CD contains RGS 5.2.0, your License Key will support running an RGS 5.2.1 patch. However, your License Key will not support running RGS 5.3.0 (if ever available), because RGS 5.3.0 would be a new minor release.

If you've purchased Software Assurance, and if your Software Assurance hasn't expired, you will be able to install newer major/minor releases of RGS. For further details, see Section 1-3-3, "[RGS license policy](#)" and Section 1-4, "[RGS Software Assurance products](#)."

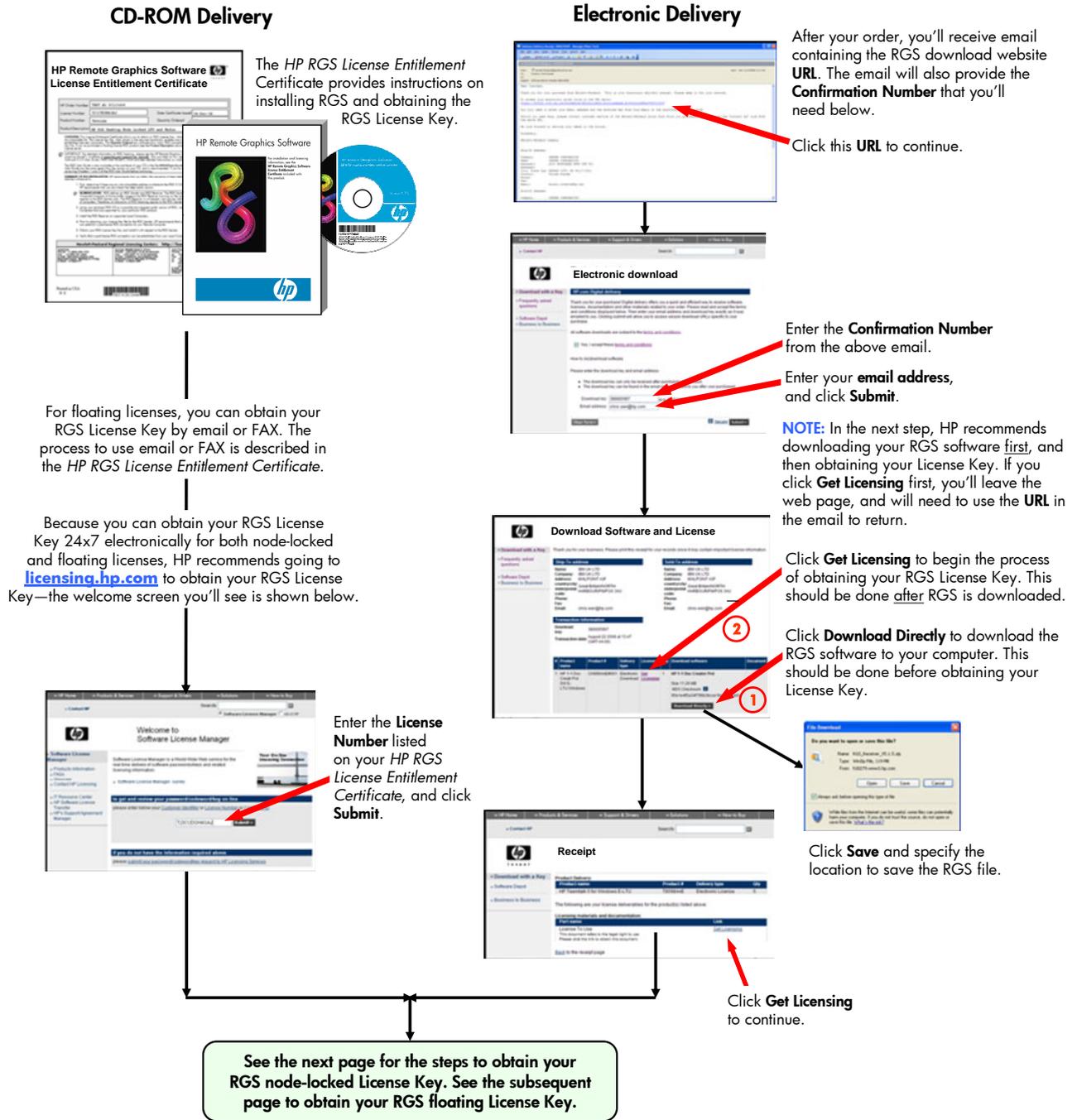
To check for newer releases of RGS, go to the RGS homepage at [www.hp.com/go/rqs](http://www.hp.com/go/rqs), and click the **HP RGS Download** link. This website contains patch releases, minor releases and major releases.

2. If you're acquiring RGS electronically, you'll be given a link to the latest RGS software that you're entitled to—therefore, checking the above website for later versions of RGS is not necessary for your initial RGS download.
3. When you acquire your RGS License Key, you can request a License Key that supports fewer licenses than you've purchased. For example, assume you've purchased 100 node-locked licenses for the **HP RGS Desktop** product, but you've only set up 75 workstations to-date in your facility. You can request a License Key supporting the 75 workstations now, and then request a License Key to support the remaining 25 workstations at a later date. Be sure to save your RGS ordering information for later use.
4. After one or more License Keys have been generated, you can view your previously generated License Keys using the [Previously Generated License Keys](#) link on the **generate a new license key** web page. To view your previously generated License Keys after exiting the License Key generation process, start at [licensing.hp.com](http://licensing.hp.com), and enter your License Number on the **Welcome to Software License Manager** web page.

# 3-1 RGS delivery methods

Figure 3-1 shows the two RGS delivery methods and the initial steps to obtain your RGS License Key. The next two sections describe the remaining steps to obtain your RGS License Key, for node-locked License Keys and floating License Keys, respectively.

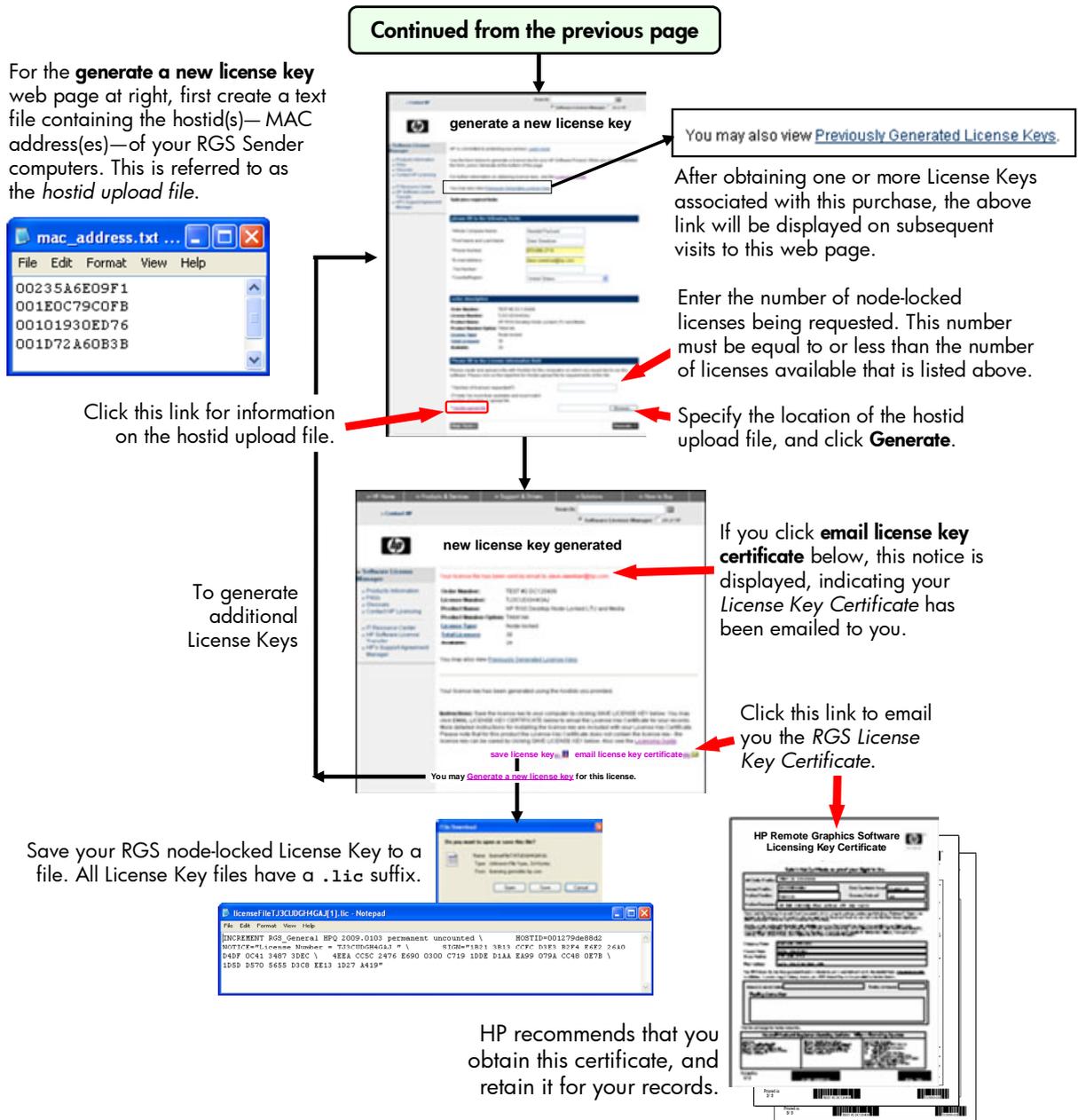
**Figure 3-1** RGS delivery methods—CD-ROM delivery and electronic delivery



## 3-2 Obtaining your RGS node-locked License Key

The only node-locked RGS product currently available is the **HP RGS Desktop** product. The steps to obtain the RGS node-locked License Key are shown in Figure 3-2.

**Figure 3-2** Obtaining a node-locked License Key for the **HP RGS Desktop** product

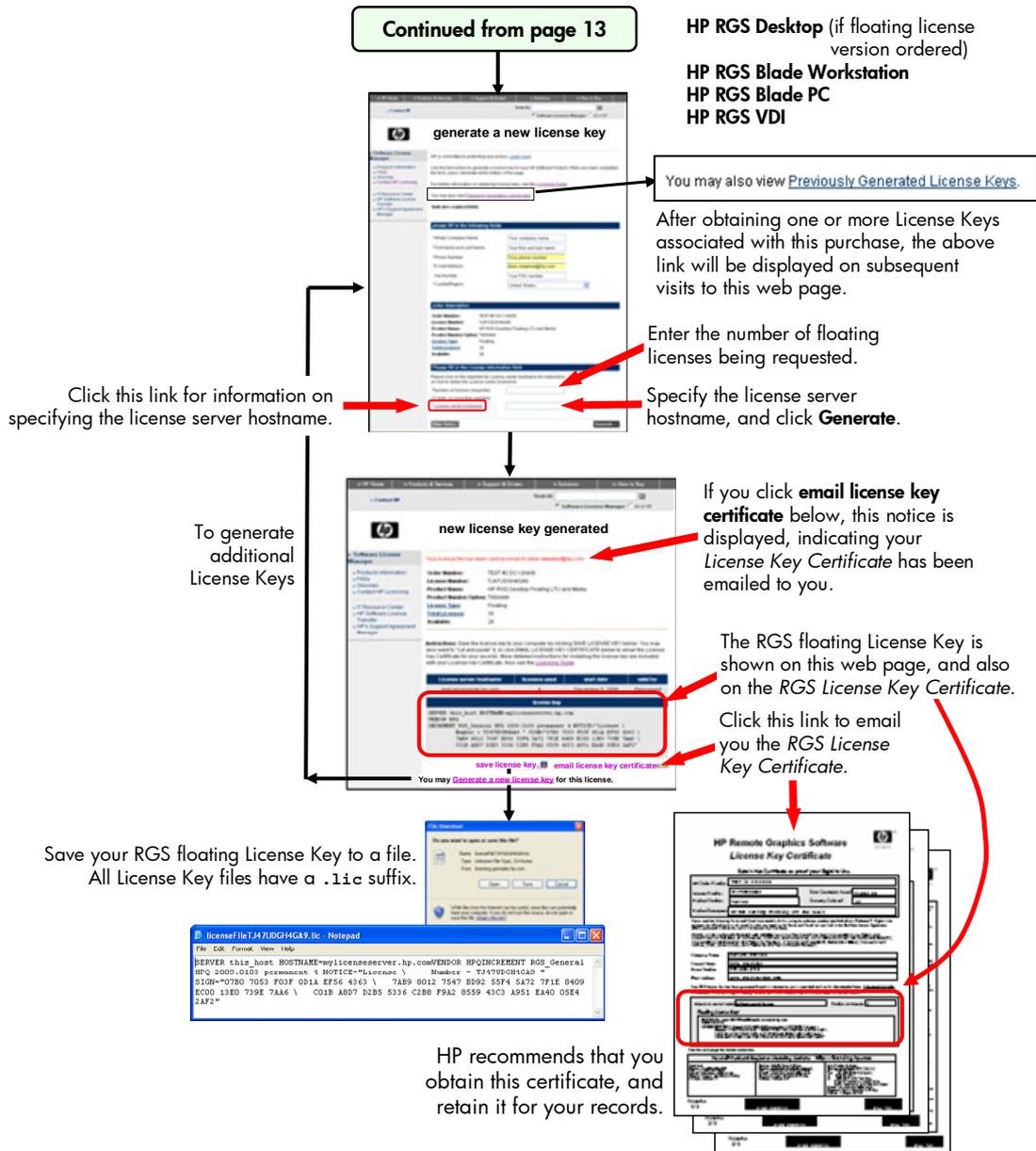


Installation of the RGS node-locked License Key is described in Chapter 5, “[Accessing the RGS license on Windows and Linux.](#)”

# 3-3 Obtaining your RGS floating License Key

The steps to obtain an RGS floating License Key are shown in Figure 3-3.

**Figure 3-3** Obtaining a floating License Key



Installation of the RGS floating License Key is described in Chapter 5, "[Accessing the RGS license on Windows and Linux](#)."

# 4 Installing and configuring the FLEXnet license server

If you're using the node-locked license **HP RGS Desktop** product or the **HP RGS Trial Edition**, the FLEXnet license server is not required, and you may skip this chapter. The FLEXnet license server ("license server") is required if you're using the following floating license RGS products:

- **HP RGS Desktop** (the floating license version)
- **HP RGS Blade Workstation**
- **HP RGS Blade PC**
- **HP RGS VDI**

## 4-1 Before you install the license server

This section provides information to help you plan your installation of the FLEXnet license server.

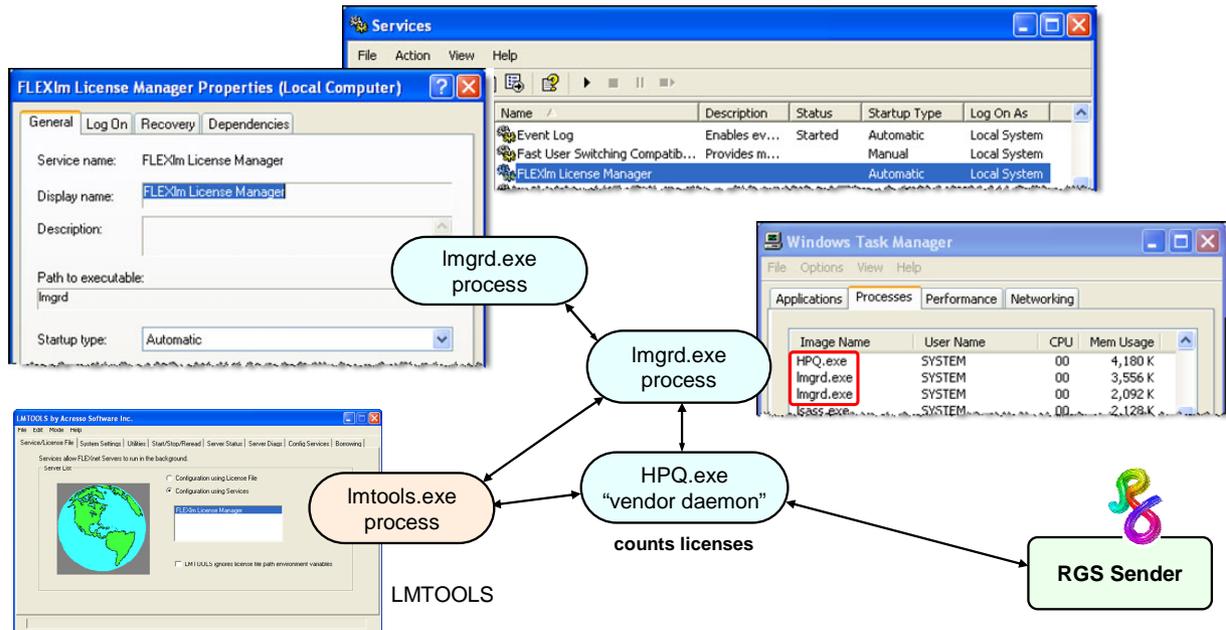
- The Windows 32-bit version of the FLEXnet license server is provided with the RGS product. The Windows 32-bit license server can be installed on any modern Windows OS—Windows XP Pro, Windows XP Pro x64 Edition, Windows Vista, and Windows Server.
- A Linux version of the FLEXnet license server is available from HP—please contact your HP Sales Representative if you need the Linux license server.



**NOTE:** Windows and Linux are the only operating systems that the RGS FLEXnet license server can be run on.

- The license server is usually installed on a computer other than one of the computers running the RGS Sender. However, nothing prohibits installing the license server on an RGS Sender computer.
- When the license server is running, the processes shown in blue in Figure 4-1 will be running. Note that two versions of `lmgrd.exe` will be running, one as a service. The Services `lmgrd.exe` process spawns the second `lmgrde.exe` process. Two `lmgrd.exe` processes are required because the Windows Vista security architecture enforces restrictions on processes running within Services.

**Figure 4-1** Windows processes associated with the FLEXnet license server



FlexNET license server installation folder: `C:\Program Files\Hewlett-Packard\Remote Graphics FlexLM`



**NOTE:** The Linux FLEXnet license server will have two associated processes, `lmgrd` and `HPQ`.

- The `HPQ.exe` “vendor daemon” interfaces to the RGS Sender, and provides HP-specific functionality for the license server, such as counting RGS floating licenses.



**IMPORTANT:** Other products, such as HP OpenView, also have a vendor daemon named `HPQ.exe`. The different `HPQ.exe` executables are *not* interchangeable. Furthermore, only one `HPQ.exe` can be executing at a time on the license server computer. Therefore, a single computer cannot run two FLEXnet license servers simultaneously.

- The RGS license does not support FLEXnet's three-server redundancy capability, also known as *triad license servers*.
- During license server installation, the FLEXnet administration utility, `LMTOOLS`, is installed. `LMTOOLS` provides a graphical user interface that allows you to administer the license server. Using `LMTOOLS` is described in the next section.

## 4-2 Installing the Windows license server

To install the Windows license server, perform the following steps:

1. Locate the FLEXnet installation executable, `Setup.exe`, in the following location in the RGS file tree:

```
win32
  flexlm
    Setup.exe
```

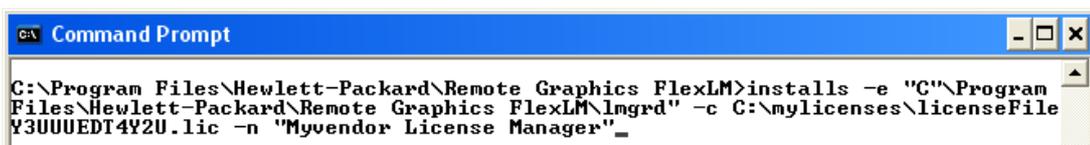
2. Move the `Setup.exe` file to your license server computer.
3. Double-click `Setup.exe` to begin installation of the license server. If desired, change the installation folder to a different folder than the default folder `C:\Program Files\Hewlett-Packard\Remote Graphics FlexLM`. If the installation is successful, a dialog indicating **InstallShield Wizard Complete** will be displayed.
4. Next, the license server needs to be installed as a Windows Service. To do this, run the `installs.exe` command (located in `C:\Program Files\Hewlett-Packard\Remote Graphics FlexLM`) from a Command Prompt window, with the options shown below. Note that these options, although shown on separate lines for clarity, are options to the `installs` command and need to be entered as a single command, even if the command spans multiple lines in the Command Prompt window. Note also that full path names are required and, if a path name contains spaces, the path name must be enclosed in double quotes.

```
installs -e "C:\Program Files\Hewlett-Packard\Remote Graphics FlexLM\lmgrd"
-c C:\mylicenses\sample.lic
-n "Myvendor License Manager"
```

- `-e` needs to include the full path name to the `lmgrd.exe` file, even if you're currently in the directory where `lmgrd.exe` is located. If the path name has spaces, it must be enclosed in double quotes.
- `-c` needs to include the full path name to the license file. If the path name has spaces, it must be enclosed in double quotes.
- `-n` specifies the name you want to use to identify the `lmgrd.exe` executable in the Services applet. If the name has spaces, it must be enclosed in double quotes. If `-n` is not specified, “FLEXlm License Manager” is used as the service name.

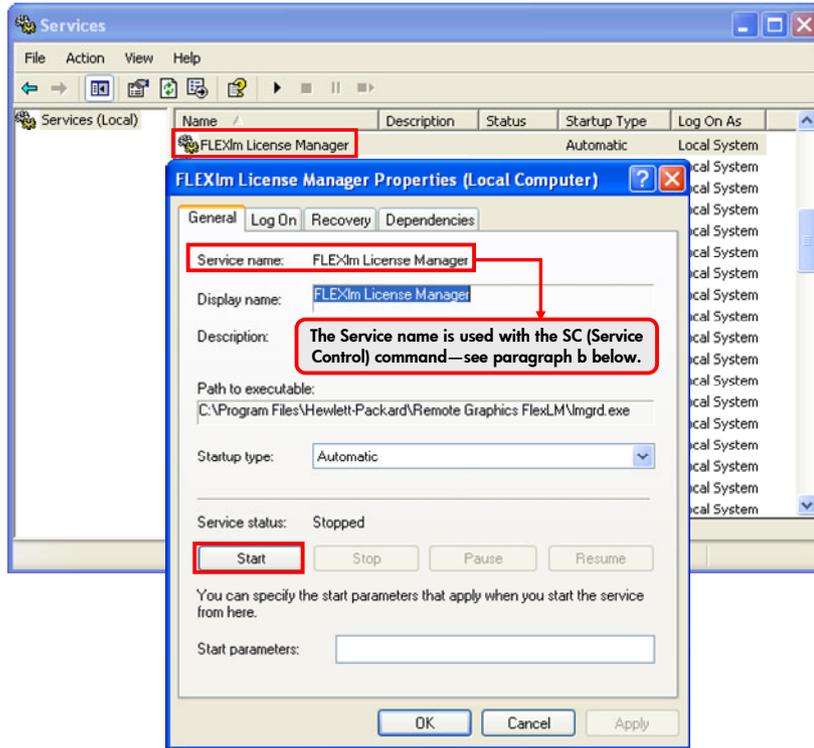
Figure 4-2 shows an example `installs` command. Note that the command wraps around to multiple lines because the combined width of the command prompt and the `installs` command is greater than the width of the Command Prompt window.

**Figure 4-2** Example `installs` command



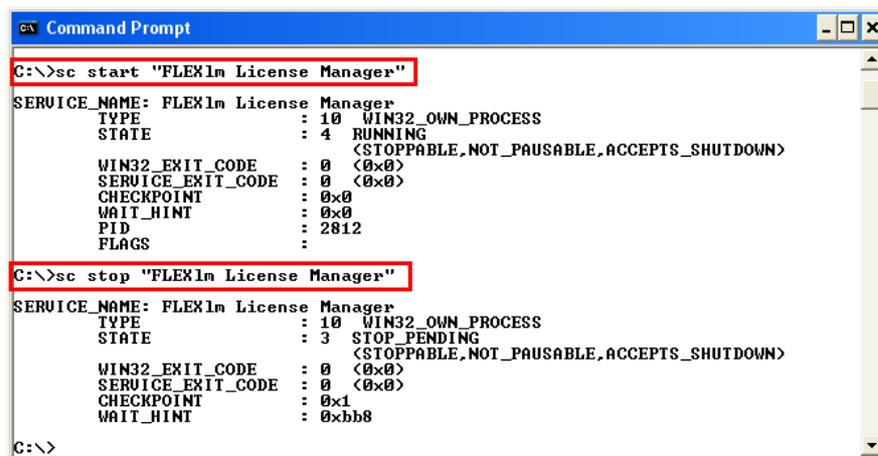
5. The license server can be started and stopped in two ways:
  - a. **Using Windows Services**—Open the Windows Control Panel, select **Administrative Tools**, then select **Services**, which brings up the Services dialog shown in Figure 4-3. Next, open the properties dialog for the license server service, using the name you supplied with the `install` command `-n` option (if you didn't use the `-n` option, the service will have the default name shown in Figure 4-3), and click **Start**. Because the license server is installed with a Startup type of "Automatic", the license server will also start when the computer is restarted. To stop the license server, click **Stop**.

**Figure 4-3** The services properties dialog can be used to start and stop the license server



- b. **Using the SC (Service Control) command**—The SC command can be used in a Command Prompt window to start and stop the license server, as shown in Figure 4-4. The Service name listed in the properties dialog in Figure 4-3 is used with the SC command—in this example, the Service name is the default name, "FLEXlm License Manager". If you use the `install` command `-n` option to specify a name for the license server service, the specified name will be listed in the Service name dialog and should be used with the SC command. If the Service name contains spaces, it must be enclosed in double quotes.

**Figure 4-4** Using the Service Control command to start and stop the license server





**NOTE:** As described previously, the service `lmgrd.exe` process spawns a second `lmgrd.exe` process. The floating License Key file is read only when these processes start. Any change to the floating License Key file after the license server starts will not be seen. In order for changes to the floating License Key file to be seen by the license server, `LMTOOLS` should be used to re-read the License Key file, as described below.

6. To remove the `lmgrd` service, use the following syntax:

```
installs -r -n "Myvendor License Manager"
```

- `-n` the services name must match the name used above during installation.



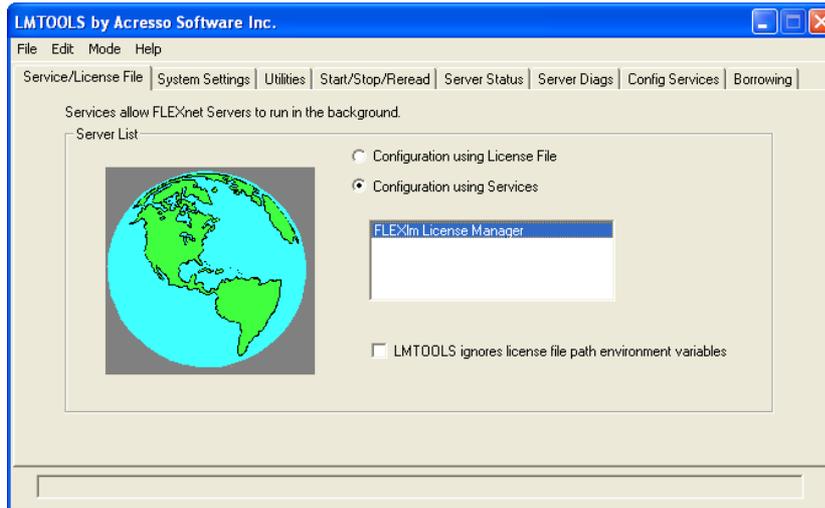
**NOTE:** In using the `installs` command, you may see messages in the Command Prompt window such as “To remove FLEXnet License Manager, type ‘`installs -r`’ ” or “FLEXnet License Manager is already installed”. These messages relate to the status of the license manager service—they do not relate to the physical installation or removal of the FLEXnet License Manager files.

7. `LMTOOLS` can be executed from the start menu as follows:

**start** → **All Programs** → **HP Remote Graphics** → **lmtools**

This brings up the `LMTOOLS` interface shown in Figure 4-5.

**Figure 4-5** `LMTOOLS` interface



`LMTOOLS` can be used for tasks such as:

- Configuring the license server
- Adding licenses
- Re-reading the license file if it’s been changed—This is done by clicking the **Start/Stop/Reread** tab, followed by clicking **ReRead License File**.
- Viewing system information, such as `hostids`, and viewing the license server status
- Troubleshooting issues with the license server



**NOTE:** Although `LMTOOLS` provides the **Start Server** and **Stop Server** buttons (under the **Start/Stop/Reread** tab), HP recommends that the license server be started and stopped using the methods described previously in paragraph 5.

## 4-3 Configuring the license server

Describing how to configure and administer the FLEXnet license server is beyond the scope of this guide—it is assumed you are experienced with the FLEXnet license server. For detailed information on this license server and the `lmtools` utility, visit the website [www.acresso.com](http://www.acresso.com). The *License Administration Guide—FLEXnet Publisher Licensing Toolkit 11.6* is available at the following URL on this website:

[http://kb.acresso.com/doc/DocumentRepository/Licensing/FLEXnet\\_Publisher/FLEXnet\\_Publisher\\_11.6/03\\_ISV/Product%20Manual/LicenseAdministration.pdf](http://kb.acresso.com/doc/DocumentRepository/Licensing/FLEXnet_Publisher/FLEXnet_Publisher_11.6/03_ISV/Product%20Manual/LicenseAdministration.pdf)

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# 5 Accessing the RGS license on Windows and Linux

This chapter describes how to access the RGS license on Windows and Linux for the three types of licenses:

1. Node-locked license
2. Floating license
3. Trial license

It is assumed you've already obtained RGS and its associated License Key file, as described in Chapter 2, "[Downloading the HP RGS Trial Edition and its License Key](#)," and Chapter 3, "[Obtaining your RGS product and its License Key](#)."

To help debug any licensing problems, the RGS Sender logs licensing failures to the Sender log file, `rg.log`. For information on this log file, please see the section "Sender logging" in the *RGS 5.2.0 (or later) User Guide*. If RGS Sender licensing (either node-locked or floating) fails, an entry containing the string "FlexLM" will be added to the Sender log file. The remainder of the entry will indicate the search path used by the RGS Sender in trying to access the RGS license. For node-locked licenses, the search path entry will be the License Key file location searched by the RGS Sender (as described in Section 5-1). For floating licenses, the search path entry will be the portnumber/hostname used by the RGS Sender in an attempt to contact the license server (as described in Section 5-2).

Note, however, in both cases, the `rg.log` entry does not identify the specific cause of a licensing failure. For node-locked licenses, failure to find the RGS License Key file is not differentiated from an RGS License Key file that is found but contains an invalid license. Likewise, for floating licenses, failure to contact the license server is not differentiated from a license server that is contacted but has an invalid RGS license.

## 5-1 Installing and accessing the node-locked License Key file

This section describes how to install and access the License Key file for the node-locked version of **HP RGS Desktop**.

### 5-1-1 Storing the node-locked License Key file

The node-locked License Key file must be stored on each RGS Sender computer that is licensed. As described in Section 3-2, "[Obtaining your RGS node-locked License Key](#)," a node-locked License Key file may contain multiple hostids (MAC addresses). In order for the RGS Sender on a particular computer to establish a licensed connection to an RGS Receiver, the RGS Sender computer's MAC address must be listed in the node-locked License Key file. If an RGS Sender computer has multiple MAC addresses, at least one of the MAC addresses must be listed in the node-locked License Key file.



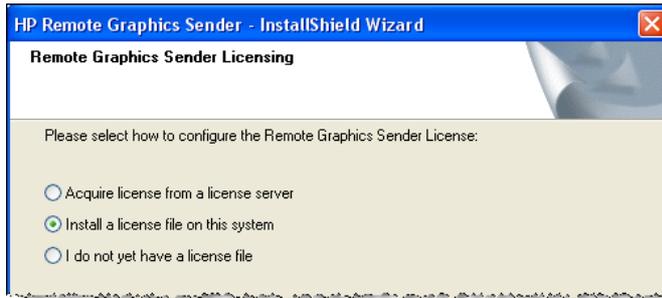
**NOTE:** The node-locked License Key file is read and checked whenever the number of RGS connections to the RGS Sender transitions from 0 to 1. For larger numbers of connections, such as when transitioning from 1 to 2 connections (for example, in a collaboration scenario), the node-locked License Key file is not read.

### 5-1-2 Configuring the Windows RGS Sender to access the node-locked License Key file

Configuration of the Windows RGS Sender to access the node-locked License Key file can either be done during Sender installation or after Sender installation. This section describes both methods. Configuration during Sender installation is described first, followed by a description of post-installation Sender configuration

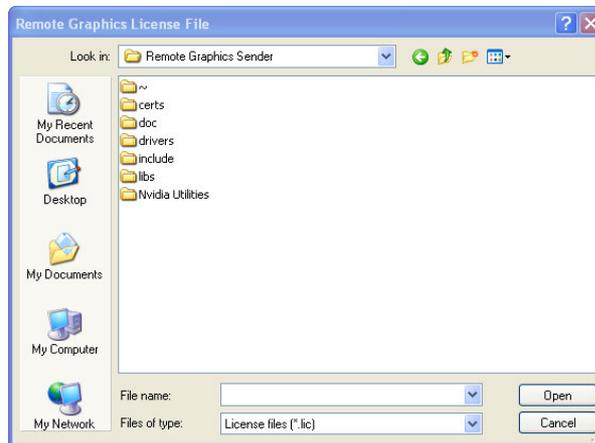
During RGS Sender installation (as described in the *HP Remote Graphics Software User Guide*), you'll be presented with the dialog shown in Figure 5-4. For node-locked licenses, select **Install a license file on this system**, and click **Next**.

**Figure 5-1** Dialog to specify that the RGS Sender will access a License Key file on this computer



After clicking **Next**, the dialog in Figure 5-2 will be displayed, prompting you to enter the location and name of the node-locked License Key file. Note that License Key files need to end with the `.lic` suffix.

**Figure 5-2** Dialog used to enter location and name of the node-locked License Key file



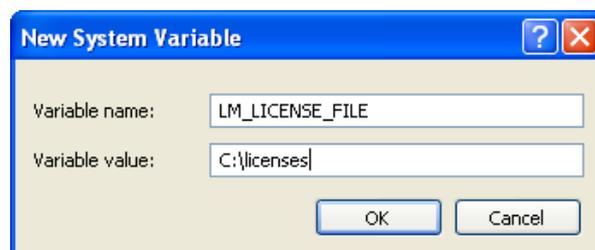
**IMPORTANT:** The RGS Sender installer will copy the License Key file from the location you specify in the above dialog to the `C:\Program Files\Hewlett-Packard\Remote Graphics Sender` folder, which is the folder searched by the licensing mechanism for License Key files. Therefore, if you update your License Key file in its original location, the updated file will not be seen by the licensing mechanism—the licensing mechanism searches only in `C:\Program Files\Hewlett-Packard\Remote Graphics Sender` for License Key files.

If, during RGS installation, you select **I do not yet have a license file** in the Figure 5-1 dialog, you can specify the location of the License Key file post-installation using the `LM_LICENSE_FILE` environment variable. To set this environment variable, bring up the System Properties dialog from the start menu, as follows:

**start > Control Panel > System**

Select the **Advanced tab** and click **Environment Variables**. Under **System variables**, click **New**—this brings up the New System Variable dialog in Figure 5-3.

**Figure 5-3** Setting the `LM_LICENSE_FILE` system variable



Enter the path to the node-locked License Key file. Multiple paths may be entered, separated by semicolons, such as:

```
C:\licenses;C:\backuplicenses
```

The RGS Sender will sequentially examine each folder, from left to right, until it finds a folder containing a valid node-locked License Key file.



---

**NOTE:** As noted previously, if a License Key file is specified and found during Sender installation, it will be copied into the folder `C:\Program Files\Hewlett-Packard\Remote Graphics Sender`. License Key files found in folders specified by the `LM_LICENSE_FILE` environment variable are not copied; they are read in-place.

If a License Key file location is specified during Sender installation and is also specified by the `LM_LICENSE_FILE` variable, the RGS Sender will look in both locations for a valid node-locked License Key file at Sender startup. The Sender will first look in the location(s) specified by the `LM_LICENSE_FILE`. If the Sender fails to find a valid license, it will then look in the folder `C:\Program Files\Hewlett-Packard\Remote Graphics Sender` for a valid license.

---

### 5-1-3 Configuring the Linux RGS Sender to access the node-locked License Key file

In order for the Linux RGS Sender to find the node-locked License Key file, it must be saved in this directory on the RGS Sender:

```
/etc/opt/hpremote/rgsender
```

## 5-2 Accessing the RGS floating license

This section describes how to access the RGS floating license. It is assumed you've installed and configured your FLEXnet Publisher license server ("license server") as described in Chapter 4, "[Installing and configuring the FLEXnet license server](#)." After you've obtained your floating License Key file, store it on the license server in accordance with the FLEXnet license server configuration requirements.



**NOTE:** When you acquire an RGS floating License Key, you'll provide your license server hostname. The signature included in the License Key file reflects the hostname that you provide; changing the hostname within the License Key file to a different license server will invalidate the License Key. If you need to change your license server hostname, please contact the appropriate HP Regional License Center, as listed in Section 1-6, "[If you have questions or need assistance](#)."

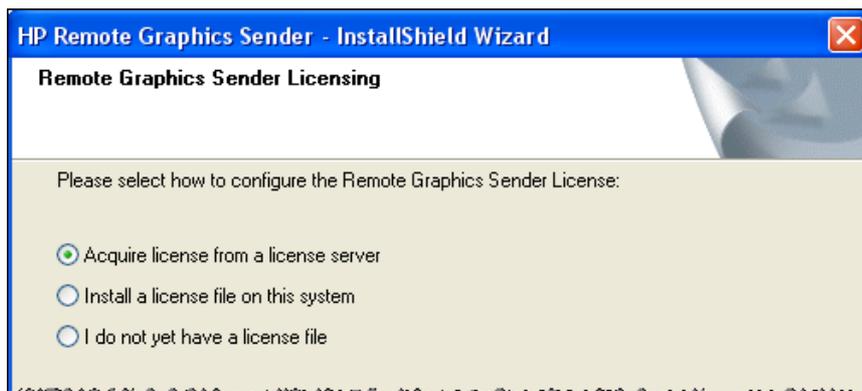
### 5-2-1 Configuring the Windows RGS Sender to access a floating license



**NOTE:** Configuration of the Windows RGS Sender to access a floating license can either be done during Sender installation or after Sender installation. This section describes both methods. Configuration during Sender installation is described first, followed by a description of post-installation configuration. Post-installation licensing configuration of the Sender, if performed, supersedes any during-installation configuration of the Sender.

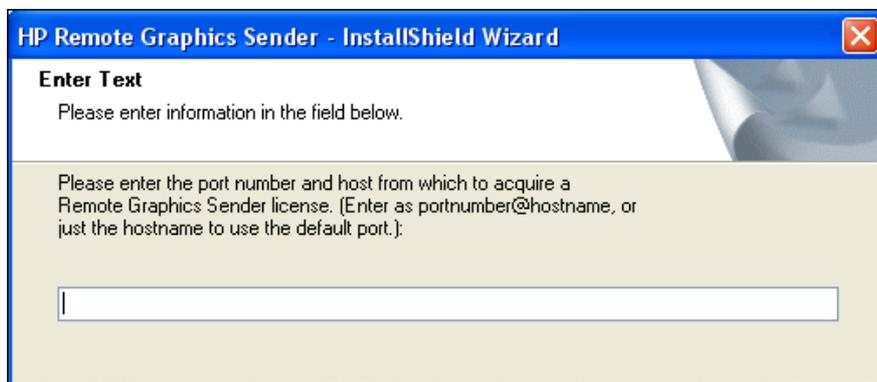
During RGS Sender installation (as described in the *HP Remote Graphics Software User Guide*), you'll be presented with the dialog shown in Figure 5-4. Select **Acquire license from a license server**, and click **Next**.

**Figure 5-4** Dialog to specify that a floating license will be acquired from a license server



Next, you'll be prompted for the port number and hostname of the license server—this will allow the RGS Sender computer to communicate with the license server. If you provide just the hostname, the default port of 27000 is used.

**Figure 5-5** Dialog to enter the license server hostname and, optionally, the port number



If, during RGS installation, you select **I do not yet have a license file** in the Figure 5-4 dialog, you can specify the location of the RGS license server post-installation using the `LM_LICENSE_FILE` environment variable. To set this environment variable, bring up the System Properties dialog from the start menu, as follows:

**start** → **Control Panel** → **System**

Select the **Advanced tab** and click **Environment Variables**. Under **System variables**, click **New**—this brings up the New System Variable dialog shown in Figure 5-6.

**Figure 5-6** Setting the `LM_LICENSE_FILE` system variable



The `LM_LICENSE_FILE` value is in this format:

```
portnumber@hostname
```

If a portnumber isn't specified, the default port 27000 is used. Examples:

```
@MyLicenseServer.hp.com (uses default port 27000)
```

```
@15.2.21.129 (uses default port 27000)
```

```
27002@MyLicenseServer.hp.com
```

Multiple `portnumber@hostname` values may be entered in the above dialog, separated by semicolons, such as:

```
27000@15.232.16.2;@MyLicenseServer.hp.com;27002@BackupServer.hp.com
```

The RGS Sender will sequentially attempt to contact each listed license server, from left to right, until it finds a license server containing a valid RGS license.

## 5-2-2 Configuring the Linux RGS Sender to access a floating license

The Linux RGS Sender can be configured to access a floating license by setting the `LM_LICENSE_FILE` environment variable to point at the RGS license server. The format of the `LM_LICENSE_FILE` environment variable is:

```
portnumber@hostname
```

If a portnumber isn't specified, the default port 27000 is used. Examples:

```
@MyLicenseServer.hp.com (uses default port 27000)
```

```
@15.2.21.129 (uses default port 27000)
```

```
27002@MyLicenseServer.hp.com
```

Multiple portnumber@hostname values may be included in the `LM_LICENSE_FILE` environment variable, separated by colons, such as:

```
27000@15.232.16.2:@MyLicenseServer.hp.com:27002@BackupServer.hp.com
```

The complete command on Linux would appear as follows:

```
export LM_LICENSE_FILE=27000@15.232.16.2:@MyLicenseServer.hp.com:27002@BackupServer.hp.com
```

The RGS Sender will sequentially examine each listed license server, from left to right, until it finds a license server containing a valid RGS license.

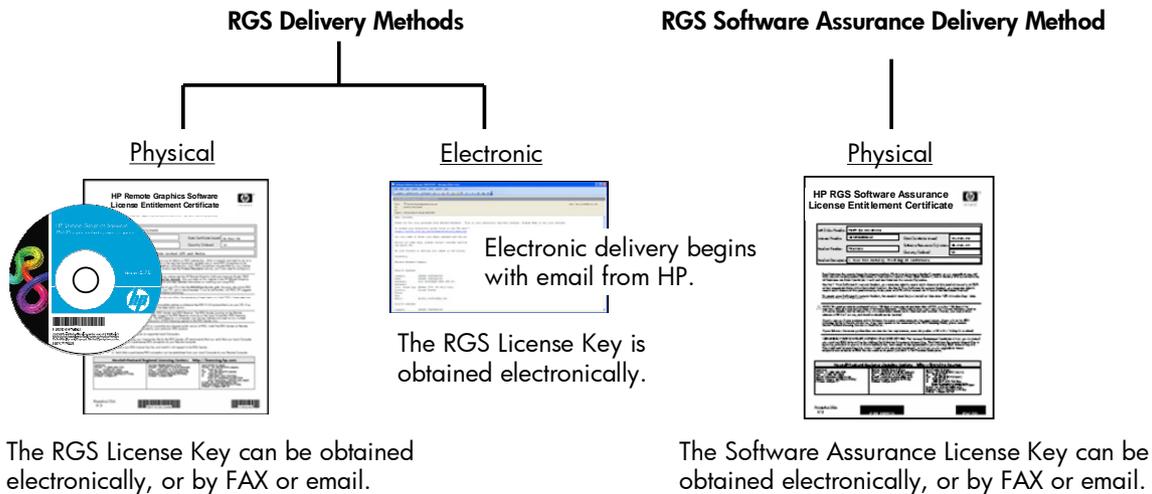
## 5-3 Installing the Trial Edition License Key file

Installing the Trial Edition License Key file is the same as installing the node-locked License Key file. During RGS installation, **Install a license file on this system** is selected in the dialog in Figure 5-1. The Trial Edition License Key file location is then specified in the dialog in Figure 5-2. Note that, as with the node-locked License Key, the Trial Edition License Key file will be copied from the location you specify to the folder `C:\Program Files\Hewlett-Packard\Remote Graphics Sender`.

# 6 Obtaining and installing your RGS Software Assurance License Key

RGS Software Assurance allows you to upgrade to future major and minor releases of RGS for the period specified, either 1 year or 3 years. Unlike RGS, which can be delivered either by physical means or by electronic means (depending on your country), RGS Software Assurance is available by physical means only—see Figure 6-1. After ordering RGS Software Assurance for your particular RGS product, you'll receive the paper *HP RGS Software Assurance License Entitlement Certificate*, which contains instructions on how to obtain your Software Assurance License Key.

**Figure 6-1** Comparison of RGS and Software Assurance delivery methods



The RGS License Key can be obtained electronically, or by FAX or email.

The Software Assurance License Key can be obtained electronically, or by FAX or email.

In this chapter, it is assumed that you have already received your paper *HP RGS Software Assurance License Entitlement Certificate*.



**IMPORTANT:** As described in Section 1-5, "[Summary of RGS and Software Assurance products](#)," RGS Software Assurance must be purchased no later than 120 calendar days after either of the following dates:

- Your original purchase date of your RGS product.
- The expiration date of a current Software Assurance product

If the 120 calendar day purchase requirement isn't met, your RGS Software Assurance product will not be useable, and the Software Assurance License Key should not be obtained and installed. Likewise, new major/minor releases of RGS will not run, and therefore should not be installed.

If, after reading this chapter, you have questions whether your purchase of RGS Software Assurance meets the 120 calendar day purchase requirement, please contact Hewlett-Packard Licensing Services as described in Section 1-6, "[If you have questions or need assistance](#)."

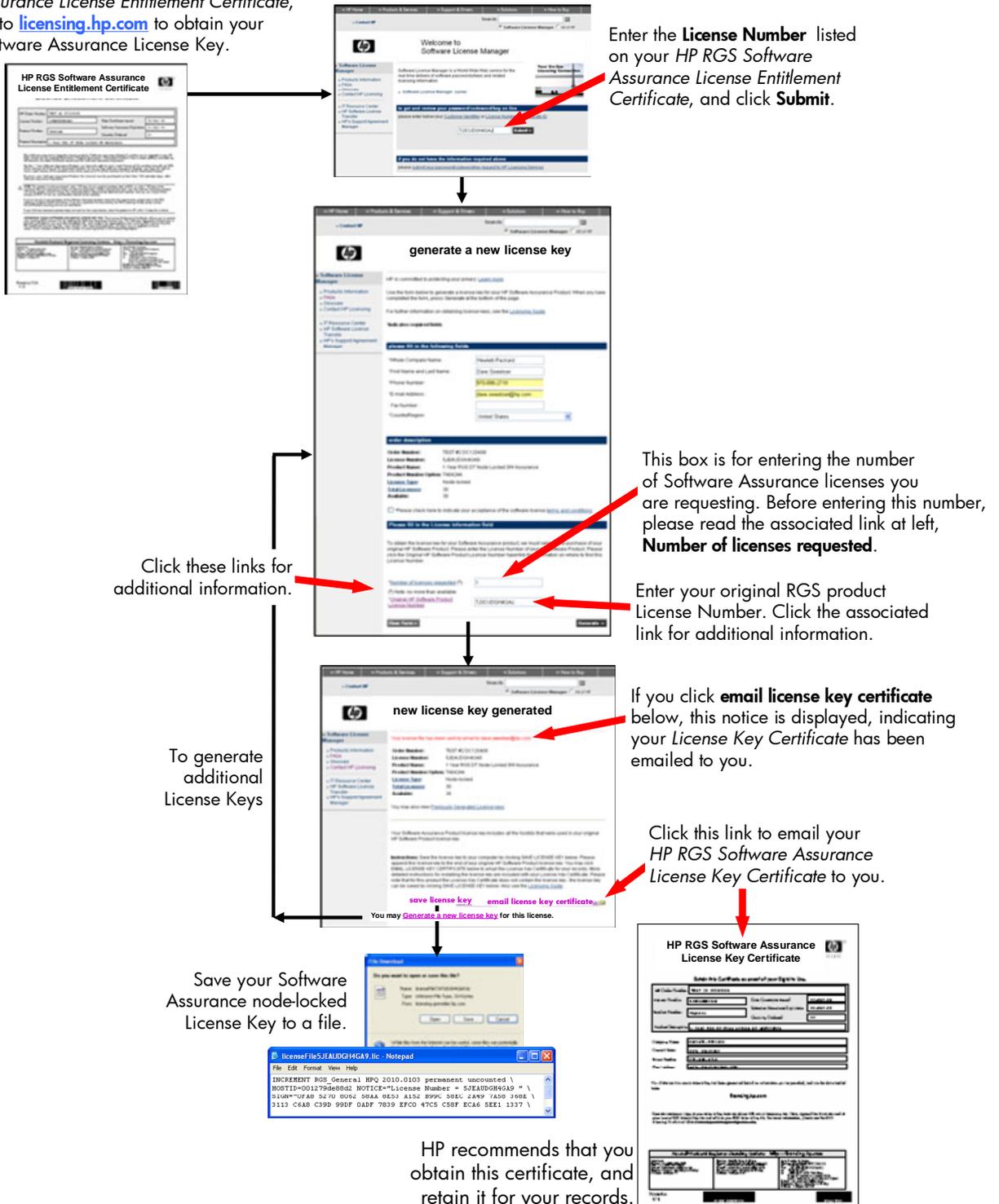
If your RGS Software Assurance product does not meet the 120 calendar day requirement, return the Software Assurance product to HP within 14 days after your purchase for a refund.

# 6-1 Obtaining your Software Assurance License Key for the node-locked license HP RGS Desktop product

The only node-locked RGS product currently available is the **HP RGS Desktop** product. To obtain the Software Assurance License Key for your **HP RGS Desktop** product, perform the steps shown in Figure 6-2.

**Figure 6-2** Obtaining the Software Assurance node-locked License Key

As described on the *HP RGS Software Assurance License Entitlement Certificate*, go to [licensing.hp.com](http://licensing.hp.com) to obtain your Software Assurance License Key.

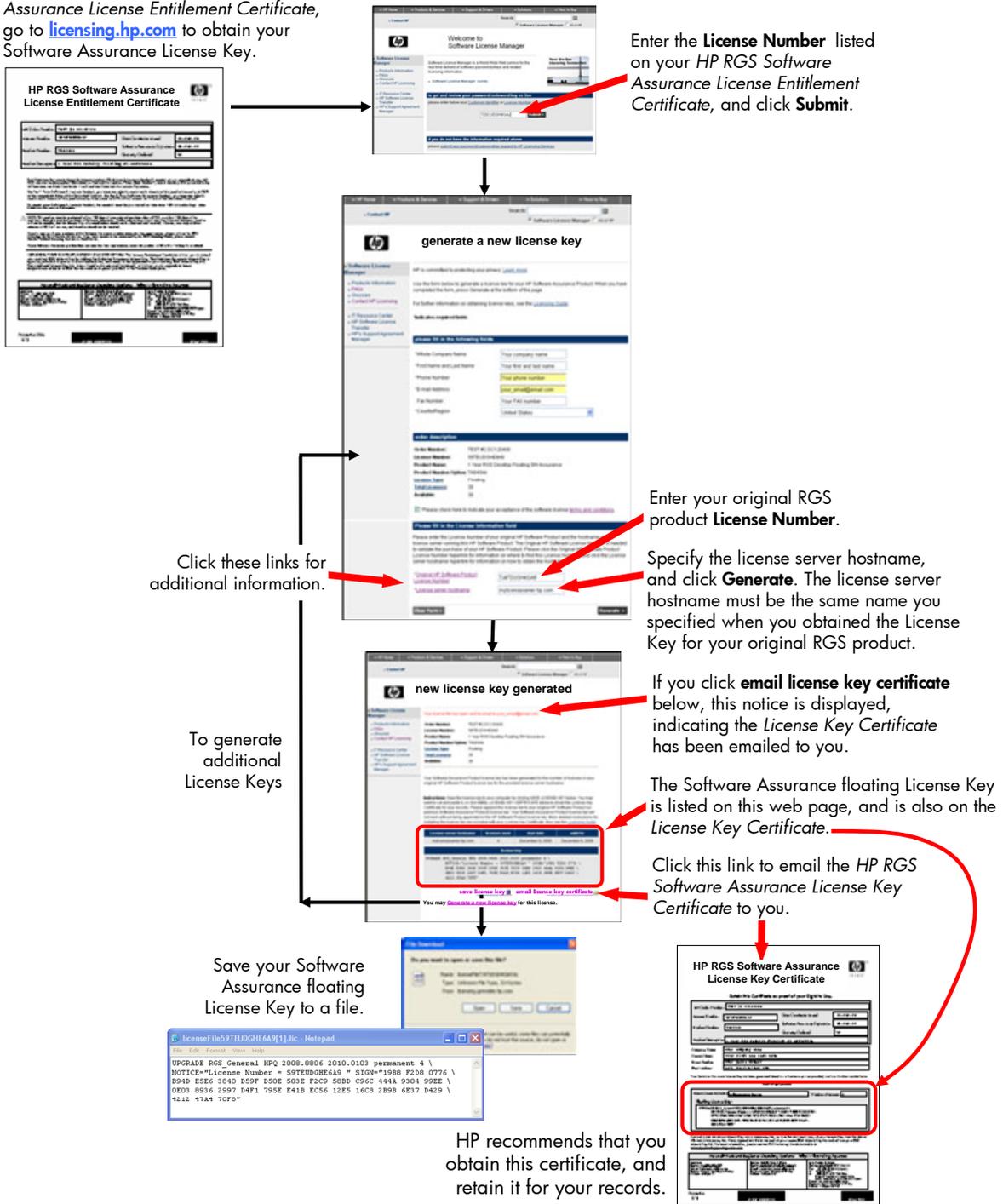


# 6-2 Obtaining your Software Assurance License Key for floating license RGS products

This section describes how to obtain the Software Assurance License Key for floating license RGS products, such as the **HP RGS Blade Workstation** product. To obtain the Software Assurance License Key for your floating license product, perform the steps shown in Figure 6-3.

**Figure 6-3** Obtaining the Software Assurance floating License Key

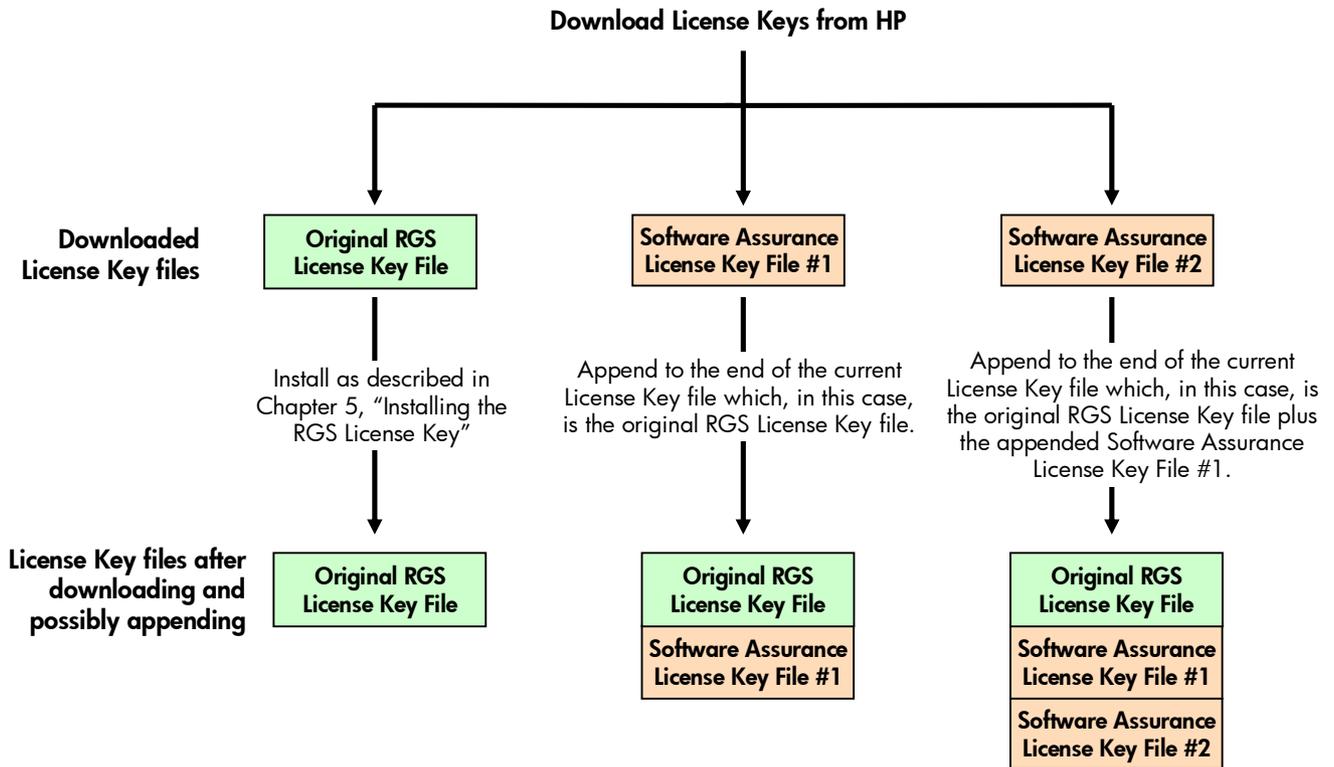
As described on the *HP RGS Software Assurance License Entitlement Certificate*, go to [licensing.hp.com](http://licensing.hp.com) to obtain your Software Assurance License Key.



## 6-3 Installing your Software Assurance License Key file

Once you've obtained your Software Assurance License Key file, it needs to be appended to the end of your current License Key file. Because the License Key files are simple text files, Notepad or something similar can be used to perform the appending. Figure 6-4 shows an example where two Software Assurance License Key files are sequentially appended to the then-current License Key file.

**Figure 6-4** Appending of Software Assurance License Key files to the then-current License Key file



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# Appendix A: License Key information

This appendix provides supplemental information on the RGS License Keys, and is provided to help troubleshoot any licensing problems. This appendix will be expanded over time.

## A-1 Viewing the RGS Version Date

As described in Section 1-3-2, "[Release Version Date](#)," the Version Date embedded in the RGS Sender is used by the RGS licensing mechanism. To view the RGS Sender Version Date, perform the following steps:

1. The Version Date is logged in the RGS Sender log file (default log file is `rg.log`). To set up Sender logging, see Section "Sender logging" in the RGS 5.2.0 (or later) *HP Remote Graphics Software User Guide*, available at [www.hp.com/support/rqs\\_manuals](http://www.hp.com/support/rqs_manuals). The logging level should be set to INFO-level logging.
2. The Version Date is generated in the log file line containing the phrase "License Version Date". For RGS 5.2.0, the Version Date log file line is:

```
INFO - # License Version Date: 2008.1115
```