



REALPLAYER ENTERPRISE MANAGER GUIDE

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INTRODUCTION

This guide is intended for technical system administrators who will use RealPlayer Enterprise Manager to customize, install, and maintain RealPlayer Enterprises. Information services professionals, server administrators, Web masters, and others who provide Web pages for the Internet and intranet may also find this document useful.

How This Manual Is Organized

The manual contains the following chapters:

Chapter 1: Starting and Stopping RealPlayer Enterprise Manager

This chapter explains how to start and stop RealPlayer Enterprise Manager and how to access its Web-based console, RealPlayer Enterprise Manager Administrator.

Chapter 2: Customizing RealPlayer Enterprise Manager

This chapter explains how to customize common client connection settings, such as port settings and mount points.

Chapter 3: Managing RealPlayer Enterprises

This chapter explains how to create configuration files to specify preferences used by RealPlayer Enterprises.

Chapter 4: Security for RealPlayer Enterprise

This chapter explains how to provide security with an enterprise network that has deployed RealPlayer Enterprises.

Chapter 5: Updating RealPlayer Enterprises

This chapter explains how to update players that have already been installed to clients' computers.

Conventions Used in This Manual

Because this manual is aimed at the administrator of RealPlayer Enterprise Manager, the term “you” refers to the administrator. The following table explains the typographic conventions used in this manual.

Notational Conventions

Convention	Meaning
emphasis	Bold text is used for in-line headings, user-interface elements, URLs, and e-mail addresses.
<i>terminology</i>	Italic text is used for technical terms being introduced in a given manual or other document, and to lend emphasis to generic English words or phrases.
syntax	This font is used for fragments or complete lines of programming syntax (code or markup languages)—whether within text or set off—and for command-line instructions.
syntax emphasis	Bold syntax character formatting is used for program names and to emphasize specific syntax elements.
<i>variables</i>	Italic syntax character formatting denotes variables within fragments or complete lines of syntax.
[options]	Square brackets indicate values you may or may not need to use. As a rule, when you use these optional values, you do not include the brackets themselves.
choice 1 choice 2	Vertical lines, or “pipes,” separate values you can choose between.
...	Ellipses indicate nonessential information omitted from code or markup language examples.

STARTING AND STOPPING REALPLAYER ENTERPRISE MANAGER

This chapter explains how to start and stop RealPlayer Enterprise Manager on both UNIX and Windows platforms, as well as how to access RealPlayer Enterprise Administrator.

Overview of RealPlayer Enterprise Manager Components

RealPlayer Enterprise Manager consists of the following components:

- RealPlayer Enterprise Manager executable file

This is the software component of RealPlayer Enterprise Manager that runs the product. The executable file is called `rdm.exe` on Windows platforms and `rdmon` on UNIX platforms.

- RealPlayer Enterprise Manager Web Pages

This is a Web-based console you use to centrally configure, build, deploy, and maintain RealPlayer Enterprise clients throughout your enterprise. Using RealPlayer Enterprise Manager, you can configure settings either locally or remotely, because you can access the Web pages from almost any browser on your network.

- RealPlayer Enterprise components

You use these components to build installers for RealPlayer Enterprise deployment on Windows NT, Windows 95, Windows 98, Windows 2000, Windows XP, and Windows ME workstations.

Note: RealPlayer Enterprise Manager uses components and terms similar to those used by RealNetworks® Basic Server for Helix™, but the components in RealPlayer Enterprise Manager serve different functions than do those in Basic Server for Helix. RealPlayer Enterprise Manager is not a streaming server. Rather, it is a product that enables administrators to deploy and configure RealPlayer Enterprise clients across corporate intranet environments from a single computer.

Starting and Stopping RealPlayer Enterprise Manager on Windows

The instructions in this section describe how to start and stop RealPlayer Enterprise Manager on Windows NT, Windows 2000, and Windows XP.

Starting RealPlayer Enterprise Manager on Windows

On Windows NT, Windows 2000, and Windows XP, RealPlayer Enterprise Manager is automatically installed as a service (named “RDM”) unless you cleared that option during setup. As a service, RealPlayer Enterprise Manager is always running in the background.

Starting RealPlayer Enterprise Manager Manually

You can start RealPlayer Enterprise Manager either from the **Start** menu or from a command line. If RealPlayer Enterprise Manager is already running as a service, do not try to start it a second time.

► **To start RealPlayer Enterprise Manager from the Start menu:**

On the **Start** menu, point to **Programs**, point to **RealPlayer Enterprise Manager**, and then click **RealPlayer Enterprise Manager**. This starts the `rdm.exe` program.

RealPlayer Enterprise Manager loads the default configuration file, `rdm.cfg`.

Note: If RealPlayer Enterprise Manager has already been started, a console window appears briefly and then disappears.

► **To start RealPlayer Enterprise Manager from a command line:**

From the main RealPlayer Enterprise Manager directory, type the following at a command line and then press **Enter**:

```
Bin\rdm rdm.cfg
```

If you start it without including a configuration file, RealPlayer Enterprise Manager uses the most recently used configuration settings.

Setting Up RealPlayer Enterprise Manager as a Service

You can run RealPlayer Enterprise Manager as a service on Windows NT, Windows XP, and Windows 2000. There is an option you can select during setup that configures this automatically. Instructions in this section describe how to add RealPlayer Enterprise Manager to the services list if you did not instruct the setup program to do so.

► To install RealPlayer Enterprise Manager as a service:

1. At a command prompt, go to the RealPlayer Enterprise Manager Bin directory.
2. Import the configuration file you want to use into a specific key in the registry by typing the following:

```
rdm.exe -import[:key] configuration_file
```

where:

key is the registry key name you want to use. If you omit this key name, the default name Startup Params is substituted.

Note: If you enter a registry key, do not type the bracket symbols. They are used to indicate an optional parameter.

configuration_file is the path and configuration file you want to import.

Note: The configuration file you use must contain absolute paths for variables such as BasePath. When it is run as a service, RealPlayer Enterprise Manager does not recognize relative paths.

For example, the following command:

```
rdm.exe -import:Server1 ../rdm.cfg
```

imports all of the values in the rdm.cfg file into the following key of the Windows NT registry:

```
HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Services\RDM\Server1
```

Note: You must supply the path to the configuration file of RealPlayer Enterprise Manager. If RealPlayer Enterprise Manager cannot find the configuration file, it may not start.

Tip: You can now start RealPlayer Enterprise Manager using this configuration by typing the following at a command prompt: rdm.exe registry:Server1

3. Install the service by typing the following command at a command prompt:

```
rdm.exe -install[:ServiceName] "parameters"
```

where:

ServiceName is the name that will appear in the Services dialog box. If you omit *ServiceName*, RDM is substituted.

Note: If you enter the service name, do not type the bracket symbols. They are used to indicate an optional parameter.

parameters is either the name of the configuration file or the registry and key name, as entered in Step 2. The format of the registry and key name is *registry:key*. You can use any command-line parameters, such as the *-m* switch, for example.

Note: The quotation marks surrounding *parameters* are required.

The next time you start RealPlayer Enterprise Manager from the Services dialog box, it will use the settings specified in *parameters* and will be configured to start automatically.

For example, the following command:

```
rdm.exe -install:RMInternet "Server1"
```

installs RealPlayer Enterprise Manager with the service name "RMInternet" and uses the settings in the Server1 key.

4. Start the service. In the Services control panel, select the name you used for *ServiceName*, and then click **Start**.

► **To remove any RealPlayer Enterprise Manager from the services list:**

At a command prompt, type the following:

```
rdm.exe -remove[:ServiceName]
```

where *ServiceName* is the optional name of the service. If you omitted a service name when you installed the service, you can omit it here, and RealPlayer Enterprise Manager will use RDM as the default service name.

Stopping RealPlayer Enterprise Manager on Windows

If RealPlayer Enterprise Manager was started from the Start menu or a command line, switch to the command window and then press **Ctrl+C**.

On Windows NT, Windows 2000, or Windows XP, if RealPlayer Enterprise Manager was started as a service, stop RealPlayer Enterprise Manager by using the Services window (accessed from Control Panel). To stop the service, do one of the following:

- On Windows NT, click **Start**, point to **Settings**, and then click **Control Panel**. In Control Panel, double-click **Services**. Locate RealPlayer Enterprise Manager on the list (your service name may be different), select it, and then click **Stop**.
- On Windows 2000, click **Start**, point to **Settings**, and then click **Control Panel**. In Control Panel, double-click **Administrative Tools** and then double-click **Services**. Locate RealPlayer Enterprise Manager on the list (your service name may be different), select it, and then, from **Action** or right-click, click **Stop**.
- On Windows XP, click **Start**, point to **Settings**, and then click **Control Panel**. In Control Panel, double-click **Administrative Tools** and then double-click **Services**. Locate RealPlayer Enterprise Manager on the list (your service name may be different), select it, and then, from **Action** or right-click, click **Stop**.

Starting and Stopping RealPlayer Enterprise Manager on UNIX

Instructions in this section describe how to start and stop RealPlayer Enterprise Manager when you are running it on UNIX.

Starting RealPlayer Enterprise Manager on UNIX

Start RealPlayer Enterprise Manager initially with the default configuration file; later, you can create other configuration files and start RealPlayer Enterprise Manager using those files.

- **To start RealPlayer Enterprise Manager on UNIX:**

Go to the main RealPlayer Enterprise Manager directory, and then type the following:

```
Bin/rdm rdm.cfg
```

- **To start RealPlayer Enterprise Manager in the background:**

From the main RealPlayer Enterprise Manager directory, type the following:

```
Bin/rdm rdm.cfg &
```

If you have other configuration files, you can substitute one of their names for `rdm.cfg` and RealPlayer Enterprise Manager will use the settings in the file you name.

- To limit the amount of memory that RealPlayer Enterprise Manager uses:

Start RealPlayer Enterprise Manager with the `-m` parameter, as follows:

```
Bin/rdm rdm.cfg -m 128
```

where the number after `-m` can be any amount of memory—in megabytes, or MB—that is 128 MB or greater. (This parameter is not necessary on Linux.)

Stopping RealPlayer Enterprise Manager on UNIX

To stop RealPlayer Enterprise Manager on UNIX, obtain the parent process identification number, and then issue the `kill` command with that process number. The process ID is stored in the `rdm.pid` file, which is usually kept in the `logs` directory. The `PIDPath` variable specifies this location.

You can perform both of these actions with one command. To do this, go to the directory that contains the RealPlayer Enterprise Manager PID file, and then type the following:

```
kill 'cat pidfile'
```

where *pidfile* is the name of the RealPlayer Enterprise Manager PID file, as shown in the `PIDPath` variable.

Accessing RealPlayer Enterprise Administrator

RealPlayer Enterprise Administrator is a feature of RealPlayer Enterprise Manager. It is a Web-based console from which you can view and configure the general setup options for RealPlayer Enterprise Manager and create settings in configuration files and installers for RealPlayer deployment.

When RealPlayer Enterprise Manager is running, you can access RealPlayer Enterprise Administrator from nearly any browser on your network that supports Java and JavaScript. The compatible browsers are Netscape Navigator versions 4.x or later and Microsoft Internet Explorer version 5.0 or later. For more information on browser compatibility, see the following page:

<http://service.real.com/help/library/guides/rdm/rdmguid.htm>

Note: To access RealPlayer Enterprise Administrator, you must be running RealPlayer Enterprise Manager. You cannot configure RealPlayer Enterprise Manager settings on any other RealPlayer Enterprise Administrator console. For example, you

cannot use a Helix™ Server from RealNetworks® to administer settings on RealPlayer Enterprise Manager.

► **To access RealPlayer Enterprise Administrator:**

1. Start RealPlayer Enterprise Manager. (See “Starting and Stopping RealPlayer Enterprise Manager on Windows” and “Starting and Stopping RealPlayer Enterprise Manager on UNIX”.)

2. In any compatible browser, type the following address:

`http://address:AdminPort/admin/index.html`

where:

address is the IP address or host name of the computer on which RealPlayer Enterprise Manager is installed.

AdminPort is the port that RealPlayer Enterprise Administrator uses to connect to RealPlayer Enterprise Manager. During setup you were asked for a port number; use that port number here.

The following URL will start RealPlayer Enterprise Administrator if it is typed in the browser on the same computer as RealPlayer Enterprise Manager (be sure to substitute your port number for *AdminPort*):

`http://127.0.0.1:AdminPort/admin/index.html`

The following command will also work on that computer:

`http://localhost:AdminPort/admin/index.html`

3. You are prompted for your user name and password. These should match the values you entered during setup. Click **OK**. The RealPlayer Enterprise Administrator window for RealPlayer Enterprise Manager appears.

Tip: Bookmark this location so that you can easily return here at any time.

CUSTOMIZING REALPLAYER ENTERPRISE MANAGER

This chapter explains how to use RealPlayer Enterprise Administrator to customize general setup options for RealPlayer Enterprise Manager. The chapter focuses on the configurations central to the product setup—for example, port settings, mount points, and Hyper Text Transfer Protocol (HTTP) delivery paths.

Configuring RealPlayer Enterprise Manager General Setup Options

You can use RealPlayer Enterprise Administrator to customize RealPlayer Enterprise Manager features and settings.

To make changes to any general setup feature, click the appropriate category listed under **Server Setup**. Make whatever changes you want, and then click **Apply**. A confirmation page appears to let you know that the changes have been made. You may be required to restart RealPlayer Enterprise Manager; if so, a message to that effect will appear on-screen.

If your Web browser is set to permit *cookies*, RealPlayer Enterprise Administrator “remembers” the page that was open in the right-hand frame the last time you used it. Each subsequent time you access RealPlayer Enterprise Administrator, or when you click the **Refresh** button, RealPlayer Enterprise Administrator displays this page. In Netscape Navigator, RealPlayer Enterprise Administrator will reload with the main Welcome page when you resize the browser window unless cookies are enabled.

After you start RealPlayer Enterprise Manager and RealPlayer Enterprise Administrator, you can change RealPlayer Enterprise Manager features by using the following procedure.

- To customize RealPlayer Enterprise Manager general setup options:
 1. On the left side of the RealPlayer Enterprise Administrator screen, click **Server Setup>Ports**. The **Server Setup:Ports** window appears. Note that Ports is one of five configuration categories:

- Ports
 - Access & Error Logging
 - HTTP Delivery
 - IP Binding
 - Mount Points
2. As required, set the values in the various possible configuration categories.
 3. When you have finished changing values, click **Apply**.
 4. Click **Close** in the Configuration Change Results window.

If you made changes that require RealPlayer Enterprise Manager to be restarted, the **Restart Server** button at the top of RealPlayer Enterprise Administrator changes to red. When you see the Restart Server button change to red, you should click it as soon as possible.

Note: Clear your browser cache settings after applying any changes. This enables you to view the most current version of the Web page, which should reflect the latest changes.

Common Settings

Certain settings are common to every RealPlayer Enterprise Manager. They are described in this section.

Ports

Port settings tell RealPlayer Enterprise Manager where to listen for requests. If your RealPlayer Enterprise Manager and Web server are on the same computer, you may need to modify the HTTP Port setting. Otherwise, you will probably not need to make any changes to the port settings.

Note: If you change the port number for **HTTP Port** from its default values after installation, you may need to modify the path to reflect the new port number in the **URL where the player will retrieve preference updates** box when you create new configuration files for RealPlayers. (The default value on the Intranet Preferences page is 8080. RealPlayers receive this value

and use it to access the configuration file on startup if you do not supply another one.)

Warning! Be careful when changing the **HTTP Port** value on RealPlayer Enterprise Manager when it is servicing deployed RealPlayers that are using remote preferences. The deployed RealPlayers access preferences using HTTP and the port number assigned to RealPlayer Enterprise Manager during installation.

RealPlayer Enterprise Manager uses the following settings to determine where to listen for requests sent using a particular protocol (you can view the settings from RealPlayer Enterprise Administrator by clicking **Server Setup>Ports**):

- **HTTP Port**—the default value for this setting is 8080.
- **Admin Port**—port number to which RealPlayer Enterprise Administrator connection requests are directed. The setup process assigns a random value for this setting to ensure security, but the user can manually override this value during the setup process.

Note: To use a port lower than 1024 on a UNIX system, you must be logged on as super-user.

Access & Error Logging

The RealPlayer Enterprise Manager access log records the IP addresses of the clients that have connected to RealPlayer Enterprise Manager, the files they accessed, the times of day they connected, and much more. The access log is useful for verifying that RealPlayers are able to connect to RealPlayer Enterprise Manager and retrieve configuration files and updates to these files. New information is always appended to the end of the access log.

The access log file shows all files served by RealPlayer Enterprise Manager, including all RealPlayer Enterprise Administrator Web pages. These appear in the GET statement; you can easily identify them because they all begin with admin. For example, "GET admin/index.html HTTP 1.0" shows the opening RealPlayer Enterprise Administrator page. If you make changes using RealPlayer Enterprise Administrator, the confirmation page that appears in RealPlayer Enterprise Administrator is also recorded in the access log.

The error log contains both information and error messages about RealPlayer Enterprise Manager operation. By looking for patterns of errors, you can

troubleshoot and correct problems and avoid recurrences of them. You can view the text of the error log by using a word processor or text editor.

The error log is an excellent tool for troubleshooting any problems that may arise with your RealPlayer Enterprise Manager. An entry is made to the error log only when an error occurs. If no errors occur, this file will not exist.

If you have an error message that refers to a fatal error, contact the RealNetworks Technical Support Department at <http://service.real.com> for assistance.

RealPlayer Enterprise Manager uses the following two settings to record information in the error log (you can view them from RealPlayer Enterprise Administrator by clicking **Server Setup>Access & Error Logging**):

Log Rolling Frequency—settings for creating new log files at specified intervals. See “Log File Rolling”.

Error Log File—the default location is the Logs subdirectory of the main RealPlayer Enterprise Manager directory. The default name of the error log file is `rmerror.log`.

Error Log File Format

The error log records client connections and RealPlayer Enterprise Manager errors. Each time an error is generated by RealPlayer Enterprise Manager, a record is created in the error log. The error log path is stored in the same directory as the access log; this path is indicated by the `LogPath` variable.

The syntax of the file is as follows:

****date time computername(process_ID): error_message*

The various types of entries are listed and defined in the following table.

Error Log Syntax	
Entry	Meaning
<i>***</i>	An error. Informational messages are not preceded by asterisks.
<i>date</i>	The date on which the error occurred. This is given in the form d-Mmm-YY.
<i>time</i>	The time at which the error occurred, according to RealPlayer Enterprise Manager. This is given in the form HH:MM:SS:TT.hhh.

(Table Page 1 of 2)

Error Log Syntax (continued)

Entry	Meaning
<i>computername(process_ID)</i>	The name of the local computer, followed by the process ID in parentheses.
<i>error_message</i>	The text of the error message.

(Table Page 2 of 2)

Log File Rolling

Log files can grow indefinitely as they accumulate data. To keep log files at a manageable size, you can limit the access log to a week's worth of information, for example, or to a specified file size, and RealPlayer Enterprise Manager will begin a new log file when that limit is reached.

► **To set up log file rolling:**

1. In RealPlayer Enterprise Administrator, click **Server Setup>Access & Error Logging**.
2. In the appropriate section of the page—Access Logging or Error Logging—limit the log files either by time period or by size:
 - To limit log files by time period, select the number and the period you want from the drop-down lists in the **Log Rolling Frequency** boxes. You can save log files hourly, daily, weekly, or monthly.
 - To limit log files by size, type in the **Log Rolling Size** box the maximum number of megabytes you want to allow for a log file.

If you supply values for all three boxes, RealPlayer Enterprise Manager will use the size or time period that is reached first.
3. Click **Apply**. Files will be named according to the structure outlined in the following section, “Rolled Log File Format”.
4. Click **Close** in the Configuration Change Results window.

Rolled Log File Format

Rolled log files are named using the following format:

name.log.datestamp

where:

name is the name of the regular log file, as taken from the **Access Log File** box or the **Error Log File** box (usually *rmaccess* for access logs and *rmerror* for error logs).

log is the file name extension for the log file.

timestamp is the date stamp, in the format *YYYYMMDDHHMMSS*,

where:

YYYY denotes the year (always in *four* digits)

MM denotes the month

DD denotes the date, or day

HH denotes the hour

MM denotes minutes past the hour

SS denotes seconds past the minute

Disabling Log File Rolling

If you turn off log file rolling, RealPlayer Enterprise Manager will create a single, large log file.

► To disable log file rolling:

1. In RealPlayer Enterprise Administrator, click **Server Setup>Access & Error Logging**.
2. In either the Access Logging or Error Logging section, select 0 in the first **Log Rolling Frequency** box.
3. In either the Access Logging or Error Logging section, delete any contents from the **Log Rolling Size** box.
4. Click **Apply**.
5. Click **Close** in the Configuration Change Results window.

HTTP Delivery

RealPlayer Enterprise Manager can serve installers and configuration files by way of HTTP. The HTTP delivery paths indicate the mount points whose contents you can make available through HTTP. Each path variable gives the name of a virtual directory whose contents you can access through a browser. The default HTTP delivery paths serve the following purposes:

admin accesses the RealPlayer Enterprise Administrator, which is served through HTTP.

update provides access to the client components available for RealPlayer Enterprise updating. When an Enterprise client tries to access content it does not recognize, the client will automatically check the update directory for new components.

prefs permits Web access to the contents in the /prefs/ mount point. This mount point maps to the IntranetPlayer/prefs directory under the main RealPlayer Enterprise Manager directory. (Configuration files that you generate on the Player Preferences page are saved to this directory on the local computer.) The /prefs delivery path enables Web access to this content. Users can use the HTTP delivery path to retrieve configuration changes to RealPlayer, and you can use it to view and verify the contents of a configuration file.

components provides access to the individual components available through automatic updating (autoupgrade).

For the installer to have access to a Web site, you must create a new HTTP delivery path that maps to a mount point for installers.

► **To create a new HTTP delivery path for installers:**

1. Create a mount point that maps to the /IntranetPlayer/installers subdirectory of the RealPlayer Enterprise Manager directory. (For more information, see the procedure in the “Mount Points” section.)
2. In RealPlayer Enterprise Administrator, click **Server Setup>HTTP Delivery**.
3. Under the **Paths** box, click the “+” icon to **Add New Path**. A default directory name, Path1, appears in the list of paths and in the **Edit Path** box.
4. Change the name to match the name of the installer mount point. This example uses /install.
5. Click **Apply** to save the changes.
6. Click **Close** in the Configuration Change Results window.

The files in the installer directory are now available through browsers using the following address:

`http://address:HTTPPort/install/filename.exe`

where:

address is the IP address or host name of the computer on which RealPlayer Enterprise Manager is installed.

HTTPPort is the port on which HTTP listens for requests.

install is the name of the HTTP delivery path you created. It is the same as the name of the mount point but does not have a forward slash (/) at the end.

filename is the name of the installer.

IP Binding

When RealPlayer Enterprise Manager starts, it uses the IP address assigned to the computer's host name.

You can configure RealPlayer Enterprise Manager to always use specific IP addresses by setting up the IP Binding list. Within this list, you cite individual addresses to use, or you can bind to all of the IP addresses available on the RealPlayer Enterprise Manager computer.

► To reserve IP addresses for RealPlayer Enterprise Manager:

1. In RealPlayer Enterprise Administrator, click **Server Setup>IP Binding**.

2. Click the “+” icon to **Add New IP Address**.

A generic address, “0.0.0.0”, appears in the **Edit IP Address** box.

3. In the **Edit IP Address** box, type the IP address that you want RealPlayer Enterprise Manager to use, and then click **Apply**.

To capture all addresses for RealPlayer Enterprise Manager's use, add the IP address of 0.0.0.0 and delete any other addresses. RealPlayer Enterprise Manager will automatically bind to all addresses and to localhost (127.0.0.1).

Tip: Binding to all addresses by using 0.0.0.0 is recommended for most administrators.

If you type a specific address, RealPlayer Enterprise Manager will bind to the specified address only; it will not bind to localhost.

4. Click **Apply**.

5. When prompted to restart RealPlayer Enterprise Administrator, click **OK**, and then click **Close**.

Mount Points

A *mount point* is a short way of referring to the actual directory where a given file or set of files is stored.

Every mount point begins and ends with a forward slash.

RealPlayer Enterprise Manager uses one mount point to store the configuration files used by RealPlayers. By default, this mount point is named `/prefs/`. It corresponds to the local `IntranetPlayer/prefs` subdirectory in the RealPlayer Enterprise Manager directory. An HTTP delivery path named `/prefs` references this mount point and permits Web access to files in this directory. You can create a similar scenario for the installers by creating an additional mount point and adding an HTTP delivery path.

The default location for the `/prefs/` mount point on Windows is `C:\Program Files\Real\RealPlayer Enterprise Manager\IntranetPlayer\prefs`. On UNIX, you must specify the main RealPlayer Enterprise Manager directory; an `IntranetPlayer/prefs` subdirectory is created automatically under this directory.

► **To create a mount point for installers:**

1. In RealPlayer Enterprise Administrator, click **Server Setup>Mount Points**.
2. Click the “+” icon to **Add New Mount Point**. A generic mount point name (“Content1”) appears in the **Edit Description** box. Edit this name to one of your choosing. Note that you cannot use a period (.) in this box.
3. Type the new mount point designation in the **Mount Point** box. This new designation must be unique, and it must begin and end with a forward slash (/).
4. Identify the location of the local `/IntranetPlayer/installers` directory by typing the full path for the install directory in the **Base Path** box.

Tip: If you are not sure what the base path is, check the base path for the `/prefs/` mount point. Use the same path, but substitute “installers” for “prefs.” Do not include the quotation marks.

5. Click **Apply**.
6. In the message box that prompts you to restart the server, click **OK** to restart RealPlayer Enterprise Manager and apply the changes.
7. Click **Close** in the Configuration Change Results window.

MANAGING REALPLAYER ENTERPRISES

This chapter explains how to create RealPlayer configuration files using RealPlayer Enterprise Administrator. The configuration file for any given deployment determines the preferences used by RealPlayer Enterprises. After you create the configuration file, you can create an installer that references the configuration file. This enables you to deploy RealPlayers that use the configuration file settings as the client preferences.

Note: The configuration files discussed in this chapter refer to files that contain preference settings for RealPlayers. They are different from the configuration file used in the initial configuration of RealPlayer Enterprise Manager (`rdm.cfg`).

Creating, Editing, and Deleting Configuration Files

Configuration files determine the settings selected in the Preferences window of RealPlayers. In standard players, users select these settings themselves. In an enterprise deployment using RealPlayer Enterprise Manager, the settings are determined by the configuration file that RealPlayer reads when it starts.

Using the Web pages in RealPlayer Enterprise Administrator, you create configuration files that determine the settings used by RealPlayers deployed in your enterprise. You can create different configurations for different groups of users based on your company's requirements. RealPlayer Enterprise Manager also makes it possible for you to remotely update configuration files after deployment.

Creating a RealPlayer Configuration File

The instructions in this section explain how to create a configuration file. The creation of the configuration file is the first step in the deployment of RealPlayers throughout a user group.

► To create a configuration file:

1. Start RealPlayer Enterprise Administrator. (See “Accessing RealPlayer Enterprise Administrator” on page 8.)
2. In RealPlayer Enterprise Administrator, click **Player Management>Player Setup**.
3. In Player Setup, click **Create a Preference Configuration**. The **Player Creation: Preferences** page appears.
4. Name the configuration file by entering a new name in the **Configuration** box in the upper left corner of the Web page.
5. Set the preferences for the settings in your users’ RealPlayers.
Note that the Preference setting options form a column to the left within the **Player Creation: Preferences** Web page. Click on the check box for each Preference heading to open or close a drop-down list of preference options. Click on an option to open the preference fields.
Each Preference setting can be locked (red lock icon) or unlocked (green lock icon). The default status is unlocked. You can set each lock setting individually, or choose to Lock/Unlock All General Settings. Each Preference setting also has a value field that can be set to either a numeric or a Yes/No value.
Work through the column of preferences, setting the configuration choices, until you have set the preferences you wish the deployed RealPlayers to have. (For specific details on each preference option, see “Understanding the Configuration Options”.)
6. When you are satisfied with the preferences for the configuration file, click **Save Preferences**. The **Configuration Change Results** Web page appears.
7. Click **Close**.
8. Note that you can modify the configuration file you have just created by clicking on **Edit a Preference Configuration**. This will return you to the Player Creation: Preferences Web page. You can also click on **Copy a Preference Configuration** to make a copy of any configuration file.
9. Set the **Remote Management Options**.
The **URL where RealPlayer retrieves preference updates** box displays the default location where the configuration file will be stored.

Select one of the following ways for RealPlayer to retrieve preference updates:

- Retrieval from the default location on the RealPlayer Enterprise Manager computer:

To deliver the configuration file using HTTP port setting and prefs delivery path on the RealPlayer Enterprise Manager computer, use the default location. RealPlayer Enterprise clients access the file on the RealPlayer Enterprise Manager computer and use these configuration settings.

Note that RealPlayer Enterprise Manager automatically creates a mount point, named /prefs/, that corresponds to the RealPlayer Enterprise Manager\IntranetPlayer\prefs directory. All configuration files are saved automatically to this local directory. The corresponding HTTP Delivery path appears in the **URL where RealPlayer retrieves preference updates** box to permit Web access.

- Retrieval from an alternate location on the local RealPlayer Enterprise Manager computer or from a remote Web server:

Enter the location on the RealPlayer Enterprise Manager computer or on a remote Web server, and then physically move the configuration file to this location.

- Local retrieval from a configuration file distributed to each client:

Enter a local location (for example, C:\software\realplayer) where you plan to distribute the configuration file on each desktop. After you distribute the configuration file and installer, RealPlayers will use this location to retrieve preferences. RealNetworks recommends using standard systems management software to distribute the configuration files before installing RealPlayers on client desktop computers. This option reduces HTTP traffic on your network.

Warning! Distribute the file to the local desktops before installation. If you do not, RealPlayer clients will not be able to find the configuration file and will use the default installation settings until the file is available.

Note: Use the local retrieval option only if you do not anticipate changing the player preferences after deployment.

10. Set the number of hours to wait before retrieving preference updates.
In the **Update Interval** box, enter the interval, in hours, at which you want RealPlayer to check for preference updates. RealPlayer polls the configuration file at startup and then at the interval set here, looking for any changes to the preference settings.
11. Set the **Installation Options**:
 - Specify the location on the users' hard drive where the player will be installed.
 - Under **Player Installation Modes**, select one of the three options:
 - Standard - the user must interact with the installer
 - Minimal user interaction - a graph shows the progress of the installation and the user can abort the installation.
 - Silent - the user cannot interact with the installation.
 - Choose whether you want a desktop shortcut to be added to the users' desktop.
 - Choose whether you want a link to real.com to be added to the users' browser.
 - Choose whether you want to add a RealPlayer icon to the Toolbar.
 - Choose whether you want to add a RealPlayer icon to the top of the Windows Start menu.
12. Click **Apply** to save the preferences you have chosen.
13. Click **Generate Player**. The Configuration Change Results Web page appears.
14. Click **Close**. Or click **Reset** at the bottom of the page to clear the page and start over.
15. The Player that has been created will appear in a new subdirectory under the following directory:
C:\\Program Files\\Real\\RealPlayer Enterprise Manager\\IntranetPlayer\\Installers

Editing an Existing Configuration File

After you have created a configuration file, you can modify the options, if necessary. If you have not yet built an installer and deployed, the modified

options will be reflected in the new installers created with the updated configuration file.

After the initial deployment, the RealPlayers will read the new configuration file the next time they start up and at each polling interval (as set with the **Number of seconds to wait before retrieving prefs** option). If you set a local retrieval option, you must regenerate a new installer and work with the users to reinstall RealPlayers, or use your systems management software to deliver a copy of the configuration file to the local directory you specified.

► **To edit an existing configuration file:**

1. Start RealPlayer Enterprise Administrator. (See “Accessing RealPlayer Enterprise Administrator” on page 8.)
2. In RealPlayer Enterprise Administrator, click **Player Management>Player Setup**.
3. In the **Player Preferences** box, highlight the configuration file that you wish to edit.
4. Click **Edit a Preference Configuration**.
5. In the left column, select the configuration settings that you wish to edit. The right side of the page now displays the selected configuration and its settings.
6. Change the Value and Status settings of the options that you wish to edit.
7. Click **Save Preferences** to save the changes to the file, or click **Reset Preferences** to discard the changes you made.
8. Click **Restart Server** to apply the changes you made.

Deleting a Configuration File

You can delete an obsolete configuration file. Before you do this, however, you should confirm that any RealPlayers that previously referenced the file are now referencing a different file.

► **To delete a configuration file:**

1. Select **Player Setup>Player Setup**.
2. In the **Player Preferences** box, highlight a configuration file that you wish to delete.
3. Click the “trash bin” icon to **remove current configuration**.

Understanding the Configuration Options

The options you select when you create the configuration file dictate the preferences available in deployed RealPlayers that use this file. The **Player Creation: Preferences** page lists all of the available preferences. Each RealPlayer Enterprise that references this configuration file on startup will use the settings you specify on this page.

If you select the **Lock** Status beside the option, the option is saved to the configuration file, and users cannot modify it after installation. If you do not select the **Lock** Status, users will be able to modify the option after installation.

The following section discusses each option on the Player Creation: Preferences page.

Preference Set

This is the file name for the configuration file. By default, this name is set as config1, config2, and so on. RealPlayer Enterprise Administrator saves the preferences to a file with this name when you click **Save Preferences**.

Save Preferences

Click this button to save all the current preferences to the configuration file. A Configuration Change Results Web page appears that records the success or failure of each of your preference choices.

Reset Preferences

Click this button to return the preferences to the most recently saved version of the configuration file.

Close

Click this button to close the current Web page and return to RealPlayer Enterprise Administrator. The preference settings will reflect the current status of the Preferences page; that is, preferences will be saved only if you have already clicked the **Save Preferences** button.

Apply Defaults to General Settings

Click this text to return the values of the preference settings to their original status, before you set any preferences.

Revert to Saved General Settings

Click this text to return the values of the preference settings to the most recently saved version.

Lock All General Settings

Click this text to prevent users from changing any of the preferences set in the configuration file.

Unlock All General Settings

Click this text to enable users to specify all of the available preferences.

General**Recent Clips**

Sets the number of recently viewed clips that will display in the File menu. After a Player has been used, at least one clip will always display in the menu; the maximum that can display is eight.

Clip Cache

Sets the cache size, in megabytes, for temporarily stored, frequently accessed files.

Internet Settings

Select Yes or No for each of the following options to set the option for the users' internet settings:

- Send connection quality data to Helix Universal Server
- Send RealPlayer GUID to Helix Universal Server
- Send configuration info when connecting to technical support
- Enable cookies
- Allow operating system identification requests
- Allow system CPU identification requests

Connections

Bandwidth: Specify the normal bandwidth for accessing presentations.

The normal bandwidth sets the lower limit at which RealPlayer receives digital media transmissions.

Bandwidth: Specify the maximum bandwidth for accessing presentations.

The maximum bandwidth sets the upper limit at which RealPlayer receives digital media transmissions. RealPlayer uses this limit when it increases the bandwidth it uses for SureStream.

Network time-out

- Specifies the amount of time RealPlayer waits before reporting an error connecting to the server.
- Specifies the amount of time RealPlayer waits before reporting an error when receiving data from the server.

Online status

From the drop-down list, choose whether the Player should “Automatically detect online status” or should “Assume the user is online.”

Advanced Connection

RTSP Transport

- Click **Yes** to configure RealPlayer to attempt to receive RTSP content through multicasting. RealPlayer attempts to use multicasting for live content.
- Click **Yes** to configure RealPlayer to use UDP for static content and live content not available through multicasting.
- Click **Yes** to configure RealPlayer to use TCP for RTSP content, if multicasting or UDP have failed.
- Click **Yes** to configure RealPlayer to use HTTP for RTSP content.
- If your network uses HTTP only, uncheck the other options.

PNA Transport

- Click **Yes** to configure RealPlayer Enterprise to use multicasting to view PNA content.
- Click **Yes** to configure RealPlayer Enterprise to use UDP for static content and live content not available through multicasting.
- Click **Yes** to configure RealPlayer Enterprise to use TCP for PNA content.
- Click **Yes** to configure RealPlayer Enterprise to use HTTP for PNA content.
- If your network uses HTTP only, uncheck the other options.

Network Timeouts

These settings specify the amount of time, in milliseconds, that RealPlayer Enterprise will wait for data before attempting the next transport. The timeouts apply to both RTSP and PNA content.

UDP Port

Some networks have limited port settings available for Internet applications. Setting this option enables you to specify which ports are available for RealPlayer Enterprise applications.

Proxy

Proxy Options

- Specify this option if you want RealPlayer Enterprise to use a Progressive Networks Audio (PNA) proxy server to connect to content. In the Host box, enter the appropriate host name or the IP address of the server you want RealPlayer to communicate with using a PNA proxy server. In the Port box, enter the port number you want RealPlayer to use to communicate with the PNA proxy server.
- Specify this option if you want RealPlayer Enterprise to use the RealTime Streaming Protocol (RTSP) proxy server to connect to content. In the Host box, enter the appropriate host name or IP address of the proxy server you want RealPlayer Enterprise to use to communicate with the server through RTSP. In the Port box, enter the port number you want RealPlayer Enterprise to use to communicate with the RTSP proxy server.

HTTP Proxy

- Select this option if you want RealPlayer Enterprise to use the HTTP proxy server to connect to content. Note that you can select more than one proxy server for RealPlayer Enterprises to use to connect to content. In the Host box, enter the appropriate host name or IP address of the HTTP proxy server. In the Port box, enter the port number you want RealPlayer Enterprise to use to communicate with the HTTP proxy server.
- You can also set proxy host exceptions, and exclude certain local hosts (names or IP addresses) with which you do not need to communicate through the proxy server. Enter these hosts in this field. Use a comma as a delimiter.

Advanced Proxy

Proxy Auto-configuration

RealPlayer Enterprises have the ability to utilize Proxy Auto-configuration files that have already been created for your network. If you choose automatically detect proxy settings, RealPlayer will use the WPAD protocol rules

to search for the PAC files on your network. If you do not want RealPlayer to search for the files, you can enter the specific file location or locations.

Trusted Subnets

For any internal subnets entered here, RealPlayer will determine the optimal transport settings and remember them for future connections.

Playback Settings

Buffered Play

Specifies the amount of time, in seconds, that you want RealPlayer to buffer data before playing a clip. Increase this amount to improve playback quality over slower connections.

Instant playback

Enables instant playback instead of downloading whenever possible.

Content

Language and Country

- By default, RealNetworks displays text components in the language of the version you installed. If you prefer another language to be displayed or played by content that provides more than one language, select the language in the drop-down list in the Value column.
- Specifies preference for an overdub track or subtitles when offered.

Accessibility

- Specifies that RealPlayer Enterprise will use supplemental text captioning when available.
- Specifies that RealPlayer Enterprise will use descriptive audio when available.

Hardware

Playback Performance

Sets the amount of CPU usage. This will affect playback quality.

Sound card compatibility

- If set to Yes, disables 16-bit sound if clips sound scratchy or distorted.
- If set to Yes, disables custom sampling rates if clips play at the wrong speed or sound distorted.

Video card compatibility

If set to Yes, disables optimized video if video displays erratically on older video cards.

Unavailable Options in RealPlayer Enterprise

Because RealPlayer Enterprise Manager is designed to enable system administrators to create productivity applications, it offers a smaller set of the options available in a standard RealPlayer. The options listed in the following table are not available in RealPlayer Enterprise.

Unavailable Options in RealPlayer Enterprise Clients

Option	Description
Channels	RealPlayer's ability to automatically update channels and multimedia links to content is disabled.
Real.com News and Entertainment Flashes	Delivery of Real.com news and entertainment clips is disabled.
RealNetworks AutoUpdate	The ability of RealPlayer to contact RealNetworks for updated plug-ins is disabled. This function is centralized; any updates are delivered by RealPlayer Enterprise Manager.
Real.com Media Bar	The search engine, access to Real.com Guide, and the ability to find radio and television stations are disabled.
Equalizer	The ability to customize audio attributes is disabled.
Radio menu	The Radio menu and its associated options are disabled.
Channel menu	The Channel menu and its associated options are disabled.
Video controls	The ability to adjust brightness, contrast, color levels, and other video attributes is disabled.

Configuration File Format

Intranet configuration files are assigned an .icf extension by default. The files conform to a very specific format. RealNetworks recommends making changes to configuration files solely through RealPlayer Enterprise Manager.

SECURITY FOR REALPLAYER ENTERPRISE

RealPlayer Enterprise Manager gives you several ways of providing security within your enterprise network once you have deployed RealPlayers. For example, you can restrict access based on the number of players, bandwidth, or the IP address of the client.

Setting Security for RealPlayer Enterprise

With Access Control, you can create Access Rules that block or permit access to specific ports based on the IP address of the requesting machine.

► **To set security based on Access Control:**

1. In RealPlayer Enterprise Administrator, click **Security>Access Control**. The Access Control page appears.
2. Under **Access Rules**, click on the “+” icon to **Add New Access Control Rule**. A generic rule name (“Rule1”) appears in the **Edit Rule Description** box. Edit this name to one of your choosing.
3. In the **Access Type** box, **Allow** or **Deny** the client access to specific ports on a machine that is requesting access.
4. In the **Client IP Address or Hostname** box, enter the IP address of the client to which the rules apply, or enter “any” to include all client IP addresses.
5. Select a **Client Netmask** from the drop-down list to identify a range of IP addresses by assigning a bit map to an IP address, or select “None”.
6. In the **Server IP Address or Hostname**, select “Any” to apply the access rule to all IP addresses that are bound to RealPlayer Enterprise Administrator.
7. In the Ports box, enter the name of any RealPlayer Enterprise Manager ports to which you wish to allow or deny the client access.
8. When satisfied with your choices, click **Apply**.

Setting Security for User Databases

To authenticate visitors, RealPlayer Enterprise Manager can store user IDs and passwords or client IDs, and their associated access permission information. The information can be stored in either a series of text files or in a database. Templates for common databases are installed during installation.

► To set security for user databases:

1. In RealPlayer Enterprise Administrator, click **Security>User Databases**.
2. In the Databases box, click on the “+” icon to **Add New Database**. A generic database name (“Database1”) appears in the **Edit Database Name** box. Edit this name to one of your choosing.
3. In the **Database Type**, click on the drop-down list and select a type.
4. In the **Database File**, enter the location of the database file you are using.

Setting User Authentication

Authentication verifies the identity of the users or software programs that make requests of RealPlayer Enterprise Manager. It usually takes the form of user name and password validation, though this is not necessary in all cases.

► To set authentication

1. In RealPlayer Enterprise Administrator, click **Security>Authentication**. The Access Control page appears.
2. In the **Authentication Realm** box, click the “+” icon to **Add New Realm**. A generic authentication realm name (“Realm1”) appears in the **Edit Realm Description** box. Edit this name to one of your choosing.
3. In the **Realm ID** box, enter a Realm ID.
4. In the **Authentication Protocol** box, select a protocol from the drop-down list.
5. Under **User Management**, select each of the following four settings as needed and define their fields for the selected Realm:
 - Add a User to Realm
 - User Name
 - Password
 - Confirm Password

- Remove a User from Realm
 - User Name
 - Change User Password
 - Name
 - Password
 - Confirm Password
 - Browse Users in Realm
 - Users
6. Click **Apply**.

UPDATING REALPLAYER ENTERPRISES

After creating an installer for your customized player, you can choose among various methods of distributing RealPlayer Enterprise to your users. This chapter also explains how to update players that have already been installed to clients' computers.

Deployment Options

This section discusses the options for deploying RealPlayer Enterprises to your users. After you have created and configured an installer, you can deliver it to your users in one of three ways:

- Place the installer on a Web server so users can access and install RealPlayer Enterprises from this location.
- Distribute the installer in a software package using third-party systems management software. You can also use systems management software to distribute the preferences file on a local client directory, and RealPlayer will poll a local file rather than increasing network traffic by polling a remote file.
- Manually deliver the installer through your standard software deployment mechanisms.

Choosing Data Types

You can select which data types are included with the installer you build for your custom player. Data types determine the types of media that the

RealPlayer Enterprise can play. Below is a table that describes the default data types that should be included with every installation.

Media Types Supported by Default

Data Type	Description
RM and RA data types	RealAudio and RealVideo streamed content (RA versions 4-8; RV versions 1-9)
SMIL data type	Synchronized Multimedia Integration Language (SMIL) files
MID, MIDI, and RMI data types	MIDI sound files

You can also include plug-ins to play many other file types—such as Flash, RealPix (.rp), and RealText (.rt). Below is a table that describes the available data types used as plug-ins.

Installation Options

Option	Description
Multicast support	Select this option to include the components for RealPlayer to support multicast in the installation package.
H.261 video	Select this option to include the components for RealPlayer to support H.261 video in the installation package. The H.261 plug-in enables RealPlayer to play live and on-demand video that is broadcast over the Internet Multicast Backbone, the worldwide IP multicast system running on top of the Internet. RealNetworks recommends that you include this option if you are including the Multicast support option.
Macromedia Flash support	Select this option to include in the installation package the components necessary for RealPlayer to provide Macromedia Flash support.
RealText data type	Select this option to include in the installation package the components necessary for RealPlayer to support the RealText data type.
JPEG data type	Select this option to include in the installation package the components necessary for RealPlayer to support the JPEG image data type.

(Table Page 1 of 2)

Installation Options (continued)

Option	Description
RealPix data type	Select this option to include in the installation package the components necessary for RealPlayer to support the RealPix data type.
GIF data type	Select this option to include the components in the installation package for RealPlayer to support the GIF image data type.
PNG data type	Select this option to include the components for RealPlayer to support the PNG image data types in the installation package.
View Source	Select this option to include the components necessary for RealPlayer to view source code of media files. Users can view the source code or stream properties of clips when they right-click a media file or click View>Clip Source .
MPEG by bitcasting	Select this option to include MPEG-1 video support from digital bitcasting in the installation package.
MP3 playlist support	This option requires the MP3 data type plug-in. It provides support for MP3 playlists.
MP3 data type	Select this option to include the components for RealPlayer to support the MP3 audio data type in the installation package. RealNetworks recommends including MP3 playlist support with this option.
Extra Video	Select this option to enable RealPlayer to support various additional video types, such as AVI and ASF.
Extra Audio	Select this option to enable RealPlayer to support various additional audio types, such as WAV, AU, and AIFF.
RealVideo Fractal Codec	Select this option to include the RealVideo Fractal Codec plug-in in the installation package of RealPlayer. The RealVideo Fractal Codec enables RealPlayer to play back high-resolution streaming video clips.
RealAudio 1 and RealAudio 2 Support	Select this option to enable RealPlayer to play back content produced with RealAudio 1 and RealAudio 2 codecs.

(Table Page 2 of 2)

Updating RealPlayer Enterprise

After you have deployed your custom RealPlayer Enterprise installer to your users, you may want to change certain settings. You can add new data types to your installation, or you can change the values for the preferences that you set when setting up the configuration.

Updating Data types

Component Updating is the new RealPlayer Enterprise Manager method for updating data types. The **Player Update** Web page now contains a setting that specifies how often RealPlayer Enterprise Manager checks for new components.

The system follows these basic steps to update players:

1. At RealPlayer Enterprise Manager start time, the application contacts RealNetworks and downloads updates.
2. An administrator selects the Auto Update box to approve a component.
3. The next time a RealPlayer Enterprise encounters unrecognized content, it calls RealPlayer Enterprise Manager and requests an update.
4. In response, RealPlayer Enterprise Manager either sends down the appropriate datatype or returns the message, “No component available.”

Note: Once a component has been approved for All, every RealPlayer Enterprise connected to that RealPlayer Enterprise Manager can retrieve the component.

Updating Preferences

If you want to change the preferences that you set during the configuration step, you can do so automatically without a new installation.

► To update preferences:

1. From the RealPlayer Enterprise Manager Web interface, choose **Player Management>Player Update**. The Player Update Web page appears.
2. In the **Player Preferences** box, select the configuration file that you wish to update.

3. Click on **Edit Preferences** to open the **Player Creation: Preferences** Web page. You can set the preferences in the configuration file using the directions in “Editing an Existing Configuration File”.
4. When finished editing the configuration file, click **Close**.
5. When finished, click **Apply**.

