

Centova Cast Installation Guide

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For Centova Cast v2.2+

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1. Installing Centova Cast

1.1. System Requirements

Before installing Centova Cast, you should make sure that your server meets the following basic requirements:

- **Operating system**

The following Linux distributions are officially supported for use with Centova Cast:

<i>Red Hat Enterprise Linux 4</i>	<i>Fedora Core 4</i>
<i>Red Hat Enterprise Linux 5</i>	<i>Fedora Core 5</i>
<i>CentOS Release 4</i>	<i>Fedora Core 6</i>
<i>CentOS Release 5</i>	<i>Fedora Core 7</i>
<i>Debian Etch</i>	<i>Fedora Core 8</i>

Other Linux distributions, and other POSIX-compliant operating systems such as FreeBSD, have been known to work with Centova Cast but are not officially supported.

- **Web server / PHP**

Supported web server configurations include:

Apache v1.3, v2.0, or v2.2, with PHP v4.3+ or PHP v5

PHP safe mode (and similar restrictions like `open_basedir`) must be disabled. PHP's GD and FreeType extensions must be installed to generate statistics graphs. Note that both the PHP Apache module and CLI binary must be installed.

- **Database server**

You must have a working MySQL database server:

MySQL v4.1+ or MySQL v5.0+

- **Streaming server**

Supported streaming servers include:

<i>ShoutCast DNAS v1.9.x</i>	<i>IceCast v2.x</i>
http://www.shoutcast.com/download/serve.phtml	http://www.icecast.org/

Note that the installer can download and install ShoutCast DNAS for you automatically.

- **Streaming source**

Supported streaming sources (also sometimes referred to as “auto-DJ” software) include:

ices-cc v0.4.1 (strongly recommended) [ShoutCast / IceCast]
<http://www.centova.com/pages/icescc/>

Choosing ices-cc enables a number of very useful playlist scheduling features within Centova Cast.

sc_trans 0.4.0 [ShoutCast only]

<http://shoutcast.com/download/broadcast.phtml>

Download the “SHOUTcast DSP Plug-In for Mac OS X, Linux and FreeBSD”.

sc_trans 2.0 [ShoutCast only, BETA]

<http://www.winamp.com/>

Search the WinAmp forums for the beta thread. sc_trans 2 is a beta product, and our support for it is experimental.

ices v2.0 [IceCast only]

<http://www.icecast.org/ices.php>

Note: supports Ogg only; DOES NOT support MP3 streams.

ices v0.4 [ShoutCast / IceCast]

<http://www.icecast.org/ices.php>

Note that ices v2.0 is a completely different product – be sure to pick the correct download.

ezstream 0.4+ [IceCast only]

<http://www.icecast.org/ezstream.php>

Streaming source software is optional, but necessary if you want users to be able to offer “autoDJ” functionality to your users. Note that the installer can download and install ices-cc for you automatically.

- **FTP server**

Supported FTP servers include:

Pure-FTPd v1.0.21+

Must be compiled with MySQL support or external authentication support.

ProFTPD v1.3.0+

Must be compiled with file-based authentication support, or mod_sql+MySQL support.

An FTP server is optional, and only necessary to allow users to upload music to the server. If you have an alternate, existing upload method in place, the FTP server is unnecessary.

- **Miscellaneous**

The GNU C compiler (gcc) is required for installation.

ionCube Loader (included with Centova Cast) is required.

A scheduled task (cron job) must be configured for Centova Cast.

1.2. Preparing your Server

The procedure for preparing your server with the necessary software will depend on your OS type and distribution. The following is intended only as a rough guideline for installing the basic software required by Centova Cast on common Linux distributions.

For other OS types and/or Linux distributions, you'll need to determine the correct procedure for installing the prerequisite software by referring to the vendor's documentation.

Also note that if you are already using a common web hosting control panel, such as CPanel®, Parallels® Plesk®, or DirectAdmin®, you likely already have all of this software installed.

1.2.1. CentOS, Fedora, RHEL, and other Red Hat-based Linux Distributions

In most cases, on Red Hat-based Linux distributions you can install the basic set of prerequisite software with a single command, assuming yum has been installed and configured:

```
yum install mysql-server httpd php php-gd php-cli php-mysql gcc make wget  
tar gzip which
```

This command will install the latest versions of MySQL, Apache, PHP, the gcc compiler, GNU make, and the wget, tar, and gzip utilities. Note that while the line may appear word-wrapped above, it should be entered all on one line.

After this command completes, you'll need to configure MySQL, Apache, and PHP for your server. Note that this process is not described in this manual as it is not directly relevant to Centova Cast; please consult with a qualified systems administrator if you require assistance with this.

Finally, you may also need to install the ProFTPd FTP server if it is not already installed.

On Fedora Core Linux distributions:

ProFTPd can be installed using:

```
yum install proftpd
```

This will install ProFTPd automatically.

On CentOS/RHEL Linux distributions:

We recommend obtaining ProFTPd packages from the DAG repository; please visit:
<http://dag.wieers.com/rpm/packages/proftpd/>

Download the latest version of ProFTPd (v1.3.1-1 at the time of this writing) for the correct Linux distribution you're using. You can determine which is the correct package by looking at its filename, as follows:

- For RHEL 4 or CentOS 4, download the package whose filename contains “el4.rf.i386”. For RHEL 4 or CentOS 4 on 64-bit servers, download the package whose filename contains “el4.rf.x86_64”.
- For RHEL 5 or CentOS 5, download the package whose filename contains “el5.rf.i386”. For RHEL 5 or CentOS 5 on 64-bit servers, download the package whose filename contains “el5.rf.x86_64”.
- For RHEL 7, download the package whose filename contains “el7.rf.i386”.

After downloading the package, upload it to your server and run the following command to install it:

```
rpm -Uvh proftpd-x.x.x-x.elx.rf.x.rpm
```

You should of course replace “proftpd-x.x.x-x.elx.rf.x.rpm” with the correct filename of the file you downloaded.

When finished, you should be able to begin installing Centova Cast.

1.2.2. Debian-based Linux Distributions

In most cases, on Debian-based Linux distributions you can install the basic set of prerequisite software with a single command, assuming apt has been installed and configured:

```
apt-get install mysql-server apache2 php5 php5-gd php5-mysql php5-cli  
wget tar gzip build-essential debianutils proftpd
```

This command will install the latest versions of MySQL, Apache, PHP, ProFTPd, the gcc compiler, GNU make, and other relevant build utilities, and the wget, tar, and gzip utilities. Note that while the line may appear word-wrapped above, it should be entered all on one line.

After this command completes, you'll need to configure MySQL, Apache, and PHP for your server, and install your selection of streaming server and source applications. When finished, you should be able to begin installing Centova Cast.

1.2.3. Preparing your Hosting Control Panel

If you have already installed a web hosting control panel, such as CPanel®, Parallels® Plesk®, or DirectAdmin®, on the same server as Centova Cast, you should refer to the following knowledge base article before proceeding with your installation.

http://www.centova.com/pages/faqs/display/general_installation_89

This article contains important instructions for disabling certain restrictions imposed on Apache and PHP by web hosting control panels. If you fail to follow these instructions prior to beginning your Centova Cast installation, you will encounter a number of errors during installation.

1.3. Installation Procedure

To begin, download Centova Cast from your client area at www.centova.com, and upload it to your server via FTP.

IMPORTANT NOTE: If you are using a web hosting control panel on the same server as Centova Cast, please refer to the previous section before proceeding!

Centova Cast must be installed from a shell prompt using the 'root' user account. To begin, login to your server as 'root' (via SSH or at a local console). After logging in, follow the instructions below to install Centova Cast.

1. If you plan to use any non-default streaming server or streaming source software, install it now. If you want to let Centova Cast automatically install the defaults (ShoutCast DNAS and ices-cc) skip this step.
2. Unpack your CentovaCast tarball into a temporary directory. This will create a directory called "centovacast-x.x.x" (where x.x.x is the version number) containing the CentovaCast files.

```
# cd /tmp
# tar xzvf centovacast-x.x.x-xxx.tar.gz
```

3. Next, start the Centova Cast installer.

```
# cd centovacast-x.x.x
# ./install.sh
```

Note: if you receive "Permission denied" errors here, check the following:

- Is install.sh executable? If not, run `chmod a+x install.sh` and try again.
 - Are you installing from a partition with the `noexec` bit set? If so, try installing from a different partition.
4. The installer will ask to enter the full URL at which you will be installing Centova Cast. It is important that you specify the URL correctly, as this will be used by the installer to detect a number of settings.

For example, you might enter: `http://www.example.com/cast/`

Or if using a subdomain, you might enter: `http://streams.example.com/`

Type the full URL at which you'll be using Centova Cast and press ENTER to continue.

```
To begin, the installer needs to know the full URL at which you will be
using Centova Cast. This is where your users will login to manage their
streams.
```

```
Enter the URL for Centova Cast: http://streams.example.com/cast/
```

5. Next, the installer will ask you to enter the path (on the server's hard disk) which corresponds to the URL you entered in the previous step. In most cases, this will just be the path to the web root for your web site. If you're installing Centova Cast in a subdirectory of your web site, it will be your web root plus the subdirectory.

For example, if you installed Centova Cast at `http://www.example.com/cast/`, and your web root path for this web site is `/home/jsmith/public_html`, then you might enter:
`/home/jsmith/public_html/cast/`

Type the full path for and press ENTER to continue.

```
Please enter the path to the directory which corresponds to this URL:  
http://streams.example.com/cast/
```

```
Enter the path for your Centova Cast web interface: /var/www/html/cast/
```

If you are unsure of the web root path for your web site, please consult with your systems administrator for assistance.

6. The installer will now attempt to detect suPHP on your server. In most cases you will be able to skip this step.

If auto-detection fails, however, you will be asked whether suPHP is installed on your server:

```
Is your web server configured to use suPHP (or phpsuexec)?
```

```
Press Y if suPHP or phpsuexec are enabled, otherwise press N: N
```

If you are not sure whether suPHP is installed, you should consult with your systems administrator. It is important that you answer this question correctly, or Centova Cast will not operate correctly.

7. Next, you will be asked what type of server software you want to use. If you have any doubts, choose ShoutCast as this is the most common server type, and the installer can install it for you automatically.

```
Centova Cast can work with IceCast or ShoutCast streaming servers. If you  
choose ShoutCast (recommended), this installer can download and install it  
for you automatically.
```

```
Select the type of server you want to use:  
[S] Press S for ShoutCast (recommended)  
[I] Press I for IceCast
```


8. If you chose ShoutCast, you will now be prompted to accept the ShoutCast DNAS license agreement. Because ShoutCast DNAS is third-party software, you must read and accept its license agreement to install the software. If you agree, ShoutCast DNAS will be installed.

```
Press Y if you accept this agreement and wish to install ShoutCast DNAS.  
Press N to skip the installation of ShoutCast DNAS.
```

```
Do you accept these license terms? (y/n) Y
```

If you answer YES, ShoutCast DNAS will be downloaded and installed automatically. If you answer NO, or if you chose IceCast as your server software, you will now be prompted to enter the path to the server software manually.

9. Next, you will be prompted to install a streaming source application (also sometimes known as an “Auto-DJ”). In virtually all cases you will want to answer YES to have the installer automatically download and install the recommended source software (ices-cc).

```
If you plan to use Centova Cast's 'AutoDJ' features, you must install a  
streaming source application.
```

```
If you choose ices-cc (recommended), this installer can download and  
install it for you automatically.
```

```
Do you want to download and install ices-cc automatically now? (y/n) Y
```

The only case where you might want to answer NO is if you are using an IceCast server and wish to stream in Ogg format. If you answer NO, you will be prompted to select the source type and enter the path where you have installed the source software in step 1 above.

10. In some cases, you may be prompted to automatically setup FTP server integration. Answer YES if you want to have the installer set this up for you automatically.

```
This installer can automatically configure Centova Cast to work with your  
existing FTP server. Once this is done, your users will be able to login  
to your FTP server using their Centova Cast username and password.
```

```
Setup FTP integration automatically now? (y/n) Y
```

Note that the installer will only prompt you for automatic integration if it is confident that it can do so without damaging your existing FTP configuration. It errs on the side of caution, so if you are not prompted, you can manually install FTP integration later by following the instructions in the *FTP Server Integration* section of this manual.

11. The installer will now finish installing Centova Cast and prompt you to launch the web interface to configure Centova Cast for use. Launch the Centova Cast web interface in your web browser.

The first page of the web-based configuration system will test your system to ensure that your web server and PHP meet all of the necessary prerequisites. If any error messages are

displayed, you will need to ask your systems administrator to resolve the underlying problems.

In most cases, no error messages will be displayed and you may click the `Continue` button to proceed to the next step.

12. The next page will prompt you for the following information:

Administrator E-mail address – Enter your E-mail address here.

Administrator password – Enter the password you'd like to use for the Centova Cast administrator account.

Confirm password – Re-enter the password you chose above.

License key – Enter your Centova Cast license key which is available in your client account at centova.com

MySQL database name – Enter the name of the MySQL database you created for Centova Cast.

MySQL username – Enter the MySQL username for the database you selected above.

MySQL password – Enter the password for the MySQL username you selected above.

MySQL hostname – Enter the hostname for your MySQL server (usually `localhost`).

After filling out this form, if no problems were encountered, the installation should complete successfully.

13. If you wish to use FTP integration (and were not prompted for automatic integration in step 10 above), you should now proceed to the following section to configure your FTP server for use with Centova Cast.

If you do not require FTP integration, the installation is now complete and Centova Cast is ready to use.

2. FTP Server Integration

If you plan to offer server-side streaming source support to your clients, you will likely want to allow your clients to upload their media (MP3 audio files, etc.) to your server via FTP. If you do not plan to offer server-side streaming source support to your clients, you may skip this step.

Important note: *In most cases where the necessary software is installed and no conflicting configurations are detected, Centova Cast's installer will automatically setup FTP integration with no user intervention. If Centova Cast's installer prompted you for automatic FTP integration and did not display any errors, then FTP integration has already been configured and you can skip this step.*

Centova Cast includes sample configuration files for integrating two popular FTP servers with Centova Cast to allow your clients to upload media using their normal Centova Cast username and password.

Instructions and sample configuration files for ProFTPd and Pure-FTPd are provided in the `ftp/` sub-directory of the Centova Cast installation tarball, which you can find in your home directory named `castinstall/centovacast-latest.tar.gz`. The instructions are also included below.

2.1. ProFTPD Integration

This section contains instructions setting up ProFTPD for use with Centova Cast. For example configuration files, please see the `ftp/proftpd/` sub-directory of the Centova Cast installation tarball.

If you provide server-side source support (eg: via `ices` or `sc_trans`) to your clients, this will allow your clients to login via FTP with their Centova Cast usernames and passwords to upload and manage their media library.

This will not disrupt your existing FTP configuration (for example, if you also host web sites on your server, your users will continue to be able to login via FTP to upload their web pages as usual).

2.1.1. Prerequisites

The following prerequisites must be met to use Centova Cast with ProFTPD:

- A recent version of ProFTPD must be installed. The instructions in this guide were tested with ProFTPD version 1.3.0.
- For MySQL-based integration, the `mod_sql` module and MySQL support **must be installed** in ProFTPD. For non-MySQL integration, the `mod_auth_unix` module must be installed in ProFTPD. Without one of these modules installed into ProFTPD, integration with Centova Cast is not possible.

Please be sure that your system meets these requirements before proceeding.

2.1.2. Available Integration Options

There are two integration methods available for Pure-FTPd, each of which is described below. The options available include:

1. MySQL-based

Allows ProFTPD to access Centova Cast's user database directly to authenticate users. This requires that your copy of ProFTPD was built with MySQL support enabled (or has a MySQL package such as `proftpd-mysql` under Red Hat, CentOS, Fedora, Debian, etc.)

Note that this integration method can be very difficult for less-experienced administrators to setup. Unless you are an experienced administrator and have built ProFTPD from source with MySQL support, we strongly recommend using `passwd-file` integration (described below).

2. Passwd-file integration (non-MySQL based)

Forces Centova Cast to periodically write its user list to a file on disk for ProFTPD to authenticate against. This is supported by virtually all ProFTPD builds. Note that when using

this method, new accounts and password changes may not immediately take effect in the FTP server, and the user may need to wait several minutes before being able to login.

If you are an experienced systems administrator and MySQL support is available in your ProFTPd build, use the MySQL-based integration method. Otherwise, use the non-MySQL (passwd-file) integration method.

Note for Plesk Control Panel users: If the Plesk control panel system is installed on your server, you will need to use the non-MySQL method as Plesk provides a custom-built ProFTPd which is not MySQL-capable.

Note for DirectAdmin Control Panel users: DirectAdmin already uses the passwd-file integration method for its own ProFTPd integration. As such, you cannot also use this method with Centova Cast on the same IP address. You need to setup a second IP address in ProFTPd and configure it to work with Centova Cast. Consult the ProFTPd manual for more information.

2.1.3. MySQL-based Integration Instructions

The sample `centovacast.conf` file included in the `ftp/proftpd/mysql/` directory of the Centova Cast installation tarball will configure ProFTPd to listen on a particular IP address and/or port for FTP connections. When a connection is received, it will authenticate against your Centova Cast user database instead of your normal UNIX accounts.

To install the sample `centovacast.conf` file is included in the `ftp/proftpd/mysql/` sub-directory of the Centova Cast installation tarball, copy it to the same directory as your `proftpd.conf` file. Then make the following changes to `centovacast.conf`:

1. On the line that says:

```
<VirtualHost 192.168.0.10>
```

Replace `192.168.0.10` with the IP address on which Centova Cast's FTP server should listen. Be sure to choose an address that is NOT already in use by ProFTPd, otherwise ProFTPd will fail to start. (Alternately, you can re-use an IP address and specify a different port number as described below.)

2. On the line that says:

```
SQLConnectInfo databasename@hostname username password
```

Replace `databasename` with your Centova Cast MySQL database name; replace `hostname` with your MySQL hostname (usually `localhost`), and replace `username` and `password` with your Centova Cast MySQL username and password.

3. Optional: If you want Centova Cast's ProFTPd server to listen on a nonstandard port (for example, if you don't have a spare IP available), on the line that says:

```
Port 21
```

Replace 21 with the port on which the FTP server should listen.

Next, save your changes, and then modify your `proftpd.conf` file and add the following command at the top of the file:

```
Include /path/to/centovacast.conf
```

Replace `/path/to/centovacast.conf` with the actual path to `centovacast.conf`. For example, if you copied `centovacast.conf` to `/etc/proftpd/`, you would use:

```
Include /etc/proftpd/centovacast.conf
```

You may also need to edit the `AuthOrder` line and add `mod_sql.c` to the list, for example:

```
AuthOrder mod_sql.c mod_auth_pam.c mod_auth_unix.c
```

Finally, restart ProFTPd to make the changes take effect. Once this is done, you should be able to login via FTP using the username and password for any active Centova Cast account.

2.1.4. Troubleshooting MySQL-based Integration

Please follow these steps to correct common problems with ProFTPd integration:

- *Problems restarting starting ProFTPd after integration update*

Double-check that you have not mistyped any of the commands above, then double-check that `mod_sql` and MySQL support have been built in to ProFTPd. The most common cause for this problem is lack of MySQL support in ProFTPd, as MySQL support is not normally enabled by default.

- *Fatal: unknown configuration directive 'SQLConnectInfo' on line 31 of '/etc/centovacast.conf'*

This indicates that your copy of ProFTPd has not been built with MySQL support. You'll need to rebuild ProFTPd with MySQL support, or use the non-MySQL integration method described in the following section of this manual.

- *"Permission denied" when uploading*

Your Centova Cast user account may have been created with a user ID below 1000. Under most Linux distributions, user IDs below 1000 are reserved for system accounts, and as a result, ProFTPd will not allow you to use them when logging in.

If you find that you are able to login via FTP to your Centova Cast accounts, but that you receive "permission denied" errors whenever you attempt to upload files, you will need to run the following command to determine your Centova Cast user ID:

```
id centovacast
```

Replace "centovacast" with the username for the account under which Centova Cast will be running. You should see something like:

```
uid=500 (centovacast) gid=500 (centovacast) groups=500 (centovacast)
```

Check the `uid=` value to determine the user ID of your Centova Cast account; in the example above, `uid=500` indicates that the user ID is 500. If this value is below 1000, then this is the reason for your "permission denied" errors.

If so, add the following line to your `/etc/proftpd/centovacast.conf` file directly below the `SQLEngine` on line:

```
SQLMinUserUID 500
```

Replace 500 with the user ID you obtained above. Finally, restart ProFTPd to make the changes take effect.

2.1.5. Passwd-file (non-MySQL) Integration Instructions

The `centovacast-userdump.php` script file included in the `ftp/proftpd/non-mysql/` directory of the Centova Cast installation tarball will dump your Centova Cast user list into a ProFTPd-compatible `passwd` file. This script will need to be run periodically (eg: via cron) to keep the `passwd` file up to date.

It is important to note that this is a "last resort" integration technique and its use is strongly discouraged. Wherever possible, you should use MySQL-based ProFTPd integration.

To install the `centovacast-userdump.php` script, follow these instructions:

1. Edit the `centovacast-userdump.php` file and change the `CENTOVACAST_PATH` setting to the full path to your Centova Cast system directory (usually `/home/centovacast/system/`).
2. Copy `centovacast-userdump.php` to an appropriate location on your server, for example:

```
cp centovacast-userdump.php /home/centovacast/centovacast-userdump.php
```

3. Setup an entry in your crontab to run the following command every 5 minutes:

```
php -q /home/centovacast/centovacast-userdump.php  
/home/centovacast/passwd /home/centovacast/group
```

Note that while the above appears wordwrapped due to space limitations, it should all appear on a single line.

If you are editing `/etc/crontab` directly you can use:

```
* /5 * * * * centovacast php -q  
/home/centovacast/centovacast-userdump.php  
/home/centovacast/passwd /home/centovacast/group
```

Again, the above should all appear on a single line despite being wordwrapped above.

If you are using a control panel application such as CPanel or Plesk, please consult the control panel documentation for information on setting up a scheduled task.

Note that the two arguments to `centovacast-userdump.php` specify the names for the files that Centova Cast will create for ProFTPd. These files must of course be writable by the user account under which the cron job is being run. You may use a different paths if necessary, as long as you adjust the `AuthUserFile` and `AuthGroupFile` settings in step 4 below.

4. Edit your ProFTPd configuration script (usually `/etc/proftpd/proftpd.conf`) and add the following three lines:


```
AuthOrder mod_auth_unix.c mod_auth_file.c
AuthUserFile /home/centovacast/passwd
AuthGroupFile /home/centovacast/group
```

If an AuthOrder line already exists, simply add "mod_auth_file.c" to the end of it (if it is not already present). Also, make sure that the "DefaultRoot" setting is set to "~", eg:

```
DefaultRoot ~
```

This will ensure that your Centova Cast users cannot escape from their home directories.

Finally, restart ProFTPd to make the changes take effect. Once this is done, you should be able to login via FTP (after about 5 minutes) using the username and password for any active Centova Cast account.

Note that Centova Cast will only update the user files once every 5 minutes (or however often your cron job is scheduled to run). This means that any time a new account is added or a password is changed (including during initial setup of ProFTPd integration), the new or updated accounts may not be accessible in ProFTPd for up to 5 minutes.

2.1.6. Troubleshooting

- *Invalid username or password when logging in*

In certain cases, other ProFTPd authentication modules may declare themselves as "authoritative", which will prevent ProFTPd from trying to authenticate against Centova Cast's user database. If you find yourself in such a situation, modify your AuthOrder line in the configuration file such that "mod_auth_file.c" is first in the list of authentication modules. Then restart ProFTPd and try again.

2.2. Pure-FTPd Integration

This section contains instructions setting up Pure-FTPd for use with Centova Cast. For example configuration files, please see the `ftp/pure-ftpd/` sub-directory of the Centova Cast installation tarball.

If you provide server-side source support (eg: via `ices` or `sc_trans`) to your clients, this will allow your clients to login via FTP with their Centova Cast usernames and passwords to upload and manage their media library.

This usually will not disrupt your existing FTP configuration (for example, if you also host web sites on your server, your users will continue to be able to login via FTP to upload their web pages as usual as long as their usernames do not conflict with your Centova Cast usernames).

2.2.1. Prerequisites

The following prerequisites must be met to use Centova Cast with Pure-FTPd:

- A recent version of Pure-FTPd must be installed. The instructions in this guide were tested with Pure-FTPd version 1.0.21.
- MySQL support *or* external authentication support must be enabled in Pure-FTPd. This may require recompiling Pure-FTPd or installing a different package from your Linux vendor.

Please be sure that your system meets these requirements before proceeding.

2.2.2. Available Integration Options

There are two integration methods available for Pure-FTPd, each of which is described below. The options available include:

1. MySQL-based

Allows Pure-FTPd to access Centova Cast's user database directly to authenticate users. This is the "cleanest" and most reliable way to integrate Centova Cast with Pure-FTPd, but it requires that your copy of Pure-FTPd was built with MySQL support enabled (which tends to be rare unless you built it from source).

2. External Authentication (non-MySQL based)

Uses an external authentication script to allow Pure-FTPd to authenticate against Centova Cast's user database. This method requires modification of your init scripts, which may be undesirable as they may be overwritten during future Pure-FTPd upgrades. This method also requires that your copy of Pure-FTPd was built with external authentication support enabled, however this feature usually is enabled in most Pure-FTPd packages.

If MySQL support is available in your Pure-FTPd build, use the MySQL-based integration method. If not, or if you are unsure, then use the External Authentication method.

Note for CPanel users: If CPanel is installed on your server, you will need to use the External Authentication method.

Note for Debian Linux users: You can install MySQL support for Pure-FTPd by running `apt-get install pure-ftpd-mysql` from the root user account.

2.2.3. MySQL-based Integration Instructions

The sample `mysql.conf` file included in the `ftp/pure-ftpd/mysql/` sub-directory of the Centova Cast installation tarball will configure Pure-FTPd to authenticate against your Centova Cast user database instead of your normal UNIX accounts.

To install the sample `mysql.conf` file included in the `ftp/pure-ftpd/` sub-directory of the Centova Cast installation tarball, copy it to the appropriate directory for your Pure-FTPd configuration. For example, under Debian Linux:

```
/etc/pure-ftpd/db/mysql.conf
```

Or under Red Hat Linux:

```
/etc/pureftpd-mysql.conf
```

Next, edit `mysql.conf` and update the MySQL connection information under the `REQUIRED SETTINGS` heading. Documentation is provided within `mysql.conf` explaining the purpose of each setting.

Under some Linux distributions, you may also need to edit your Pure-FTPd configuration file (usually `/etc/pure-ftpd.conf`) and uncomment the line beginning with: `MySQLConfigFile`

Finally, restart Pure-FTPd to make the changes take effect. Once this is done, you should be able to login via FTP using the username and password for any active Centova Cast account.

2.2.4. Troubleshooting MySQL-based Integration

Please follow these steps to correct common problems with Pure-FTPd MySQL integration:

- *[ERROR] Unknown authentication method*

If, when restarting Pure-FTPd, you receive a message such as:

```
[ERROR] Unknown authentication method: mysql:/etc/pureftpd-mysql.conf
```

This indicates that your build of Pure-FTPd does not include MySQL support. MySQL support is required in order to use the Pure-FTPd MySQL module as described in our published system requirements at: <http://www.centova.com/pages/cast/#requirements>

To correct this problem, you'll need to do one of the following:

1. Rebuild Pure-FTPd with MySQL support, *or*
2. Install the Pure-FTPd MySQL package (if one is provided by your Linux distribution -- Debian, for example, provides a `pure-ftpd-mysql` package), *or*
1. Use the non-MySQL External Authentication Pure-FTPd integration module included with Centova Cast (described below). This will allow you to integrate Centova Cast with Pure-FTPd without adding MySQL support to Pure-FTPd.

If you use CPanel on your server, you will almost certainly need to choose option #3.

- *Problems restarting starting PureFTPd after integration update*

Double-check that you have not mistyped any of the commands above, and that the Pure-FTPd configuration file locations are correct for your Linux distribution.

2.2.5. External Authentication Integration Instructions

The `centovacast-pureauth` file included in the `ftp/pure-ftpd/non-mysql/` sub-directory of the Centova Cast installation tarball will allow Pure-FTPd to authenticate against your Centova Cast user database instead of your normal UNIX accounts.

To install `centovacast-pureauth` and enable External Authentication-based Pure-FTPd integration, follow these instructions:

1. Copy the `centovacast-pureauth` file to an appropriate location on your server, for example: `/usr/sbin/centovacast-pureauth`
2. Edit the `centovacast-pureauth` file and make the following changes:
 - If necessary, change the first line of the scripts to point to your PHP interpreter. This will almost always be either:

```
#!/usr/local/bin/php -q
```

or:

```
#!/usr/bin/php -q
```
 - Change the `CENTOVACAST_PATH` setting to the full path to your Centova Cast system directory (usually `/home/centovacast/system`).
 - If your copy of Pure-FTPd already uses an external authentication script, be sure to change the `FAILOVER` setting to the full path to your existing authentication script. This will cause Pure-FTPd to authenticate against your original authentication script if a username is not found in Centova Cast.

Note for CPanel users: If you use CPanel on the same server as Centova Cast, you *must* set the `FAILOVER` setting to: `/usr/sbin/pureauth`

3. Make the authentication script executable, for example:

```
chmod a+x /usr/sbin/centovacast-pureauth
```

4. Edit your Pure-FTPd init script (usually `/etc/init.d/pure-ftpd`) and replace all occurrences of the word `pureauth` with `centovacast-pureauth` throughout the file. This tells Pure-FTPd to use Centova Cast's authentication script to authenticate users.

Finally, restart Pure-FTPd to make the changes take effect. Once this is done, you should be able to login via FTP using the username and password for any active Centova Cast account.

2.2.6. Troubleshooting External Authentication Integration

Please follow these steps to correct common problems with Pure-FTPd External Authentication integration:

- *Problems restarting starting Pure-FTPd after integration update*

Double-check that you have not mistyped any of the commands above, and that the Pure-FTPd configuration file locations are correct for your Linux distribution.

- *[ERROR] Unknown authentication method*

If, when restarting Pure-FTPd, you receive a message such as:

```
[ERROR] Unknown authentication method: extauth
```

This indicates that your build of Pure-FTPd does not include External Authentication support. External Authentication support is required in order to use the Pure-FTPd External Authentication module as described in our published system requirements at: <http://www.centova.com/pages/cast/#requirements>

To correct this problem, you'll need to do one of the following:

1. Rebuild Pure-FTPd with External Authentication support, *or*
1. If your Pure-FTPd installation includes MySQL support, use the MySQL Pure-FTPd integration module included with Centova Cast (described above).

If you use CPanel on your server, you should already have external authentication support enabled in Pure-FTPd.

3. Billing System Integration

If you plan to offer streaming radio hosting to your clients, you will likely want to setup your billing system to automatically provision and deprovision streams as they are ordered, renewed, and cancelled. Centova Cast provides modules for integrating with the following popular billing systems:

- Parallels Plesk Billing (ModernBill) v5.x
- iPanel v3.6+
- iHost v2.1+
- WHMCS v3.4+

Instructions and modules for supported billing systems are provided in the `billing/` sub-directory of the Centova Cast installation tarball, which you can find in your home directory named `castinstall/centovacast-latest.tar.gz`. The instructions are also included below.

Please note that in most cases the necessary Centova Cast modules are already built into the billing system, so you should not need to install them manually.

If you do not need or want integrated billing and provisioning, you may skip this step.

3.1. Parallels Plesk Billing (ModernBill) v5 Integration

This section contains instructions and a server module for integrating Centova Cast with Parallels Plesk Billing (formerly ModernBill) version 5. This will allow you to use Plesk Billing to provision and manage accounts in Centova Cast.

3.1.1. Prerequisites

The following prerequisites must be met to use Centova Cast with Plesk Billing:

- Centova Cast must already be installed and configured.
- Plesk Billing v5 (or ModernBill v5 prior to its name change) must be installed and configured. Familiarity with configuring Plesk Billing and setting up products is required. Note that this module will not work with ModernBill v4.

Please be sure that you are able to meet these requirements before proceeding.

3.1.2. Installation

To install the Centova Cast module for Plesk Billing v5, copy the `centovacast.php` file (located in the `billing/pleskbilling5/` directory of the Centova Cast installation tarball) into the `lib-mbapi/include/modules/panel/` directory of your Plesk Billing installation.

For example:

```
# cp /path/to/centovacast/billing/pleskbilling/centovacast.php \  
/home/username/public_html/pleskbilling/lib-mbapi/include/modules/panel/
```

When finished, the file should exist as:

```
/home/username/public_html/pleskbilling/lib-mbapi/include/modules/panel/centovacast.php
```

3.1.3. Configuration

To configure Plesk Billing for use with Centova Cast, perform the following steps:

1. Login to Plesk Billing, click `System`, and then select `Server Settings` and click `Server Groups`.
2. Click `Add Server Group`, fill out the form, and submit it to create a new server group for Centova Cast.
3. Click the `List Servers` link next to the server group you just created. Then:
 - if the `Add A Panel` selection box is displayed, select `CentovaCast` from the list and click `add`.
 - if the word `CentovaCast` is displayed with a plus (+) icon next to it, click the word

CentovaCast.

4. On the "Edit Panel Options" page, make the following changes:
 - *Server Name:*
Set this to the hostname of the machine on which Centova Cast is running, or any identifying name for this Centova Cast server.
 - *Enabled:*
Set this to YES to enable the Centova Cast module in Plesk Billing.
 - *Centova Cast username:*
Set this to your Centova Cast username. If you are the administrator of the server, the username will be `admin`. If you have a Centova Cast reseller account instead, the username will be your reseller account's username.
 - *Administrator Password:*
Set this to your Centova Cast password. If you are the administrator of the server, the password will be your Centova Cast "admin" account's password. If you have a Centova Cast reseller account instead, the password will be your reseller account's password.
 - *Centova Cast URL:*
Set this to the complete URL to your Centova Cast installation. (Do not include the "/login/index.php", or "/admin/index.php", etc. which you may see in your web browser's URL bar upon logging in to Centova Cast.) For example: <http://centovacast.example.com/>
 - *Show Server Load:*
Set this to YES if you want Plesk Billing to display the system load for the server on which Centova Cast is installed.

When finished, click Save.

The Centova Cast module is now ready to use, and will function like any other built-in Plesk Billing module (CPanel, Plesk, etc.) More specifically, to create a Centova Cast package, simply create a new Hosting Product in Plesk Billing, and then:

1. Configure all of the usual product options required by Plesk Billing.
2. Click `Server Groups` and add the Centova Cast server group to this product.
3. Click `Attributes` and in the "Account template name" field, enter the name of the Centova Cast account template to use for this package. You can create your account templates in Centova Cast by clicking "Account Templates". This feature allows you to predefine completely custom configurations for each package.

Note that these steps may vary slightly depending on your particular Plesk Billing (or ModernBill) version number. For more information about setting up packages in Plesk Billing, please refer to the Plesk Billing manual which is always the authoritative reference for managing packages in Plesk Billing.

3.2. iHost v2 / iPanel v3 Integration

This section contains instructions and a back-end module for integrating Centova Cast with iHost version 2.10+ or iPanel v3.5+ (hereafter referred to collectively as iHost for brevity). This will allow you to use iHost to provision and manage accounts in Centova Cast.

The Centova Cast module for iHost v2 is located in the `billing/ihost/` sub-directory of the Centova Cast installation tarball.

3.2.1. Prerequisites

The following prerequisites must be met to use Centova Cast with iHost:

- Centova Cast must already be installed and configured.
- iHost v2.1.0+ or iPanel v3.5+ must be installed and configured. Familiarity with configuring iHost and setting up servers and packages is required. Note that this module will not work with iHost v1.x or iPanel v2.x.

Please be sure that you are able to meet these requirements before proceeding.

3.2.2. Installation

To install the Centova Cast module for iHost v2, perform the following steps:

1. Copy the Centova Cast iHost v2 module directory (located in the `billing/ihost/centovacast` directory of the Centova Cast installation tarball) into the `backend/` directory of your iHost installation.

For example:

```
# cp -r /path/to/centovacast/billing/ihost/centovacast \
/home/username/public_html/ihost/backend/
```

When finished, you should have a directory structure such as:

```
/home/username/public_html/ihost/backend/centovacast/
```

2. Login to iHost and click `Servers`. Under `Add server`, you should find a new Centova Cast server type in the drop down list. Select `Centova Cast` and click `Create`.
3. On the `Create Server` page, make the following changes:
 - `Status`:
Set this to: `Active All`

- **Hostname:**
Set this to the hostname of your Centova Cast server. For example:
`centovacast.example.com`
- **IP address:**
Set this to the IP address of your Centova Cast server.
- **Username:**
Set this to your Centova Cast username. If you are the administrator of the server, the username will be `admin`. If you have a Centova Cast reseller account instead, the username will be your reseller account's username.
- **Password:**
Set this to your Centova Cast password. If you are the administrator of the server, the password will be your Centova Cast "admin" account's password. If you have a Centova Cast reseller account instead, the password will be your reseller account's password.
- **Primary nameserver:**
Secondary nameserver:
These values are not used by Centova Cast, but are required by iHost. Simply enter the hostname of your Centova Cast server as a placeholder.
- **URL to Centova Cast:**
Set this to the complete URL to your Centova Cast installation. (Do not include the `/login/index.php`, or `/admin/index.php`, etc. which you may see in your web browser's URL bar upon logging in to Centova Cast.) For example:
`http://centovacast.example.com/`

When finished, click `Create Server`.

Centova Cast is now ready for use with iHost, and will function like any other built-in iHost server module (CPanel, Plesk, etc.). More specifically, to create a Centova Cast package, simply click on the "Manage Packages" link, and then:

1. Under "New package", select the server you created above, choose `Streaming Radio Hosting (Centova Cast)` as the package type, and click `Create`.
2. Configure all of the usual product options required by iHost.
3. In the "Account template name" field, enter the name of the Centova Cast account template to use for this package. You can create your account templates in Centova Cast by clicking "Account Templates". This feature allows you to predefine completely custom configurations for each package.

For more information about setting up packages in iHost, please refer to the iHost documentation.

3.3. WHMCS v3.7+ Integration

This section contains instructions and a back-end module for integrating Centova Cast with WHMCS v3.7 or better. This will allow you to use WHMCS to provision and manage accounts in Centova Cast.

The Centova Cast module for WHMCS v3.7+ is located in the `billing/whmcs/` sub-directory of the Centova Cast installation tarball.

3.3.1. Prerequisites

The following prerequisites must be met to use Centova Cast with WHMCS:

- Centova Cast must already be installed and configured.
- WHMCS v3.7 must be installed and configured. Familiarity with configuring WHMCS and setting up products/servers is required. Note that this module may work with earlier version of WHMCS, however v3.7 was used for development testing.

Please be sure that you are able to meet these requirements before proceeding.

3.3.2. Installation

To install the Centova Cast module for WHMCS, copy the `centovacast.php` file (located in the `billing/whmcs/` directory of the Centova Cast installation tarball) into the `modules/servers/centovacast/` directory of your WHMCS installation.

For example:

```
# mkdir /home/username/public_html/whmcs/modules/servers/centovacast
# cp /path/to/centovacast/billing/whmcs/centovacast.php \
    /home/username/public_html/whmcs/modules/servers/centovacast/
```

3.3.3. Configuration

To configure WHMCS for use with Centova Cast, perform the following steps:

1. Login to WHMCS, click `Configuration`, and then click `Manage Servers`. Then, click `Add New Server`.
2. On the *Add New Server* page, fill out the following fields:
 - *Name*:
Set this to the hostname of the machine on which Centova Cast is running.
 - *IP Address*:
Set this to the IP address of the machine on which Centova Cast is running. (Note that this is a WHMCS field and is not used by Centova Cast.)

- *Hostname:*
Enter the complete URL to your Centova Cast installation, for example:
`http://centovacast.yourdomain.com/cast/`
- *Type:*
Select Centovacast from the list.
- *Username:*
Set this to: admin
- *Password:*
Enter your Centova Cast administrator password.

All other fields can be ignored. When finished, click `Create Server`.

3. Click `Configuration`, and then click `Products/Services`. Then, click `Create a New Product`.
4. Select `Shared Hosting Account` and select a suitable product group and name. Then, click `Continue`.
5. On the `Module Settings` tab, fill out the following fields:
 - *Module Name:*
Select "Centovacast" from the list.
 - *Default Install Server:*
Select the name of the Centova Cast server you created in step 2 above.
 - *Account template name:*
Enter the name of the Centova Cast account template to use for this package. You can create your account templates in Centova Cast by clicking "Account Templates". This feature allows you to predefine completely custom configurations for each package.
 - *Max listeners:*
Specify the maximum number simultaneous listeners for this stream. You may optionally leave this blank to use the value specified in the account template.
 - *Max bit rate:*
Specify the maximum bit rate (in kbps) for this stream. You may optionally leave this blank to use the value specified in the account template.
 - *Data transfer limit:*
Specify the monthly data transfer limit for this stream. You may optionally leave this blank to use the value specified in the account template.
 - *Disk quota:*
Specify the disk quota for this stream (which must be large enough to accommodate all of this server's configuration files, log files, and any media uploaded for the autoDJ). You may optionally leave this blank to use the value specified in the account template.
 - *Start server:*
Set this to "yes" to automatically start the server after provisioning, or "no" if you want the user to start it manually before using it. Note that this only applies to non-autoDJ streams; if an autoDJ is enabled, it cannot be started until media is uploaded.

6. This step is optional. If you would like to allow your users to “build their own” packages, and have WHMCS to prompt the user for various stream limit options (bit rate, data transfer limit, etc.) and be able to set custom pricing for each option, click the `Configurable Options` tab.

Next, click the `Add New Configurable Option` link, and follow the directions to create one of the following options. Note that in all cases, the “Option Name” field is case-sensitive and must *precisely* match what is shown below or the option will not be recognized by Centova Cast.

- *Max listeners*
This allows the user to specify a custom listener limit. Enter `Max listeners` in the *Option Name* field to begin. Next, in the *Add Option* field, enter the number of listeners, then enter the extra fee for this number of listeners, and click `Save Changes`. Repeat this process for each listener limit you wish to offer.
 - *Max bit rate*
This allows the user to specify a custom maximum bit rate (in kbps). Enter `Max bit rate` in the *Option Name* field to begin. Next, in the *Add Option* field, enter the bit rate, then enter the extra fee for this bit rate, and click `Save Changes`. Repeat this process for each bit rate you wish to offer. Note that Centova Cast treats this as a numeric value in kbps, and will strip any non-numeric characters out of this value before attempting to use it.
 - *Data transfer limit*
This allows the user to specify a custom data transfer limit (in MB per month). Enter `Data transfer limit` in the *Option Name* field to begin. Next, in the *Add Option* field, enter the limit (in MB), then enter the extra fee for this limit, and click `Save Changes`. Repeat this process for each limit you wish to offer. Note that Centova Cast treats this as a numeric value in megabytes, and will strip any non-numeric characters out of this value before attempting to use it.
 - *Disk quota*
This allows the user to specify a custom disk quota (in MB). Enter `Disk quota` in the *Option Name* field to begin. Next, in the *Add Option* field, enter the quota (in MB), then enter the extra fee for this quota, and click `Save Changes`. Repeat this process for each quota you wish to offer. Note that Centova Cast treats this as a numeric value in megabytes, and will strip any non-numeric characters out of this value before attempting to use it.
7. All other fields should be filled out in the usual manner, as when creating any other WHMCS product. When finished, click `Save Changes` to create your product.

The Centova Cast module is now ready to use, and will function like any other built-in WHMCS module (CPanel, Plesk, etc.)

For more information about setting up products in WHMCS, please refer to the WHMCS manual.

4. Upgrading

Centova Cast must be upgraded from a shell prompt using the root user account. To upgrade Centova Cast, login as root and perform the following steps.

1. For safety reasons, always back up your Centova Cast files, including those in your main Centova Cast directory (usually `/home/centovacast`) as well as those under your web root (eg: `/home/username/public_html/cast/` or wherever you installed it).
2. Login to your account at <http://www.centova.com> and download the latest Centova Cast update, then upload the file to the server on which Centova Cast is installed.
3. Unpack the CentovaCast tarball to a temporary directory, eg:

```
# cd /tmp
# tar xzvf centovacast-x.x.x.tar.gz
```

Be sure to use a temporary directory – DO NOT OVERWRITE YOUR EXISTING CENTOVA CAST FILES!

4. Run the upgrade script, e.g.:

```
# ./upgrade.sh
```

5. The upgrade script will prompt you to confirm that you have made backups of your files, and then you will be prompted to enter the path to your Centova Cast control panel files.

```
Enter the path to the Centova Cast control panel files: /var/www/html
```

Enter the path to your Centova Cast web root. This was specified when you originally installed Centova Cast.

Finally, the upgrade script will automatically upgrade your Centova Cast files and database to the latest version.

5. Support

If you require technical support or assistance with Centova Cast, please visit the Centova Cast web site at <http://www.centova.com>. Our web site provides answers to various frequently asked questions regarding issues you may be experiencing with Centova Cast.

If you still require further support, please login with your billing username and password to open a support ticket with Centova Support.

6. Credits

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