Centova Cast

Installation Manual

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Introduction

This is the installation manual for Centova Cast, the leading Internet radio stream hosting solution.

This manual provides a complete guide for installing Centova Cast v3.x on your server.

System Requirements

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

2.1 Software

Operating System

Centova Cast supports the following operation systems:

- CentOS 5, 6, or 7 (or equivalent RHEL release)
- Debian Stable

Other operating systems based on CentOS or Debian should (in theory) work with Centova Cast, but are untested and officially unsupported.

Database server

You must have a working MySQL v4.1, v5.0, v5.1, v5.5, or v5.6 database server (or any equivalent MariaDB database server version) either installed on your server, or accessible over the network.

· Streaming server

Supported streaming servers include:

- SHOUTcast DNAS v2.x
- SHOUTcast DNAS v1.9.8
- IceCast v2.x

Note that the installer can download and install SHOUTcast DNAS v1/2 and IceCast for you automatically.

· Streaming source

Supported streaming sources (also sometimes referred to as "autoDJ" software) include:

- liquidsoap v1.1 [SHOUTcast / IceCast]
- ices-cc v0.4.1 [SHOUTcast / IceCast]

- sc_trans 2.0 [SHOUTcast only]
- ices v2 [IceCast only]
- ices v0.4 [SHOUTcast / IceCast]
- sc trans 0.4 [SHOUTcast only]
- ezstream 0.4 [IceCast only]

Note that the installer can download and install sc_trans v0.4/2.0 or (in most cases) ices-cc for you automatically.

· Package Manager

Centova Cast's installer can automatically use yum (on CentOS-based distributions) or apt (on Debian-based distributions) to install necessary packages prior to installation. Accordingly, a working yum or apt installation is required.

Miscellaneous

The GNU C compiler (gcc) is required for installation. A scheduled task (cron job) must be configured for Centova Cast.

2.2 Networking

Centova Cast requires at least one IP address for its control panel and any hosted streams.

Caveats:

- This IP address must not have another web server on port 80 if you wish to use Centova Cast's port 80 proxy.
- This IP address must not have another FTP server on port 21 if you wish to use Centova Cast's built-in FTP server to allow users to upload media.

Quickstart Guide

3.1 System Requirements

Before beginning, verify that your server meets the System Requirements for Centova Cast.

3.2 Quick Installation

This section assumes you are using a fresh CentOS/RHEL/Debian server with no other control panels installed, and that you do not wish to customize your installation parameters. If a web hosting control panel (CPanel, Plesk, etc.) is installed on your server, see the Custom Installation section instead.

To quickly get up and running with Centova Cast, follow these three easy steps:

• First, download the Centova Cast installation script and make it executable:

```
wget -0 install.sh install.centova.com/LICENSEKEY
chmod a+x ./install.sh
```

Replace LICENSEKEY above with your actual Centova Cast v3 license key from your client area.

• Run the installation script to install Centova Cast, ShoutCast DNAS v2, and Liquidsoap:

```
./install.sh --shoutcast-all
```

Prefer IceCast? Use this to install IceCast + Liquidsoap instead:

```
./install.sh --icecast-all
```

Centova Cast will automatically download and install itself and everything you need to get up and running at this point.

• When the installer completes, it will ask you to visit an URL in your web browser to punch in your administrator password and MySQL connection information.

At this point Centova Cast should inform you that the installation was successful, and will direct you to the Centova Cast login page where you can begin using Centova Cast.

Custom Installation

If you want to use custom installation options, or if you have other components on the server that you don't want disrupted by apt/yum (which is a concern if your server is also running other control panels like CPanel, Plesk, etc.), you can perform the installation manually.

4.1 Prepare Your Server

First, ensure that you have installed all of the prerequisite software that Centova Cast requires. The packages that Centova Cast normally requires are:

- On Debian: mysql-server findutils wget tar gzip unzip sed grep rsync build-essential debianutils icecast2
- On CentOS 4-6: mysql-server findutils wget tar gzip unzip sed grep gawk rsync gcc gccc++ make which
- On CentOS 7+: mariadb-server findutils wget tar gzip unzip sed grep gawk rsync gcc gccc++ make which

On servers which also run a web hosting control panel, it's typically safe to use yum or apt to install all of these packages *except* mysql-server. Most control panels provide their own MySQL package and installing another one will almost certainly cause problems.

4.2 Third-Party Control Panels

If you are using a third-party hosting control panel (CPanel, Plesk, etc.) on the same server as Centova Cast, the control panel may also require preparation.

Specifically:

 If you want to use Centova Cast's port 80 proxy, you must ensure that your other control panel does not attempt to configure its web server on Centova Cast's IP address. This will result in a port conflict, which will cause Centova Cast and/or your control panel's web server to fail to start. If you want to use Centova Cast's FTP server, you must ensure that your other control panel does
not attempt to configure its FTP server on Centova Cast's IP address. This will result in a port
conflict, which will cause Centova Cast and/or your control panel's FTP server to fail to start.

Please consult the documentation for your control panel for assistance in configuring it to exclude an IP address from its control.

4.3 Choose your Installation Type

Next, decide what type of an installation you're doing:

Full Installation

This includes the Centova Cast web interface. If this is your first Centova Cast v3 installation, then you want this installation type.

Linux Control Daemon Installation

This does NOT include the Centova Cast web interface, and is intended for use when you want to add an additional hosting server to an existing Centova Cast web interface. During installation you will need to provide the information for your existing Centova Cast web interface server.

Windows Control Daemon Installation

This does NOT include the Centova Cast web interface, and is intended for use when you want to add a Windows Media Services hosting server to an existing Centova Cast web interface. During installation you will need to provide the information for your existing Centova Cast web interface server.

Instructions for each of these installation types are provided in their respective sections.

Full Installation

A full installation includes the entire Centova Cast package, including the Centova Cast web interface. If this is your first Centova Cast v3 installation, then you want this installation type.

5.1 Installation Procedure

1. To begin your full installation of Centova Cast, download the Centova Cast installation script and make it executable:

```
wget -0 install.sh install.centova.com/LICENSEKEY
chmod a+x ./install.sh
```

Replace LICENSEKEY above with your actual Centova Cast v3 license key from your client area.

- 2. Next, decide which streaming server/source software you want Centova Cast to install for you. As of the time of this writing, Centova Cast supports automatic installation of the following:
 - ShoutCast DNAS v2: add -shoutcast2 to the installer commandline
 - ShoutCast DNAS v1: add -shoutcast1 to the installer commandline
 - IceCast: add -icecast to the installer commandline
 - Liquidsoap: add -liquidsoap to the installer commandline
 - ices-cc: add -icescc to the installer commandline
 - sctrans v2: add –sctrans2 to the installer commandline
- 3. Run the install.sh script as follows, substituting <options> with any (or all) of the above parameters:

```
./install.sh <options>
```

For example, to install ShoutCast DNAS v2 with Liquidsoap, you might use:

```
./install.sh --shoutcast2 --liquidsoap
```

- 4. The installation should complete without error and ask you to visit http://your-ip:2199/ to complete the installation. Open your browser and enter the URL provided by the installer.
 - If you prefer to use a secure (SSL) connection, you can also use https://your-ip:2199/. Centova Cast's web interface supports both SSL and non-SSL connections on the same port.
- 5. The web interface should prompt you to choose an admin password and enter the connection information for your MySQL database. Do so.

At this point Centova Cast should inform you that the installation was successful, and will direct you to the Centova Cast login page where you can begin using Centova Cast.

If your server is using a firewall, see the *Firewall Configuration* section below before proceeding.

5.2 Firewall Configuration

If your server is protected by a firewall, you may need to modify your firewall configuration to allow access to Centova Cast and its streams.

Generally speaking, Centova Technologies cannot assist in configuring your firewall, but basic instructions for some common firewalls are included in our knowledge base.

5.3 Advanced Installer Options

Advanced users may optionally pass any of the following commandline options to install.sh to further automate the installation process.

- --channel=edge
 - Advanced users wishing to try the latest features and functionality may optionally use the edge branch of Centova Cast. Note that the edge branch is likely to be unstable and contain bugs, as it is the testing branch used by Centova Technologies for testing upcoming releases. Issues in this branch will *not* receive priority attention, so use caution when selecting this option. The default if no --channel argument is provided is to use the stable branch.
- --deps
 Instructs the installer to use yum or apt to install all dependencies automatically.
- --vhosts=PATH
 Configures an alternate path for Centova Cast client data including configuration files, logs, and media. This may be used to place client data on an alternate, larger partition.
- --force
 Overwrite any existing Centova Cast installation. Note that this will completely remove your entire existing Centova Cast installation and will delete all existing client data. Use with caution.
- --no-firewall
 Instructs the installer to skip firewall configuration. This option only affects servers using a supported firewall package (currently only CentOS 7 at the time of this writing).

5.4 Automating Stage-2 Configuration

Normally, after performing the commandline (install.sh) portion of the installation, Centova Cast prompts the user to visit a web page to finish configuring Centova Cast. This second, web-based portion of the configuration can be automated by passing *all* of the following options to the install.sh script.

- --admin-email=EMAIL
 Specifies the administrator E-mail address.
- --admin-pass=PASSWORD
 Specifies the password to configure for the admin account.
- --dbname=NAME
 Specifies the MySQL database name to use for Centova Cast.
- --dbuser=USER
 Specifies the MySQL database username to use for Centova Cast.
- --dbpass=PASSWORD
 Specifies the MySQL database password to use for Centova Cast.
- --dbhost=HOST
 (Optional.) Specifies the hostname (or IP address) for the MySQL server. Defaults to localhost.

Linux Control Daemon Installation

A Linux control daemon installation provides only the portion of Centova Cast required to use the server to host ShoutCast and IceCast streams. You must also have a separate server running the Centova Cast web interface.

6.1 System Requirements

The separation of the control daemon from the web interface is explicitly intended to reduce the amount of system resources required on stream hosting servers. The control daemon is tiny – it requires only about 4MB of memory on your stream hosting server, and uses negligible CPU resources.

The control daemon can be installed on any RHEL/CentOS 5/6/7 or Debian Stable Linux server.

6.2 Installing the Daemon

1. To begin your control daemon installation, download the Centova Cast installation script and make it executable:

```
wget -0 install.sh install.centova.com/LICENSEKEY
chmod a+x ./install.sh
```

Replace LICENSEKEY above with your actual Centova Cast v3 license key from your client area.

- 2. Next, decide which streaming server/source software you want Centova Cast to install for you. As of the time of this writing, Centova Cast supports automatic installation of the following:
 - ShoutCast DNAS v2: add -shoutcast2 to the installer commandline
 - ShoutCast DNAS v1: add -shoutcast1 to the installer commandline
 - IceCast: add -icecast to the installer commandline
 - Liquidsoap: add -liquidsoap to the installer commandline
 - ices-cc: add -icescc to the installer commandline
 - sctrans v2: add –sctrans2 to the installer commandline

- 3. Make sure you know the IP address and admin password for your Centova Cast web interface.
- 4. Run the install.sh script as follows, substituting <ip> with the IP address for the Centova Cast web interface, <password> with your Centova Cast admin password, and <options> with any (or all) of the parameters from step 2 above:

```
./install.sh control <ip> <password> <options>
```

For example, if the IP address for your Centova Cast web interface is 10.2.3.4, your password is secret, and you want to install ShoutCast DNAS v2 with sc trans v2, you might use:

```
./install.sh control 10.2.3.4 secret --shoutcast2 --sctrans2
```

This will install Centova Cast's control daemon, along with any server/source software you requested, and automatically configure your Centova Cast web interface to work with this new server.

5. If you want to install Centova Cast's FTP server (to allow clients to upload media to this server via FTP), run:

```
/usr/local/centovacast/sbin/update --add ftpd
```

If your server is using a firewall, see the Firewall Configuration section below before proceeding.

At this point, if you log in to your Centova Cast web interface, you should be able to create streams on the new server. You should also see it listed if you click the "Hosts" link on the left.

6.3 Firewall Configuration

If your server is protected by a firewall, you may need to modify your firewall configuration to allow access to Centova Cast and its streams.

Generally speaking, Centova Technologies cannot assist in configuring your firewall, but basic instructions for some common firewalls are included in our knowledge base.

6.4 Managing the Daemon

The Linux Control Daemon is configured to automatically start at boot, and typically does not require management of any kind. If necessary, however, it can be controlled using the same LSB-compliant init scripts described in Controlling Centova Cast.

Windows Control Daemon Installation

NOTE: The Windows Control Daemon is not yet available for download, but will be released soon.

A Windows control daemon installation provides only the portion of Centova Cast required to use a Windows server to host Windows Media Services streams. You must also have a separate Linux server running the Centova Cast web interface.

7.1 System Requirements

The Windows control daemon is compatible with any edition of Windows 2003 or Windows 2008, with Windows Media Services 9 or later installed. The daemon runs as a Windows service and is very small, requiring only (approximately) 8MB of memory.

7.2 Installing the Daemon

- Before beginning the installation, ensure that Windows Media Services (WMS) is installed on your Windows 2003 or Windows 2008 server. You may need to download an update from the Microsoft web site, or insert your Windows CD, to install WMS. On some Windows editions you may need to enable WMS via Start->Control Panel->Add or Remove Programs->Add/Remove Windows Components.
- To begin your Windows control daemon installation, connect to your Windows 2003 or Windows 2008 server via RDP, launch your web browser, and download the Centova Cast Control Daemon from your client area at centova.com.
- Locate the downloaded installer .exe file and double-click on it to begin the installation.
- Follow the steps in the installation wizard to proceed through the installation process.
- At the end of the installation process, you will be prompted for your license key, the URL to Centova Cast, and the Centova Cast administrator password. Upon providing this information, the control daemon will automatically configure your Centova Cast web interface to work with this new server.

At this point, if you log in to your Centova Cast web interface, you should be able to create Windows Media Services streams on the new server. You should also see the new server listed if you click the "Hosts" link on the left.

7.3 Managing the Daemon

The Windows Control Daemon runs as a Windows service and thus has no user interface of its own. It is configured to automatically start at boot, and typically does not require management of any kind.

A management console is provided for the daemon, and can be invoked via Start->All Programs->Centova Cast Control Daemon->Centova Cast Control Daemon Manager. The console provides options including:

- Starting and stopping the service
- Changing advanced settings and security restrictions
- Configuring a list of IP addresses which are authorized to communicate with the daemon (which should be limited only to the IP address of the Centova Cast web interface server)
- · Reviewing logs for the daemon
- · Checking licensing status and information

Adding Additional Software

Centova Cast supports a wide variety of streaming software applications. If you did not install a particular streaming application during the initial installation of Centova Cast, you can always add it later using the instructions in the sections below.

8.1 Installed by Centova Cast

Centova Cast can automatically install certain software for you with a single command:

/usr/local/centovacast/sbin/update --add <package>

Replace <package> in the above command with a valid package name from the following list:

ShoutCast DNAS v2

Package name: shoutcast2

ShoutCast DNAS v1

Package name: shoutcast1

IceCast

Package name: icecast

Optional: add --icecast-fromsrc to build the latest IceCast from source instead of using a

.deb/.rpm package

Optional: add --icecast-rebuild to build even if the latest available version is already installed

sc_trans v2

Package name: sctrans2

· ices-cc

Package name: icescc

Optional: add --icescc-rebuild to build even if the latest available version is already installed

Liquidsoap

Package name: liquidsoap

Optional: add --liquidsoap-fromsrc to build the latest Liquidsoap from source instead of us-

ing a .deb package

Optional: add --liquidsoap-rebuild to build even if the latest available version is already in-

stalled

Optional: add --show-liquidsoap-deps to show the yum/apt commands needed to install Liq-

uidsoap's build dependencies and then exit

Optional: add --no-liquidsoap-deps to skip installing Liquidsoap's build dependencies (useful

if you've already installed them manually)

MaxMind GeoLite City Database

Package name: geolitecity

For example, to install ShoutCast DNAS v2:

/usr/local/centovacast/sbin/update --add shoutcast2

These commands are fully automated and will download and install the requested package automatically. Note that some of these will actually build the package from source, so they may take quite some time to complete.

8.2 Manually Installed

If you've manually installed a supported server/source in a custom location, you can use the following command to register it with Centova Cast:

/usr/local/centovacast/sbin/enable_package <package> <pathname>

Replace <package> with a valid package name from the following list, and <pathname> with the full pathname to the software you've installed:

ices

Package name: ICES

ices v2.x

Package name: ICES2

ezstream

Package name: EZSTREAM

sc trans v1.x

Package name: SCTRANS

sc trans v2.x:

Package name: SCTRANS2

• Liquidsoap 1.1+:

Package name: LIQUIDSOAP

IceCast

Package name: ICECAST

SHOUTcast DNAS v2

Package name: SHOUTCAST2

SHOUTcast DNAS v1

Package name: SHOUTCAST

For example, if you've installed **sc_trans v2** yourself and its pathname is /usr/bin/sc_trans:

/usr/local/centovacast/sbin/enable_package SCTRANS2 /usr/bin/sctrans

The above would tell Centova Cast that you've installed sc_trans v2 at /usr/bin/sc_trans.

Configuring SSL

Centova Cast fully supports both HTTPS (secure SSL) and HTTP (plaintext non-SSL) connections on its web interface.

The web interface automatically detects which protocol (HTTP or HTTPS) the browser is using and responds appropriately; as such, both protocols are supported on a single port. For example, you could access a Centova Cast installation at cast.example.com using either of the following URLs:

```
http://cast.example.com:2199 (non-SSL)
https://cast.example.com:2199 (SSL)
```

SSL is enabled by default, so either the http or https URL can be used out-of-the-box.

Self-Signed Certificates

During installation, Centova Cast creates a self-signed SSL certificate for your server's IP address. For example, if your server's IP address is 10.2.3.4, the certificate will allow you to access Centova Cast using the URL: https://10.2.3.4:2199/

Note that because self-signed certificates have not been generated by a "trusted" certificate authority, any web server using a self-signed certificates will always cause web browsers to display a security warning.

As such, the first time you (or any of your clients) attempt to access to Centova Cast, the web browser will display a security warning explaining that the certificate is not trusted, and prompt to accept or reject the connection.

This warning can be eliminated by installing your own certificate from a trusted certificate authority.

Customizing Your Self-Signed Certificate

If you wish to regenerate your self-signed certificate (for example, to use your domain name instead of your IP address), you can do so using the following command:

/usr/local/centovacast/sbin/setssl self example.com

Replace example.com with the domain name for which you want to generate the certificate. This is a fully-automated process and once it completes, you can simply restart Centova Cast and begin accessing the web interface at https://example.com:2199/ (again, replacing example.com with your actual domain name).

Note that as with any self-signed certificate, all web browsers will display a security warning when accessing Centova Cast because the certificate is not issued by a trusted certificate authority.

Installing Your Own Certificate

To eliminate the web browser security warnings caused by self-signed certificates, you may wish to obtain an SSL certificate from a trusted certificate authority. The steps for doing so are as follows:

- 1. Order an SSL certificate from an SSL certificate vendor. Thousands of companies on the Internet sell SSL certificates; if you are not familiar with any, your hosting provider likely sells them or can recommend a good vendor. Otherwise, simply searching the web for purchase ssl certificate should give you a place to start.
- 2. Your certificate authority will prompt you for the domain name for the SSL certificate. Enter the domain name (including subdomain, if any) that you have configured to use with Centova Cast.
- 3. Your certificate authority may prompt you for the type of SSL certificate to be generated; if so, choose "Apache/mod ssl" as the type.
- 4. The certificate authority will prompt you to provide your private key. If you do not already have a private key to use, you can generate one on your Centova Cast server using the following command:

```
/usr/local/centovacast/bin/openssl genrsa -out /root/private.key 2048 \
-config /usr/local/centovacast/etc/openssl.cnf
```

This will create a file called /root/private.key which you can then provide to the certificate authority.

5. After you receive your SSL certificate from the certificate authority, you can install it into the Centova Cast web server using the following command:

```
/usr/local/centovacast/sbin/setssl /path/to/private.key /path/to/certificate.pem
```

Replace /path/to/private.key with the private key you provided to the certificate authority (possibly generated in step 3 above), and /path/to/certificate.pem with the SSL certificate bundle provided by the certificate authority.

6. Finally, restart Centova Cast using the following command:

/etc/init.d/centovacast restart

You should now be able to access Centova Cast using your new SSL certificate at https://example.com:2199, where example.com is your actual domain name. Your browser should not issue any security warnings now that you are using a certificate from a trusted certificate authority.

Forcing Users to Use SSL

Centova Cast does not, by default, force users to use SSL; they can switch at will between SSL and non-SSL simply by changing http:// to https:// and vice-versa in the URL.

If you wish to force all users to use SSL when accessing authenticated areas of Centova Cast (i.e., areas which are restricted to logged-in users) you can edit /usr/local/centovacast/etc/centovacast.conf and change REQUIRE_SSL=false to REQUIRE_SSL=true.

Save your changes and restart Centova Cast to enforce the new SSL policy.

Billing Integration

If you plan to offer streaming radio hosting to your clients, you will likely want to configure your billing system to automatically provision and deprovision streams as they are ordered, renewed, and cancelled.

Please note that the necessary Centova Cast modules are already built into most of the more popular billing systems, so you should not need to install them manually. Centova Cast does, however, include a number of bundled modules to ensure that you always have access to the latest module available for a particular billing system, including:

- WHMCS v3.4+
- iHost v3.2+
- iPanel v4.2+

Modules for supported billing systems are provided in the extra/billing/ sub-directory of the Centova Cast installation directory at:

/usr/local/centovacast/billing/extra/

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

14.1 iHost Integration

This section contains instructions and a back-end module for integrating Centova Cast with iHost v3.2 or better (or iPanel v4.2 or better, which works identically). This will allow you to use iHost or iPanel to provision and manage accounts in Centova Cast.

The Centova Cast module for iHost is located in:

/usr/local/centovacast/extra/billing/ihost/

Note that while we refer exclusively to iHost throughout this document for simplicity, the same instructions apply identically if you are using iPanel.

14.1.1 Prerequisites

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

- · Centova Cast must already be installed and configured.
- iHost v3.2+ or iPanel v4.2+ must be installed and configured. Familiarity with configuring iHost and setting up servers and packages is required.

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

14.1.2 Installation

iHost already bundles a copy of the Centova Cast integration module. To ensure that you have the latest and most compatible version of the Centova Cast iHost module, however, you should begin by copying the contents of /usr/local/centovacast/extra/billing/ihost/centovacast to your iHost directory's backend/centovacast/ directory. 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/

14.1.3 Configuration

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

- First, you need to configure iHost to access your Centova Cast server. To begin, login to iHost and click Configuration, then Configure Servers. Under Add server, you should find a Centova Cast server type in the drop down list. Select Centova Cast and click Create.
- 2. On the "Create Server" page, fill out the following fields:
 - Status

Set this to the Active All

Hostname

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.

Username

In most cases, you should enter admin here. If you are not a Centova Cast licensee and you are instead using a Centova Cast reseller account from another hosting provider, you would enter your reseller account's username here.

Password

Enter your Centova Cast administrator password here. Again, if you are using a reseller account, you would enter your reseller account's password here.

- 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.)

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, DirectAdmin, 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. Fill out the following Centova Cast-specific fields:

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 logging in as admin and clicking *Management > Templates*. This feature allows you to predefine completely custom configurations for each package.

Maximum 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.

Maximum 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 enter unlimited to specify unlimited data transfer, or leave this blank to use the value specified in the account template.

Disk space 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 enter unlimited to specify an unlimited quota, or 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.

Mount point limit

Specify the maximum number of mount points the client may create (for ShoutCast v2 and IceCast streams). You may optionally leave this blank to use the value specified in the account template.

Port 80 proxy

Specify whether the port 80 proxy may be used with this stream (assuming port 80 proxy support has been enabled on the server). You may optionally leave this blank to use the value specified in the account template.

AutoDJ support

Specify whether the autoDJ may be used with this stream. You may optionally leave this blank to use the value specified in the account template.

Max accounts

This option is only used when creating a reseller account. Specifies the maximum number of client accounts that the reseller is permitted to create. You may optionally leave this blank to use the value specified in the account template.

Max bandwidth

This option is only used when creating a reseller account. Specifies the bandwidth limit for the reseller. See the bandwidth limit option in the administrator's manual for more information about the purpose of this value. You may optionally leave this blank to use the value specified in the account template.

The Centova Cast module should now be ready to use.

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

14.2 WHMCS Integration

This section contains instructions and a back-end module for integrating Centova Cast with WHMCS v5 or better. This will allow you to use WHMCS to provision and manage accounts in Centova Cast.

The Centova Cast module for WHMCS v5+ is located in:

/usr/local/centovacast/extra/billing/whmcs/

14.2.1 Prerequisites

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

- Centova Cast must already be installed and configured.
- WHMCS v5+ 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 v5 was used for development testing.

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

14.2.2 Installation

WHMCS already bundles a copy of the Centova Cast integration module. To ensure that you have the latest and most compatible version of the Centova Cast WHMCS module, however, you should begin by copying the contents of /usr/local/centovacast/extra/billing/whmcs/ to your WHMCS directory's modules/servers/centovacast/ directory. For example:

cp /usr/local/centovacast/extra/billing/whmcs/* \
 /path/to/whmcs/modules/servers/centovacast/

14.2.3 Configuration

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

- 1. First, you need to configure WHMCS to access your Centova Cast server. To begin, login to WHMCS and click *Setup > Products/Services > Servers*.
- 2. Click Create New Group to create a new server group.
- 3. On the "Create New Group" page, enter Centova Cast in the *Name* field and click *Save Changes*.
- 4. Back on the "Servers" page, click Add New Server.
- 5. 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.

Hostname

Enter the complete URL to your Centova Cast installation, for example:

http://centovacast.yourdomain.com/cast/

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.)

Type

Select Centovacast from the list.

Username

In most cases, you should enter admin here. If you are not a Centova Cast licensee and you are instead using a Centova Cast reseller account from another hosting provider, you would enter your reseller account's username here.

Password

Enter your Centova Cast administrator password here. Again, if you are using a reseller account, you would enter your reseller account's password here.

Secure

Leave this checkbox unticked. Enabling it may cause connection errors.

All other fields can be ignored. When finished, click Save Changes.

- 6. Next, you need to configure a stream hosting product for your clients to purchase. Click *Setup* > *Products/Services* > *Products/Services*.
- 7. Click "Create a New Group".
- 8. On the "Create Group" page, enter Centova Cast in the *Product Group Name* field and click *Create Group*.
- 9. Back on the "Products/Services" page, click Create a New Product.
- 10. On the "Add New Product" page, fill out the following fields:

Product Type

Choose Hosting Account.

Product Group

Choose Centova Cast.

Product Name

Enter a name for the product you want to create, eg: "Centova Cast stream hosting package".

When finished, click Save Changes.

11. The product needs to be further configured to integrate correctly with Centova Cast and support all of the available functionality. The next several steps refer to the different tabs shown on in WHMCS on the "Edit Product" page.

On the *Details* and *Pricing* tabs, configure the WHMCS options as you desire. (These are not Centova Cast-specific.)

12. On the *Module Settings* tab, fill out the following fields:

Module Name

Set this to Centovacast. Changing this field will show the remainder of the options described below.

Server Group

Set this to Centova Cast (or whatever you called the server group when you created it in step 3 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 logging in as admin and clicking *Management > Templates*. This feature allows you to predefine completely custom configurations for each package.

· 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.

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 enter unlimited to specify an unlimited quota, or leave this blank to use the value specified in the account template.

Mount point limit

Specify the maximum number of mount points the client may create (for ShoutCast v2 and IceCast streams). You may optionally leave this blank to use the value specified in the account template.

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.

· Data transfer limit

Specify the monthly data transfer limit for this stream. You may optionally enter unlimited to specify unlimited data transfer, or 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.

Port 80 proxy

Specify whether the port 80 proxy may be used with this stream (assuming port 80 proxy support has been enabled on the server). You may optionally leave this blank to use the value specified in the account template.

AutoDJ support

Specify whether the autoDJ may be used with this stream. You may optionally leave this blank to use the value specified in the account template.

Max accounts

This option is only used when creating a reseller account. Specifies the maximum number of client accounts that the reseller is permitted to create. You may optionally leave this blank to use the value specified in the account template.

Max bandwidth

This option is only used when creating a reseller account. Specifies the bandwidth limit for the reseller. See the bandwidth limit option in the administrator's manual for more information about the purpose of this value. You may optionally leave this blank to use the value specified in the account template.

13. This step is optional. If you would like to configure the WHMCS welcome email (which is sent to clients when a new Centova Cast account is ordered) to include information about the newly-created Centova Cast account, you may create custom fields for these values and Centova Cast will automatically fill them in with the appropriate values. These can then be used as merge fields in your WHMCS welcome email.

On the Custom Fields tab, under Add New Custom Field, enter the following:

Field Name

Enter one of the special field names supported by Centova Cast (listed below).

Field Type

Select Text Box.

Admin Only

Tick the *Admin Only* box. Don't forget to do this or the client will be prompted to fill out this field on the order form as if it were a configurable option. Leave the other options at their defaults.

You can create as many fields as you would like to use in your welcome emails. The supported field names, and their purposes, are described below:

username

Provides the username assigned to the stream account.

ipaddress

Provides the IP address assigned to the stream account. This may be particularly useful if using automatic IP address assignment.

port

Provides the port number assigned to the stream account. This may be particularly useful if using automatic port number assignment.

sourcepassword

Provides the source password assigned to the stream account. Note that due to a new restriction in ShoutCast v2, the source password is now dynamically generated by Centova Cast and will NOT match the administrator password for the account. Also note that WHMCS already provides a merge field to display the administrator password.

servertype

Provides the server type (ShoutCast, IceCast, etc.) for the stream account.

sourcetype

Provides the source type (ices, sc_trans, etc.) for the stream account.

maxclients

Provides the concurrent listener limit assigned to the stream account.

maxbitrate

Provides the bit rate limit assigned to the stream account.

transferlimit

Provides the data transfer limit assigned to the stream account, or 0 if unlimited.

diskquota

Provides the disk guota assigned to the stream account, or 0 if unlimited.

mountlimit

Provides the mount point limit for the stream account, or 0 if unlimited.

resellerusers

Provides the number of client accounts the reseller account is permitted to create, or 0 if unlimited.

· resellerbandwidth

Provides the bandwidth limit for the reseller account, or 0 if unlimited.

After you have created one or more of these fields, you can add them to your welcome email templates as {\$service_custom_field_fieldname}, where "fieldname" is the name of the field. For example, if you've created a custom field called "port", you can use {\$service_custom_field_port} in your welcome email to display the port number.

14. **This step is optional.** If you would like to allow your users to "build their own" packages, and have WHMCS prompt the user for various stream limit options (bit rate, data transfer limit, etc.) and be able to set custom pricing for each option, you can set up Configurable Options in WHMCS for each of these values.

On the *Configurable Options* tab, select the configurable options group you'd like to assign to this product. If you have not yet created any Configurable Options, you can do so as follows:

- 1. First, click the *Save Changes* button to save your product as you'll need to leave the product editor to create your Configurable Options.
- 2. Next, click Setup > Products/Services > Configurable Options.
- 3. Click Create a New Group.
- 4. On the "Create a New Group" page, fill out the following fields:
 - Group Name

Enter a descriptive name such as Centova Cast Configurable Options.

Assigned Products

Select any Centova Cast products you've created. Click Save Changes.

The page will refresh and an *Add New Configurable Option* button will be displayed. Click the *Add New Configurable Option* button and follow the instructions below to create each of your Configurable Options.

· Configurable Listener Limit

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.

Configurable Bit Rate Limit

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.

Configurable 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.

Configurable 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.

Configurable Mount Point Limit

This allows the user to specify a custom mount point limit. Enter Mount point limit in the **Option Name** field to begin. Next, in the **Add Option** field, enter the number of mount points, then enter the extra fee for this mount point limit, and click *Save Changes*. Repeat this process for each mount point limit you wish to offer. Note that Centova Cast treats this as a numeric value, and will strip any non-numeric characters out of this value before attempting to use it.

Configurable Reseller Bandwidth Limit

This allows the user to specify a bandwidth limit (in kbps) for reseller accounts. See the

bandwidth limit option in the administrator's manual for more information about the purpose of this value. Enter Max bandwidth in the **Option Name** field to begin. Next, in the **Add Option** field, enter the bandwidth limit (in kbps), then enter the extra fee for this bandwidth limit, and click *Save Changes*. Repeat this process for each bandwidth limit 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.

- Configurable Reseller Client Account Limit
 This allows the user to specify a custom client account limit for reseller accounts. Enter Max accounts in the Option Name field to begin. Next, in the Add Option field, enter the number of accounts, then enter the extra fee for this account limit, and click Save Changes. Repeat this process for each account limit you wish to offer. Note that Centova Cast treats this as a numeric value, and will strip any non-numeric characters out of this value before attempting to use it.
- Configurable Hosting Server ID

 This allows the user to specify a custom hosting server ID (from Management->Hosts).

 Enter Server in the **Option Name** field to begin. Next, in the **Add Option** field, enter the ID number for this host (from the Management->Hosts page) followed by a colon (:) and any optional description you want to display for this hosting server. Then enter the extra fee (if any) for the use of this server, and click Save Changes. Repeat this process for each hosting server you wish to offer.
- Configurable Hosting Region ID

 This allows the user to specify a custom hosting region ID (from Management->Regions).

 Enter Server region in the **Option Name** field to begin. Next, in the **Add Option** field, enter the ID number for this region (from the Management->Regions page) followed by a colon (:) and any optional description you want to display for this hosting region. Then enter the extra fee (if any) for the use of this region, and click Save Changes. Repeat this process for each hosting region you wish to offer.
- 15. **This step is optional.** If you would like to allow your users to upgrade or downgrade their streaming accounts, you can create multiple Centova Cast-based products in WHMCS and configure each one for upgrading/downgrading.

On the *Upgrades* tab, select the packages that you want to allow the client to upgrade or downgrade to from the current package.

IMPORTANT: Note that when upgrading or downgrading an account, Centova Cast will change ONLY the options shown on the "Module Settings" tab, *excluding* the "Account template name". If your WHMCS products use different account templates, any differences in those templates will NOT be applied to the upgraded/downgraded account. (This is a necessary technical limitation given that applying an account template to an existing stream would completely reset all of the account's settings to default values, including the stream name, email address, and so-on.)

16. **This step is optional.** If you would like to customize the information shown in the WHMCS client area for Centova Cast accounts, edit the file modules/servers/centovacast/client_area.html under your WHMCS installation directory.

The Centova Cast module should now be ready to use.

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

14.3 Upgrading Centova Cast

14.3.1 Performing an Upgrade

The Centova Cast upgrade process is fully automated. Whenever an update becomes available, an upgrade can be initiated using the following command:

/usr/local/centovacast/sbin/update

This works both on web interface and control servers, and will update all of the Centova Cast software packages that are installed including all supported streaming server/source software such as Shout-Cast, IceCast, sc trans, ices, and so-on.

14.3.2 Automatic Updates

Centova Cast will not automatically update itself, ever. From an administrative perspective, automatic updates are bad form as the systems administrator should always be in control of how and when software upgrades are performed.

If you have a specific need for automatic updates, however, you can set up a root cron job to run the update command (above) as often as needed.

14.4 Upgrading From v2.2

Upgrades from v2.2 are performed by exporting your accounts from v2.2 and importing them into a new v3.x installation.

14.4.1 Prerequisites

- A working Centova Cast v2.2.6 or v2.2.7 installation from which you want to import accounts
- A working Centova Cast v3 installation into which you want to import your v2.2 accounts
- Identical streaming server (SHOUTcast, IceCast, etc.) and streaming source (sc_trans, ices, etc.) software installed and enabled on both your v2 and v3 servers

Centova Cast v2 and v3 may both be installed on the same server, or they may be installed on separate servers; the account export utility supports both scenarios.

14.4.2 Performing the Upgrade

Begin by ensuring that you have met the prerequisites for upgrading; specifically, you *must* have a separate, working Centova Cast v3 installation before beginning the upgrade. The upgrade procedure will only import your accounts from v2 to v3; it will *not* convert your Centova Cast v2 installation to v3.

Further, your v2 server *must* be running Centova Cast v2.2.6 or v2.2.7 – earlier versions are not compatible with the upgrade utility. If your v2 server is running an earlier version of Centova Cast, it will need to be upgraded to v2.2.7 before beginning the v3 upgrade.

1. Log in to the server running Centova Cast v2 and execute the following commands to download and invoke the export utility:

```
cd /home/centovacast/system
wget http://foo.example.com:2199/exportv2.tar.gz
tar xzf exportv2.tar.gz
cd export22x
./export.sh
```

Replace foo.example.com with the hostname (or IP address) of your Centova Cast v3 installation.

2. The export utility will prompt you for your Centova Cast v2 and v3 administrator passwords:

```
Enter your Centova Cast v2 admin password:
Enter your Centova Cast v3 admin password:
```

Enter the password for the admin account on each of your servers.

3. Next, the utility will inquire as to whether v2 and v3 are on the same or different servers:

```
Is your Centova Cast v3 installation on the same server as Centova Cast v2, or on a different server?
```

- [S] Same server
- [D] Different server

```
Choose (S or D):
```

Press S if you have installed Centova Cast v3 on the same server as Centova Cast v2. Press S if you are using different servers for v2 and v3.

4. If you have selected S for *same server* in step 3, skip the next 3 steps which will only appear when D for *different server* is selected.

The utility will prompt you for the IP address of your Centova Cast v3 installation:

Enter the IP address for your Centova Cast v3 web interface:

Enter your Centova Cast v3 IP address.

5. The utility will prompt you for the port number of your Centova Cast v3 installation:

```
Enter the port number for your Centova Cast v3 web interface. If in doubt, press enter to use the default (port 2199):
```

Unless you have deliberately changed this setting by manually editing configuration files on your v3 server, just press ENTER to use the default of 2199.

6. Next, the utility will prompt you for your SSH port for the Centova Cast v3 server. SSH will be used to securely and efficiently transfer your clients' files from your v2 server to your v3 server.

```
If your SSH server on foo.example.com listens on a custom port, enter the port number below. Otherwise, just press enter to use the default (port 22).
```

If your SSH server on your v3 server uses a nonstandard port, enter it here, otherwise just press ENTER.

 Finally, the utility will prompt you for the root password for your Centova Cast v3 server. Again, the utility will use this to securely connect to the remote server over SSH to transfer your clients' files.

```
Please enter the root password for the remote server (foo.example.com) below.
```

Enter your root password for your Centova Cast v3 server to continue.

After prompting for all of the necessary information (above), the utility will begin exporting your accounts from your Centova Cast v2 database:

If Centova Cast v2 and v3 are on different servers, your clients' files will be efficiently copied to the remote server using rsync (if available) or scp:

```
Exporting account data via rsync ...

Exporting account abc ...

Exporting account def ...
```

If Centova Cast v2 and v3 are on the same partition on the same server, your clients' files will be hardlinked directly from /home/centovacast/vhosts (on v2) to /usr/local/centovacast/vhosts (on v3). This is much faster than copying them and avoids the consumption of double the disk space.

If Centova Cast v2 and v3 are on different partitions on the same server, cross-partition hardlinks are not possible so your clients' files will be copied from v2 to v3.

Finally, the exported accounts will be imported into Centova Cast v3:

After each of the accounts are migrated, a completion message will be displayed and the accounts will be ready to use on the new server.

Note that the stream accounts in Centova Cast v2 will NOT be stopped or removed; they will remain intact and running on your Centova Cast v2 server, and your Centova Cast v3 server will now contain exact duplicates of each of them. This is intentional to allow you to test the accounts under v3 before decommissioning them under v2 and activating them under v3.

Upon completion, it is essential that you perform the steps in the next section.

14.4.3 Completing the Upgrade

After the upgrade completes, it is essential that you perform the following steps to verify and complete the transition to Centova Cast v3:

- Log in to Centova Cast v3 and check each of your streams to ensure that they were imported correctly.
- 2. When you are satisfied that the accounts were migrated successfully to v3, stop just one stream in Centova Cast v2 and start it in Centova Cast v3. Ensure that the stream starts properly and operates correctly.
- 3. When you are satisfied that the stream works correctly, stop all of your streams in Centova Cast v2 and start them all in Centova Cast v3. Note that this will interrupt the audio broadcast for each of your streams, and will disconnect all listeners.
- 4. Confirm the correct operation of all of your streams in Centova Cast v3. When you are satisfied that the streams were migrated successfully and that everything is working properly under Centova Cast v3, you may (and should) remove Centova Cast v2 from your server.

14.4.4 Advanced Options

Commandline Parameters

The export.sh script accepts a number of commandline parameters to allow for customization and/or automation of the upgrade procedure. The support parameters include:

- --accounts=username1,username2,...
 - Specifies a comma-separated list of username(s) to transfer. Use this if you do not wish to transfer ALL accounts, but only a select few.
- --skip-accounts=username1,username2,...

Specifies a comma-separated list of username(s) to ignore. Use this if you wish to transfer all accounts EXCEPT for a select few.

• --oldpass=password

Specifies your Centova Cast v2 administrator (admin account) password.

• --newpass=password

Specifies your Centova Cast v3 administrator (admin account) password.

--local=1

Specifies that Centova Cast v2 and v3 are both installed on the same server. (Omit this if Centova Cast v3 is installed on a different, remote server.)

• --host=foo.example.com

Specifies the hostname (or IP address) for your Centova Cast v3 server.

• --port=2199

Specifies the Centova Cast web interface port number for your Centova Cast v3 server, if you have configured Centova Cast v3 to use a nonstandard port number.

• --sshport=22

Specifies the SSH port number for your Centova Cast v3 server, if you have configured your SSH daemon to use a non-standard port.

• --resume=1

Specifies that username conflicts should be ignored. Specifically, if a username from the v2 server already exists on the v3 server, the importer will assume you already imported that account on a previous invocation. This is useful if the import job fails for any reason and needs to be restarted (as a username conflict will normally cause the upgrade to abort.)

Upgrading Centova Cast

15.1 Performing an Upgrade

The Centova Cast upgrade process is fully automated. Whenever an update becomes available, an upgrade can be initiated using the following command:

/usr/local/centovacast/sbin/update

This works both on web interface and control servers, and will update all of the Centova Cast software packages that are installed including all supported streaming server/source software such as Shout-Cast, IceCast, sc_trans, ices, and so-on.

15.2 Automatic Updates

Centova Cast will not automatically update itself, ever. From an administrative perspective, automatic updates are bad form as the systems administrator should always be in control of how and when software upgrades are performed.

If you have a specific need for automatic updates, however, you can set up a root cron job to run the update command (above) as often as needed.

15.3 Upgrading From v2.2

Upgrades from v2.2 are performed by exporting your accounts from v2.2 and importing them into a new v3.x installation.

15.3.1 Prerequisites

- A working Centova Cast v2 installation from which you want to import accounts
- A working Centova Cast v3 installation into which you want to import your v2.2 accounts

Centova Cast v2 and v3 may both be installed on the same server, or they may be installed on separate servers; the account export utility supports both scenarios.

15.3.2 Performing the Upgrade

To begin, log in to the server running Centova Cast v2 and execute the following commands:

```
cd /home/centovacast/system
wget http://foo.example.com:2199/exportv2.tar.gz
tar xzvf exportv2.tar.gz
cd export22x
./export.sh
```

Replace foo.example.com with the hostname (or IP address) of your Centova Cast v3 installation.

The export utility will prompt you for your Centova Cast v2 and v3 administrator passwords:

```
Enter your Centova Cast v2 admin password:
Enter your Centova Cast v3 admin password:
```

Enter the password for the admin account on each of your servers.

Next, the utility will inquire as to whether v2 and v3 are on the same or different servers:

Is your Centova Cast v3 installation on the same server as Centova Cast v2, or on a different server?

```
[S] Same server
[D] Different server
```

```
Choose (S or D):
```

Choose S if you have installed Centova Cast v3 on the same server as Centova Cast v2. Press S if you are using different servers for v2 and v3.