

CentovaCast Administrator's Guide

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1. Installation

Please refer to the separate installation guide for instructions for installing Centova Cast.

2. Configuring Settings

Prior to creating your first Centova Cast hosting account, you should review the default Centova Cast settings and customize them as necessary. To access the Centova Cast settings, click the `Settings` link under the `Management` heading in the administration area.

2.1. General

Site name

Specifies the name of your web site or company.

Notification E-mail address

Specifies the E-mail address to which any administrative notifications will be sent. You should set this to your real E-mail address to ensure that you receive any important notifications.

Sender E-mail address

Specifies the E-mail address which will be used as the “Sender” or “From” address on notification E-mails sent to clients. You may either use a real address here, or a “no-reply” address of your choosing.

2.2. Transfer Limits

Notify clients via E-mail when... (data transfer)

Specifies when to notify clients as they approach their data transfer limit. Enter a percentage value (from 0 to 100), and Centova Cast will automatically notify the client via E-mail when his stream uses this percentage of his monthly data transfer limit.

When transfer limit is exceeded...

Specifies what action Centova Cast should take when a client reaches his data transfer limit. Options available include:

- *Shutdown streaming server and suspend account*: If selected, Centova Cast will automatically shut down and suspend the client's streaming server account when it reaches its monthly transfer limit. Note that the stream will remain offline and the client will not be able to reactivate it until the following month. A suspension notice will be sent via E-mail to both the client and the administrator.

- *Take no action*: If selected, Centova Cast will take no action other than notifying the client and administrator via E-mail.

When an account has been suspended...

Specifies what action Centova Cast should take after an account has been suspended. Options available include:

- *Automatically unsuspend it until the following month*: If selected, Centova Cast will automatically unsuspend the client's account at the beginning of the following month.
- *Leave it suspended until unsuspended by an administrator*: If selected, Centova Cast will not automatically unsuspend the client's account. The administrator will be responsible for logging in and manually unsuspending the account.

2.3. Disk Quota

Notify clients via E-mail when... (disk quota)

Specifies when to notify clients as they approach their disk quota. Enter a percentage value (from 0 to 100), and Centova Cast will automatically notify the client via E-mail when his account has used this percentage of its disk quota.

When disk quota is exceeded...

Specifies what action Centova Cast should take when a client exceeds his disk quota. Options available include:

- *Shutdown streaming server and suspend account*: If selected, Centova Cast will automatically shut down and suspend the client's streaming server account when it reaches its disk quota. Note that the stream will remain offline and the client will not be able to reactivate it until the administrator unsuspending it. A suspension notice will be sent via E-mail to both the client and the administrator.
- *Take no action*: If selected, Centova Cast will take no action other than notifying the client and administrator via E-mail.

2.4. Defaults

Default IP address for new servers

Specifies the default IP address to be assigned to new streaming server accounts. Note that this is simply the value that will be prepopulated in the "IP address" field; the administrator will still be able to change this value prior to provisioning the account if desired.

Port range for new servers

Specifies the default port range for port numbers assigned to new streaming accounts. When creating new streaming server accounts, Centova Cast will automatically determine which ports are already in use by other streaming servers, and prepopulate the "Port" field with the next

available (unused) port within this range. Note that the administrator will still be able to change this value prior to provisioning the account if desired.

Enable re-encoding on new servers

Specifies whether or not new streaming servers should be configured to re-encode media to the stream bit rate by default.

Disabling re-encoding will reduce the CPU usage for a stream to practically zero (allowing *many* more streams to be hosted on a single machine than would normally be possible) however it requires that the client's media be pre-encoded to the correct bit rate and sample rate before it is uploaded. If any of the client's media is encoded at an incorrect bit rate or sample rate, the stream will use a disproportionate amount of bandwidth, and some songs may be broadcast at an incorrect speed (leading to a “chipmunk vocal” effect).

This has no effect when the streaming source is `sc_trans`, as `sc_trans` always re-encodes the media it streams.

Default channels for re-encoding

Specifies the default number of channels to be used by the encoder when the *Enable re-encoding on new servers* feature is enabled.

Default sample rate for re-encoding

Specifies the default sample rate to be used by the encoder when the *Enable re-encoding on new servers* feature is enabled.

Default crossfade length for re-encoding

Specifies the default crossfade length (in seconds) to be used by the encoder when the *Enable re-encoding on new servers* feature is enabled.

2.5. Features

Enable Amazon integration

Specifies whether or not Amazon.com integration is permitted. When enabled, the each stream may be configured with an Amazon.com access key ID to integrate with Amazon.com's affiliate program. This will cause album covers to be displayed next to each album on the stream's “Recent Tracks” list (on the start page and in the “Recent Tracks” code snippet), and a “Buy this album” link will appear next to each track. Sales generated through the “Buy this album” link will be credited toward the client's Amazon.com affiliate account.

Enabling this option will, however, cause the “Update Media Library” feature to import the client's media much more slowly, as Centova Cast will need to contact Amazon.com to obtain

the album cover for each and every album in the client's library.

Enable port 80 proxying

Turns on Centova Cast's internal port 80 proxy. Please refer to the section on Port 80 Proxying for more information about this feature, and the potentially adverse effects it may have on your web server.

2.6. Single Sign-on

Allow this server to be controlled remotely

Specifies whether or not this server should be available for remote control (single sign-on). If you run multiple Centova Cast servers and wish to manage them all from a single interface via a single login, this option must be enabled on all of your Centova Cast servers except the master server. See the *Remote Servers* section for more information.

Provisioning server for API clustering

Specifies the server on which new accounts should be provisioned via the XML API. This is used if you have a number of Centova Cast servers and would like to be able to provision accounts on them from your billing system such that the accounts are distributed evenly to each server.

See the *Remote Servers* section for more information.

2.7. E-mail Settings

These settings allow you to configure an SMTP server to be used for all outgoing E-mail generated by Centova Cast. If your clients complain that they are not receiving messages generated by Centova Cast, you will likely need to use this feature.

SMTP server

Specifies the hostname for your SMTP server – usually `mail.example.com` or `smtp.example.com`.

If your SMTP server uses SSL, use add `ssl://` to the beginning of the hostname (i.e., `ssl://mail.example.com`).

SMTP port

Specifies the port for your SMTP server – usually 25 for standard SMTP, or 465 if your SMTP server uses SSL.

SMTP username

Specifies the username to use to authenticate with your SMTP server. Leave blank if your SMTP server does not use SMTP authentication.

SMTP password

Specifies the password to use to authenticate with your SMTP server. Leave blank if your SMTP server does not use SMTP authentication.

3. Managing Accounts

Centova Cast includes a comprehensive account editor allowing the administrator individually customize the operation of each client's server. To access the account manager, click `Manage Accounts`.

3.1. The Account List

3.1.1. Account List

The Centova Cast account list provides an overview of all streaming server accounts hosted on the server. The summary includes the following details:

Username

Indicates the username for the account. Click on the username to view or modify the account details.

Stream Title

Indicates the title for the stream. This will be displayed by listeners' media players when they tune into the stream.

Port

Indicates the port number on which this client's streaming server listens. Click on the port number to access the streaming server's built-in interface.

Listeners

Indicates the maximum number of *concurrent* listeners permitted for this stream. The stream can never have more than this number of listeners tuned-in at the same time.

Bitrate

Indicates the maximum bit rate for this stream. Note that some streaming servers *do not enforce* this setting. Specifically, ShoutCast *does* enforce the bit rate, while IceCast *does not*.

Data Xfer

Indicates the maximum monthly data transfer limit for this stream. Centova Cast automatically keeps track of the amount of data transfer used by each stream each month, and will perform the actions defined in your master settings if a stream exceeds this limit. Note that this is not updated in realtime.

Disk Space

Indicates the disk space limit for this stream. Centova Cast automatically keeps track of the

amount of disk space used by each stream, and will perform the actions defined in your master settings if a stream exceeds this limit. Note that this is not updated in realtime.

Enabled

Indicates whether this streaming server is enabled. Click on the value to toggle the status of the server.

Next to each account, Centova Cast also displays an “edit” icon (represented by a gray cog) which can be clicked to access the account editor, as well as a “delete” icon (represented by a red dash) which can be clicked to delete the account.

3.1.2. Remote Servers

If remote server support is enabled and one or more remote server(s) are configured, the account list for each remote server will appear below the local account list. The format and functionality of each list is identical to that of the list for local accounts, with the exception that any actions performed on remote accounts will take effect on the remote server.

Above the account list for each remote server, a `Manage Server` link is also provided which allows you to administer the remote server directly as if you had logged in to it normally. This may be useful for configuring settings and so-on on the remote server.

3.2. Creating New Accounts

To create a new streaming server account, click the `New account` link at the right-hand side of the of the account manager.

The account creation interface is identical to the account editor interface described below.

3.3. Editing Accounts

Click on the gray “cog” icon next to an account to launch the account editor.

The account editor is composed of several elements:

- The **Account Information** section provides information about the status of the selected account, including the following:
 - *Account*: indicates the username for the selected account.
 - *Listeners*: indicates the number of listeners currently tuned-in to the streaming server for this account.
 - *Server Status*: indicates the status of the streaming server (online or offline).
 - *Source Status*: indicates the status of the streaming source (online, offline, or remote).
 - *Source Connected*: indicates whether or not a stream source is connected to the server.

- The **Account Management** section provides options for managing the selected account, including:
 - *Configure Server Account*: Provides access to the settings for this account, described in the *Account Settings* section below.
 - *Server Account Statistics*: Provides access to the statistics for this account. More information about server statistics can be found in the *Statistics* section of the Centova Cast User's Guide.
 - *Server Account Logs*: Provides access to the logs for this account. More information about server logs can be found in the *Server Logs* section of the Centova Cast User's Guide.
 - *Login to Account*: Provides access to the user account as if you had entered the account's username and password at the login form. When you finish accessing the user's account, simply logout to return to the administration panel.
- The **Server Control** section provides controls for stopping and starting the streaming server for the selected account. More information about these controls can be found in the *Server Control* section of the Centova Cast User's Guide.
- The **Management** section provides links to return to other areas of the administrative interface.

3.4. Account Settings

Centova Cast provides access to a wide range of settings for each client account which are broken down into several tabbed sheets. Some settings may differ based on the type of streaming server or streaming source installed on your server, and these differences are noted below.

The following tabs are available:

3.4.1. Basic Configuration

The basic configuration tab includes general settings that will be required for virtually all accounts. These include:

Hostname

Specifies the hostname for this server. This is used by the streaming server to generate self-referencing links, and must be specified. If no hostname is configured in DNS for this server, you should enter server's IP address here.

IP address

Specifies the IP address on which the streaming server should listen.

Port

Specifies the port number on which the streaming server should listen.

SHOUTcast note: SHOUTcast requires two ports, and will use the specified port number *and*

the following port number. For example, if you specify port 8000, ShoutCast will use ports 8000 and 8001.

Maximum listeners

Specifies the maximum number of concurrent listeners for this stream. The streaming server will never allow more than this number of listeners to be tuned in at the same time.

Maximum bit rate

Specifies the maximum bit rate for this stream, in kilobits per second (kbps).

IceCast note: IceCast does not enforce a maximum bit rate. If using IceCast, this setting will be ignored.

Data transfer limit

Specifies the maximum monthly data transfer limit for this stream, in megabytes (MB). Centova Cast automatically keeps track of the amount of data transfer used by each stream each month, and will perform the actions defined in your master settings if a stream exceeds this limit.

Disk quota

Specifies the maximum amount of disk space that this account may consume. This includes all data for the account, including logs, playlists, and media such as MP3 files for hosts with server-side streaming sources.

Centova Cast automatically keeps track of the disk usage for each stream, and will perform the actions defined in your master settings if a stream exceeds this limit.

Stream title

Specifies the title for the stream. This will be displayed by listeners' media players when they tune into the stream.

E-mail address

Specifies the client's E-mail address. Centova Cast will automatically send notifications to this address when necessary.

Company/organization

Specifies the company/organization or client to whom this stream belongs.

Website URL

Specifies the URL to the web site associated with this stream (if any).

Source password

Specifies the password required by streaming sources to connect to this stream and begin broadcasting.

Administrator password

Specifies the password required to login to Centova Cast or the streaming server's internal administrative interface.

3.4.2. Start Page

The Start Page tab includes options for configuring the stream “start page” provided by Centova Cast for each stream.

Activate start page

Specifies whether or not the start page will be available for this stream.

Enable song request widget

Specifies whether or not the Song Request widget will be enabled (both on the start page, and as a code snippet) for this stream. If enabled, users may use the song request widget to request songs, and the requests will be sent to your E-mail address.

Enable on-demand content widget

Specifies whether or not the On-Demand Content widget will be enabled (both on the start page, and as a code snippet) for this stream. If enabled, Centova Cast will provide a media browser with which the visitor can browse, download, or stream any media that the client has published in his “ondemand” folder.

Enable recent tracks widget

Specifies whether or not the Recent Tracks widget will be enabled (both on the start page, and as a code snippet) for this stream. If enabled, Centova Cast will provide a list of tracks and authors which have played recently on this stream. If the client has an Amazon.com access key ID, this feature can also display album covers for each track.

Amazon access key ID

Specifies the client's Amazon.com access key ID. If specified, Centova Cast will automatically fetch album cover images from Amazon.com to be displayed in the “recent tracks” list. This will also activate a “Buy album” link next to each album, and any sales generated through these links will be credited toward your Amazon.com affiliate account.

Note that this field is only displayed in the client's Start Page editor, not the administrator's view.

3.4.3. Files

The Files tab includes options for uploading various sound files for use by the streaming server. These include:

Introduction file

Specifies the introduction media file for the stream. The introduction file is an MP3 file that is played immediately after each listener connects, before tuning in to the live stream. This may be useful for station identification or advertisement purposes.

Fallback file

Specifies the fallback media file for the stream. The fallback file is an MP3 file that is played in a loop if the source stream disconnects. Without a fallback file, listeners will either hear silence, or be disconnected entirely if the source stream disconnects.

3.4.4. Source

The Source tab includes options for configuring a server-side streaming source. These settings are only required if the client will be permitted to upload media (MP3 files, etc.) to the server. If the client will be providing his own, offsite source (such as a live broadcast) then the server-side streaming source should be disabled. More information is provided in the *Streaming Sources* section below.

Options include:

Streaming source

Specifies whether the *server-side* streaming source should be enabled. Options include:

- *Prohibited (stream MUST use an offsite source)*: If selected, server-side streaming source support will be entirely disabled for this account. In this case, the client must provide his own support (such as WinAmp with the Oddcast plugin).
- *Permitted, but disabled*: If selected, server-side streaming support will be turned off by default, but the client may turn it on if he chooses. This allows the client to switch from a live source to a server-side source on demand.
- *Permitted and enabled*: If selected, server-side streaming support will be turned on by default, but the client may turn it off if he chooses. This allows the client to switch from a server-side source to a live source on demand.

Note that if a streaming source is enabled, but no media (eg: MP3 files) have been uploaded, or media has not been added to an enabled playlist, the server will fail to start. As such, be sure to upload at least one track, and add one or more tracks to an enabled General Rotation playlist, before starting the server with server-side streaming source support enabled.

Rebuild playlist on startup

Specifies whether the playlist should be rebuilt automatically every time the server is started or restarted. If enabled, Centova Cast will re-index the client's media library and build a new playlist every time the server is started or restarted. If disabled, the same playlist will always be used unless the client manually updates it.

Note that if no playlist exists, Centova Cast will always build one regardless of this setting. Also note that when Centova Cast is operating with realtime track scheduling support (i.e., when using `ices-cc`), this setting is ignored.

Randomize playlist

Specifies whether the playlist should be randomized automatically by the streaming source.

Note that when Centova Cast is operating with realtime track scheduling support (i.e., when using `ices-cc`), this setting is ignored.

Mount point

Note: this option is only available when using the ices streaming source software, and does not appear when using `sc_trans`.

Specifies the mount point to which the streaming source should connect. If unsure, simply set this to `/stream` as a default value.

Channels

Specifies the number of channels to use in the audio stream. Use `MONO` for a mono stream, `STEREO` for a stereo stream, or `AUTO` to play each track as it was recorded.

If set to any value other than `AUTO`, transcoding will be enabled which will *significantly* increase the CPU usage of the stream.

Sample Rate

Specifies the sample rate for your stream in hertz. If set to `AUTO`, each track will be played as it was recorded.

If set to any value other than 0, transcoding will be enabled which will *significantly* increase the CPU usage of the stream.

Crossfade length

Specifies the duration in seconds of cross-fades between tracks, or 0 to disable cross-fading.

If set to any value other than 0, transcoding will be enabled which will *significantly* increase the CPU usage of the stream.

3.4.5. Master Relaying

Note: this tab is only available when using the IceCast streaming server software, and does not apply when using SHOUTcast.

The Master Relaying tab includes options for setting up a master relay for another IceCast server.

Using Master Relay, the remote IceCast server essentially becomes the source for your own server, and all of the mount points from the remote server are made available on your server.

Options include:

Master server

Specifies the hostname or IP address of the master server whose stream(s) you wish to relay.

Master port

Specifies the port number of the master server whose stream(s) you wish to relay.

Master update interval

Specifies the interval at which the remote stream's configuration is replicated to the local server.

Master username

Specifies the username required by the remote server for relaying.

Master password

Specifies the password required by the remote server for relaying.

Relay on demand

If enabled, your IceCast server will only connect to the remote IceCast server when one or more listeners are connected, and it will disconnect from the remote server when there are no more listeners. If disabled, your IceCast server will remain connected to the remote server and continue receiving the stream even if no listeners are connected.

Enabling this setting may reduce unnecessary bandwidth usage, but may slightly increase the time required to begin streaming when your first listener connects.

3.4.6. Mountpoint Relaying

Note: this tab is only available when using the IceCast streaming server software, and does not apply when using SHOUTcast.

The Mountpoint Relaying tab includes options for setting up a relay for a single stream on a remote server. Using Mountpoint Relay, the remote stream essentially becomes the source for your own server, and listeners tuning into your server will hear the remote server's stream.

Options include:

Stream server

Specifies the hostname or IP address of the remote server whose stream you wish to relay.

Stream port

Specifies the port number of the remote server whose stream you wish to relay.

Stream mount point

Specifies the mount point for the desired stream on the remote server. If the remote server is a SHOUTcast server, you should specify `/stream` here.

Local mount point

Specifies the mount point for the relayed stream on the local server. If in doubt, you can specify `/stream` here as a default value.

Stream username

Specifies the username required by the remote server for relaying.

Stream password

Specifies the password required by the remote server for relaying.

Relay on demand

If enabled, your IceCast server will only connect to the remote IceCast server when one or more listeners are connected, and it will disconnect from the remote server when there are no more listeners. If disabled, your IceCast server will remain connected to the remote server and continue receiving the stream even if no listeners are connected.

Enabling this setting may reduce unnecessary bandwidth usage, but may slightly increase the time required to begin streaming when your first listener connects.

Relay metadata

If enabled, the metadata provided by the remote streaming server will be passed through to your own listeners. If disabled, the locally-configured metadata will be used instead.

3.4.7. Advanced

Note: the settings available on this tab will vary depending on which streaming server you are using, and is broken down into two sections below.

The Advanced tab includes options for configuring various advanced settings, and normally does not need to be adjusted.

3.4.8. Advanced: IceCast

When using IceCast as your streaming server, options include the following. Please consult the IceCast documentation for more information about these options.

Directory listings URL

Specifies the URL to your directory listings or “yellow pages” service.

Directory listings port

Specifies the port number of your directory listings or “yellow pages” service.

Maximum sources

Specifies the maximum number of sources that may be connected to the IceCast server simultaneously.

Thread pool

Specifies the thread pool size for the IceCast server.

Queue size

Specifies the queue size for the IceCast server.

Client timeout

Specifies the client timeout value for the IceCast server.

Header timeout

Specifies the header timeout value for the IceCast server.

Source timeout

Specifies the source timeout value for the IceCast server.

Burst size

Specifies the burst size value for the IceCast server.

Burst on connect

Specifies the whether IceCast's burst-on-connect feature should be enabled. Enabling this may help reduce buffer underruns.

4. Managing E-mail Messages

Every E-mail message sent to administrators or clients by Centova Cast can be configured via the `Edit Messages` link in the administration area.

4.1. The Message List

The Centova Cast message list displays all available E-mail messages. Click on the “edit message” icon next to a message to launch the message editor.

4.2. Editing Messages

The message editor provides the following fields:

Subject

Specifies the text to use in the “subject” line of the message.

Message text

Specifies the plain text content for the message. This represents the body of the message, and will be displayed for mail clients which do not support HTML E-mail.

Message HTML

Specifies the HTML content for the message. This represents the body of the message, and will be displayed for the majority of mail clients which support HTML E-mail. If this field is left blank, an HTML version of the message will be constructed automatically based on the text version.

Each message may include “placeholder” values that will be replaced with appropriate text before the message is sent to the client or administrator. These values are enclosed in braces, and typically look something like `{ $account.username }`. The selection of available placeholders will vary per message; it is recommended that you base your custom messages on the default messages and retain any placeholders that already exist in each one.

5. Statistics

Centova Cast provides a range of useful statistics, both for your server and for your individual client accounts. To access the master statistics for your server, click the `Statistics` link in the administration area.

5.1. Data Available

Statistics are provided for a number of data sets, including:

Data Transfer

Indicates the total, combined data transfer for all of your client streams over a period of time. Graphs are displayed for one-month and one-year intervals.

Minutes

Indicates the total, combined number of listener minutes for all of your client streams over a period of time. Graphs are displayed for one-month and one-year intervals.

Listeners

Indicates the number of simultaneous listeners at each hour throughout the day for a one-day period.

5.2. Selecting Time Periods

Centova Cast retains all statistical data collected, so it is possible to browse to an earlier date to review past statistics. To select a date:

- For monthly graphs, use the `Month` and `Year` selection boxes at the top of the page to choose a specific month, then click `Go` to update the graphs.
- For yearly graphs, use the `Year` selection box at the top of the page to choose a specific year, then click `Go` to update the graphs.
- For daily graphs, use the `Month`, `Day`, and `Year` selection boxes at the top of the page to choose a specific date, then click `Go` to update the graphs.

6. Remote Servers

6.1. Introduction

Centova Cast's Remote Servers feature provides a single sign-on system for managing multiple Centova Cast servers from a single interface. If you maintain more than one Centova Cast server, you may find this to be a convenient way to manage all of your servers from a single control panel via a single administrative login.

6.2. Preparing for Single Sign-On

To begin managing your servers from a centralized interface, you must first decide which Centova Cast server will be your “master” server. You will use this server to login and control all of the other servers that you maintain. All of the other servers are referred to as “slave” servers.

Next, you must enable single sign-on functionality on each of your slave servers. To do so, login to Centova Cast on each server, access the *Settings* page, and set the `Allow this server to be controlled remotely` option to `Yes`.

Once remote control has been enabled on each slave server, login to your Centova Cast master server and setup each of your slave servers as described in the following section.

6.3. Configuring Remote Servers

To access the Remote Servers list, click the `Remote Servers` link under the `Management` heading in the administration area. The Remote Servers list provides an overview of all of the slave servers that Centova Cast is configured to manage.

To edit or delete an existing server, simply click the corresponding icon next to each server. To add a new server, click the `Add remote server` link at the upper right-hand side of the page. Refer to the following section for more information about editing or creating a remote server.

6.4. Remote Server Settings

When editing or creating a remote server, the following settings are available:

Server title

Specifies a name for the server. This is simply to help you identify the server in the account list, and can be any unique name of your choosing.

Centova Cast URL

Specifies the URL to the Centova Cast installation on the remote server. For example:
`http://www.example.com/centovacast/`

Administrator password

Specifies the administrator password for the remote server. This is necessary in order to facilitate automated logins to the remote server.

6.5. Accessing Remote Servers

After your slave servers have been configured per the instructions above, they will automatically appear on the *Manage Accounts* page when you login to the master server. Simply make use of the standard account editing features to manage the accounts on your remote servers.

6.6. API Clustering

If you have a number of Centova Cast servers and would like to be able to provision accounts on them from your billing system such that the accounts are distributed evenly to each server, you'll need to use Centova Cast's API clustering feature.

To begin, choose one of your Centova Cast servers to act as the "primary" server in your cluster. This will be the server to which your billing system connects to provision accounts across the cluster of servers.

To enable API clustering, you must edit your Centova Cast system configuration file (usually `/home/centovacast/system/config.php`) on your primary Centova Cast server and add the following line:

```
define('ENABLE_API_CLUSTERING', true);
```

Once this line has been added, perform the following steps:

1. Login to the primary Centova Cast server's administration area.
2. Click the Remote Servers link (in the left-hand column) to launch the Remote Servers page.
3. On the Remote Servers page, add each of the servers that you want to use for new accounts. When adding each server, be sure to set the "Include in API cluster" option to "Yes".
4. Click the "Settings" link (in the left-hand column) to launch the Settings page.
5. On the settings page, under "Single Sign-on", set the "Provisioning server for API clustering" option to the server on which all new accounts should be provisioned. If you want to evenly distribute the accounts, set it to "The server with the fewest accounts".

Centova Cast is now ready for distributed account provisioning.

Now you must set up Centova Cast in your billing system. Do this as per the instructions in the

Centova Cast installation guide. Note that you do not need to set up all of your Centova Cast servers in the billing system; you should only setup the "primary" server (which you chose in step 1 above) in your billing system, and Centova Cast will automatically ensure that the accounts are provisioned on the correct servers.

7. Port 80 Proxying

7.1. Overview

Centova Cast includes a port-80 proxy that can be enabled on the Settings page of the Centova Cast administration area. This enables listeners to tune in to audio streams using TCP port 80 (the port normally used for serving web pages) which may be useful for listeners who are behind restrictive firewalls that prevent access to the port numbers normally used by streaming servers.

When enabled, a link will be displayed on the stream start page (also available in the client's control panel in the "Tune-in" section in the lower right-hand corner) allowing the listener to optionally tune in through the proxy.

7.2. Technical Considerations

Be advised that there are serious technical considerations when using any port-80 proxy implementation that works through a web server.

Because of the way Apache works, every listener connected to a stream you host will require one dedicated Apache server process for the entire time they are connected and listening to the stream. The exact memory consumption of each Apache process can be determined on a Linux server by running "ps aux" and checking the "RSS" column for an httpd process. Typical memory consumption is somewhere between 10MB - 25MB per process, as a fairly conservative estimate.

The result of this limitation is that every listener connected to a stream hosted on your server will use 10-25MB of your server's memory, in addition to the memory used by ShoutCast. Even if the server is not very busy, this will result in a significant allocation of memory – with 20 simultaneous listeners, for example, the server would use 200 - 500MB of memory just for proxying. With 100 simultaneous listeners, that figure would rise to 1GB - 2.5GB, which would cause many servers to run out of memory.

While this issue is not advertised by most companies, this limitation is *not specific to Centova Cast*, and is true of all web-based ShoutCast/IceCast proxy scripts. Proxying through Apache is supported by Centova Cast only because of significant client demand, and Centova Technologies does not recommend their use.

8. Streaming Sources

Streaming hosting providers often require that end-users provide their own streaming sources; for example, clients may use SAM Broadcaster, or WinAmp with the Oddcast plugin, to transmit a live stream to the streaming server. This provides great flexibility for the client, however it requires that the client keep his personal computer running 24 hours a day. If the client's computer or Internet connection goes offline for any reason, his stream will also become unavailable.

In addition to remote (client-provided) sources, Centova Cast also supports the use of server-side sources. When using a server-side source, clients upload their media library (eg: MP3 files) to the hosting server's hard drive, and the media is locally delivered directly to the stream. This allows the stream to remain entirely self-contained on the hosting server, and completely independent of the client's computer.

Due to the wide range of possible server configurations, Centova Cast does not currently provide built-in functionality for clients to upload their media. Instead, Centova Cast includes modules for integration with Pure-FTPd and ProFTPd FTP servers, which will allow your users to login via FTP with their Centova Cast usernames to upload their media. Instructions for installing these modules are included in the Centova Cast Installation Guide, available from the Centova Cast web site at: <http://www.centova.com>

If you prefer to provide media for the clients' streams through other means, you will need to arrange for the client's media to be stored in the following directory:

```
centovaroot/vhosts/username/var/spool/media/
```

In the above example, **centovaroot** represents the path to Centova Cast (usually `/home/centovacast`), and **username** represents the client's username within Centova Cast. This directory must be readable both by the Centova Cast UNIX user account (usually `centovacast`) as well as the user account under which your web server runs (usually `nobody` or `www-data`).

9. 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.

10. Credits

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