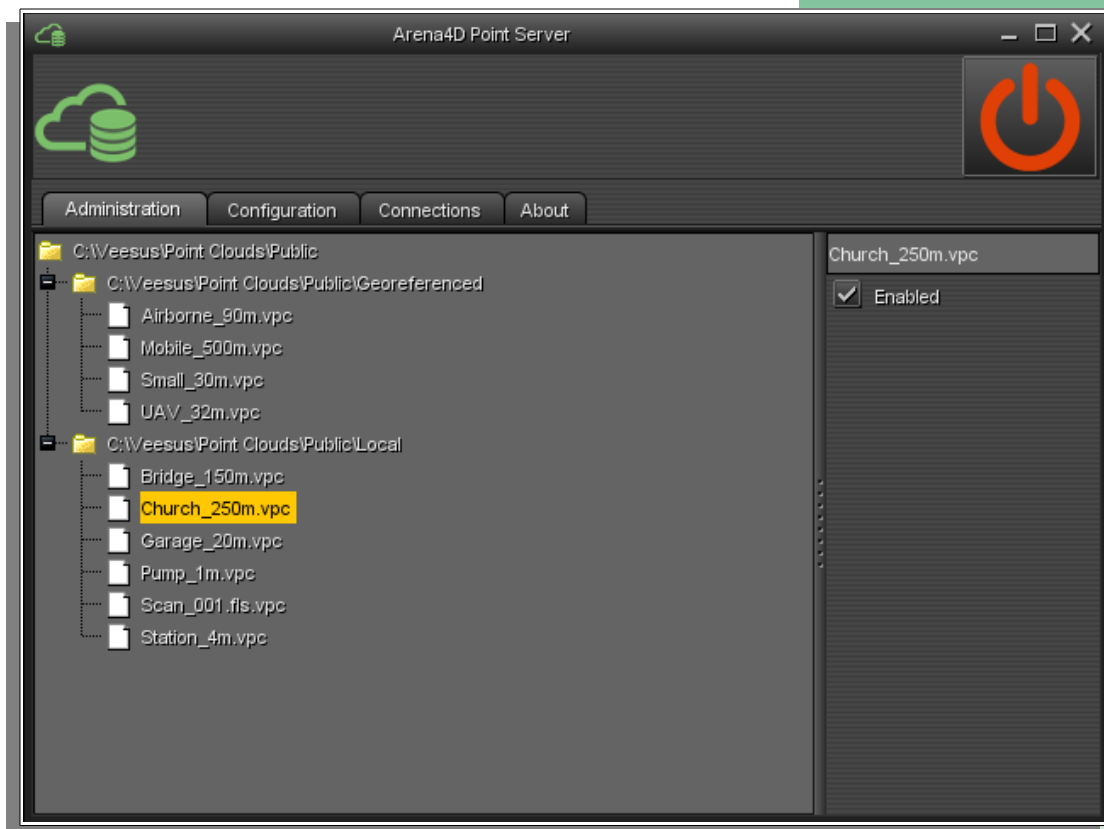


Arena4D

Point Server

User Guide



Software Version 1.24.0

15/09/2015

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1 Introduction

1.1 About

Welcome to the User Guide for the Veesus Ltd Arena4D Point Server.

Arena4D Point Server is an HTTP server capable of streaming Veesus Point Cloud (VPC) files across network connections.

This simple solution allows you to share and collaborate easily whilst having all your data securely kept in one central repository.

1.2 Installation

For Windows run the provided installer and follow the onscreen prompts. For OSX simply place the application in your preferred location.

1.3 Licensing

Arena4D Point Server requires a valid license to serve more than a single file.

1.4 Data Formats

Arena4D Point Server requires point clouds data to be in the Veesus VPC format. To generate a VPC file download the free version of Arena4D Data Studio from the Veesus website, or used the version supplied on your installation CD. VPC files must be version 16 or greater.

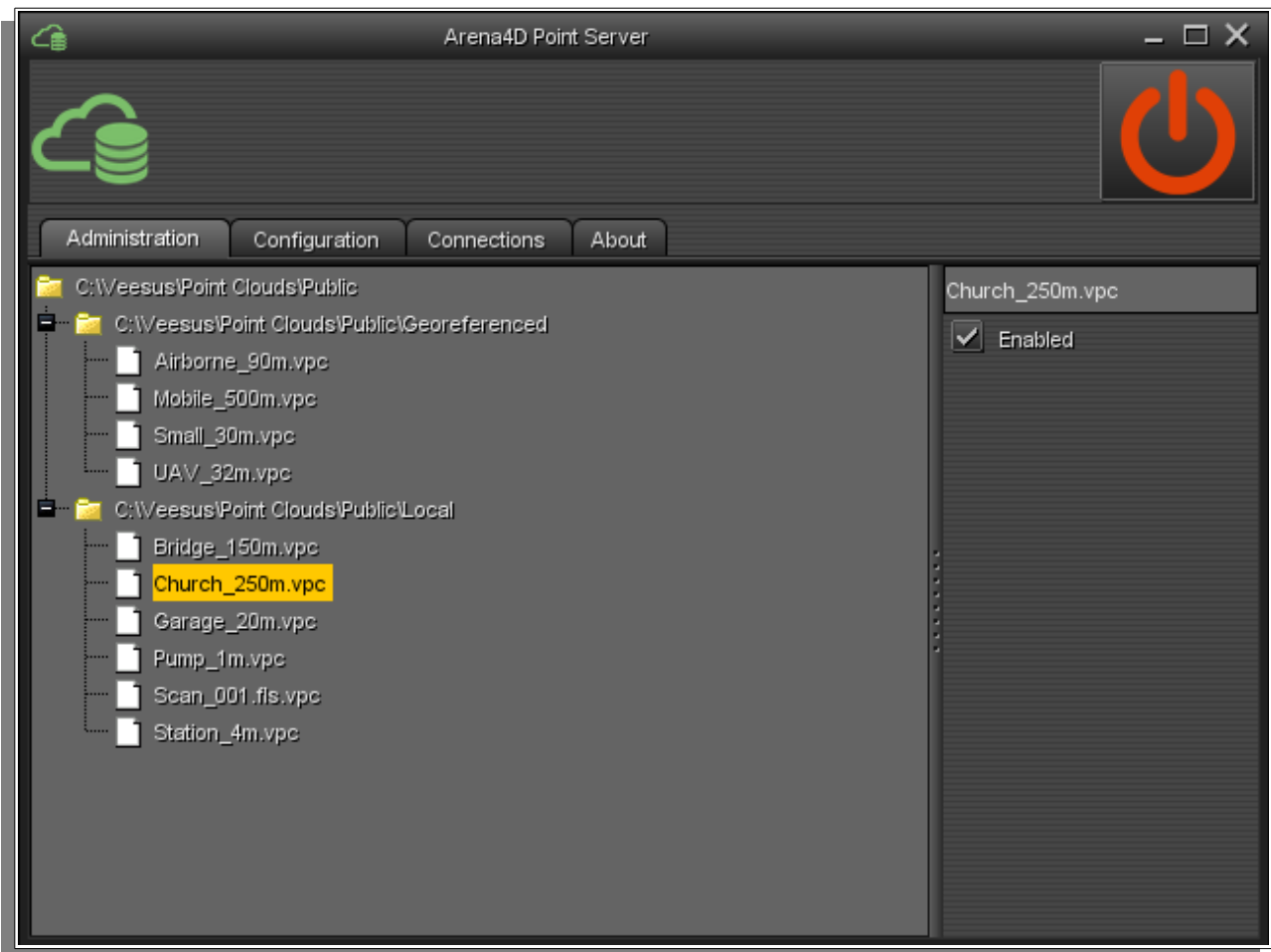
Protected VPC files are not supported or streamed from the server to protect their contents from malicious intercept.

2 User Interface

2.1 Administration

The Administration page shows what files are being served from the current instance of Arena4D Point Server.

Each VPC file listed can have its name configured and be enabled/disabled from the server.



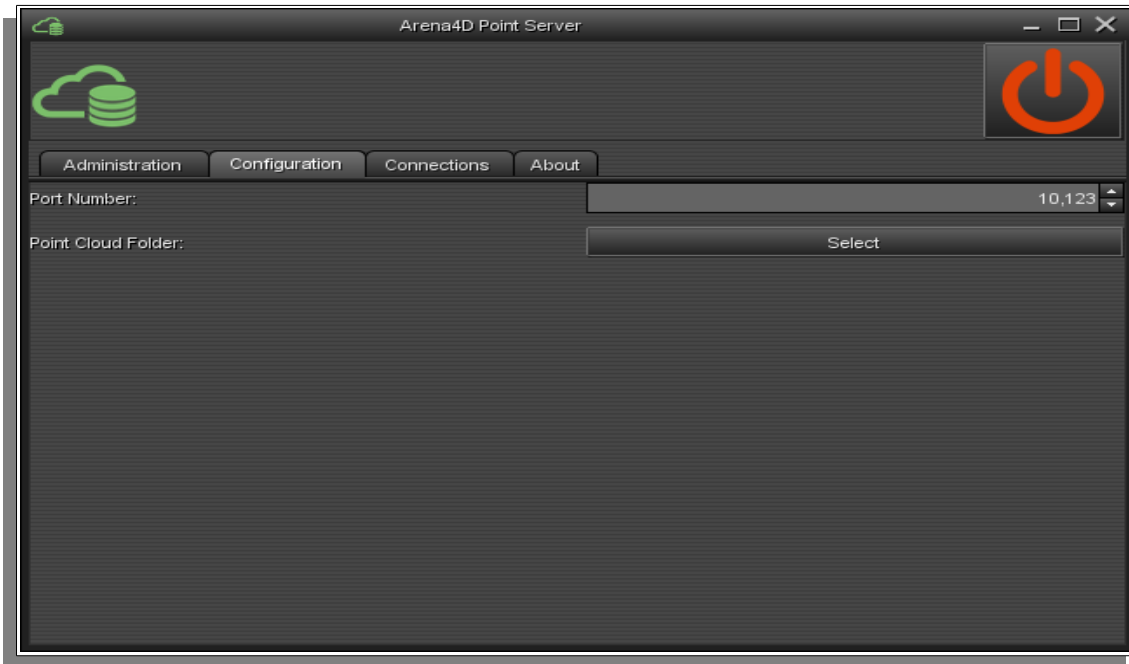
For example you may have certain files in a folder which you don't wish to be accessible, at the same time you don't want to move them. Simply uncheck them in the Administration window and they will no longer be available to clients.

2.2 Configuration

There are only two configurable options in Arena4D Point Server.

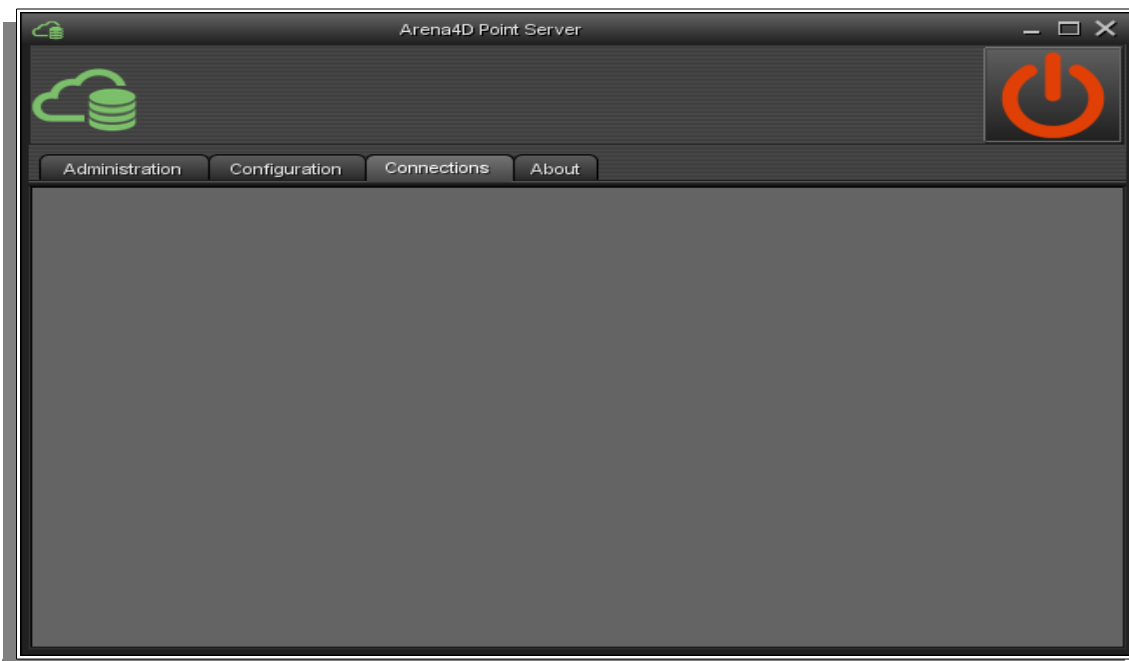
Port Number – The network port number to stream data through.

Point Cloud Folder – Location of point data to stream.



2.3 Connections

The connections page shows a list of active connections. This can update rapidly but is useful to show any unusual long running connections.



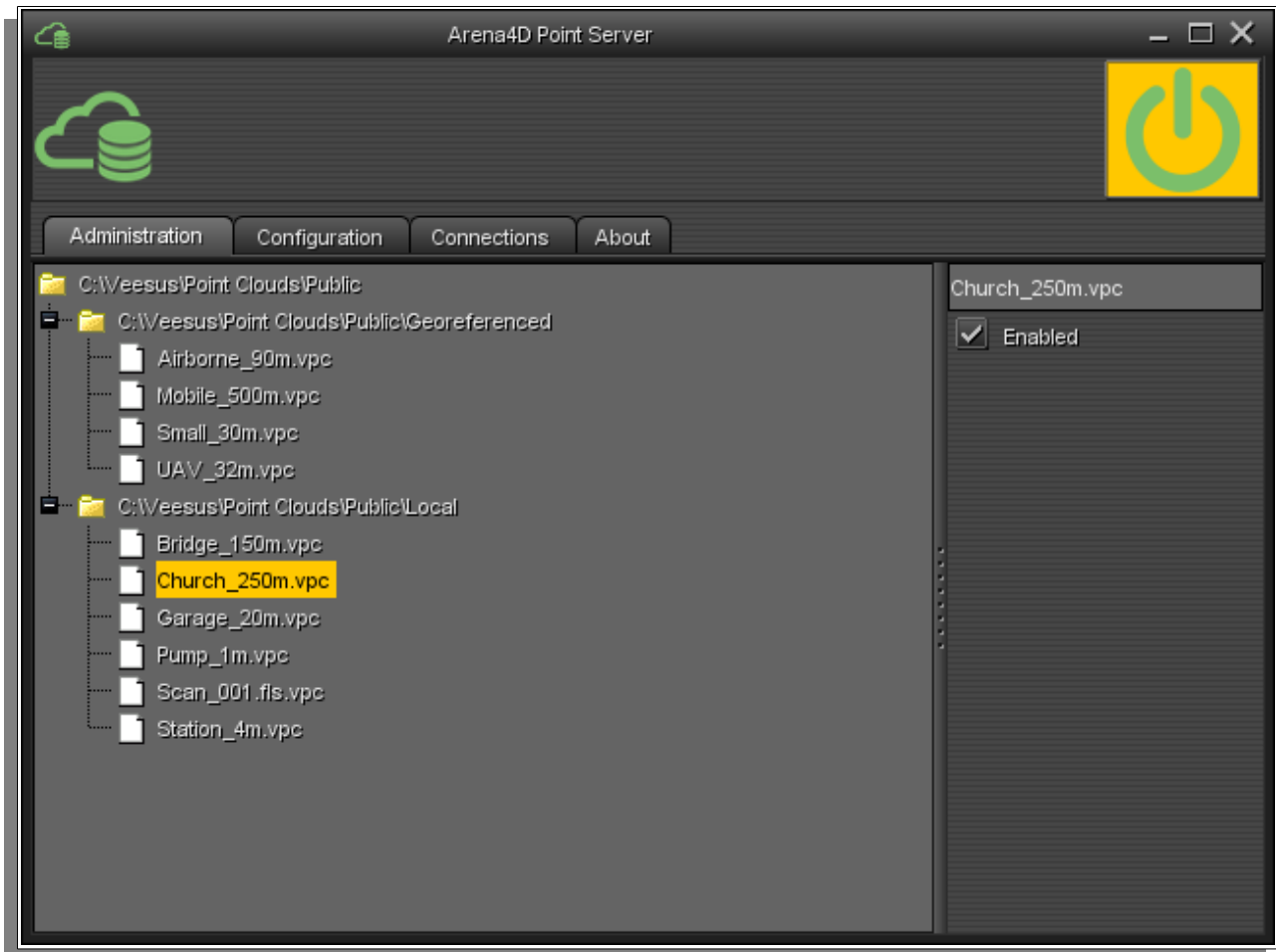
2.4 About

The about panel shows current version and license information for this edition of Arena Point Server.



3 Activating Server

Once the server is configured it can be activated by pressing the large “power” icon in the top right hand of the window. This icon button will turn **green** when the server is active and serving data. Pressing the button a second time will turn it **red** and deactivate the server.



4 PoTree

PoTree is a WebGL point cloud browser that runs on all modern devices from PC's to mobile phones. Version 1.21.0 (or above) of Data Studio introduced a more efficient point cloud format which is ideal for web streaming.

Combining PoTree and Arena4D Point Server allows you to stream your point cloud data to any mobile device around the world from a single central location.

The same data which you use in Data Studio or Rhino can now be exploited remotely without needing to install any additional software on the client.

If the client is not Data Studio or Rhino and on a local network you can just enter the URL shown in section 4.3 URL format to view point clouds in a web browser.

PoTree is a free piece of software available now from www.potree.org

Once downloaded please use the following instructions to configure a PoTree Server for accessing an Arena4D Point Server.

4.1 Web Page with URL field

arena4d.html provides a text field for a URL to a **VPC** file served from your Point Server.

The page contains a `loadCloud()` function which loads the point cloud at the specified url.

The key part of the html is:

```
Potree.PointCloudArena4DGeometry.load(url, function(geometry){
    pointcloud = new Potree.PointCloudArena4D(geometry);
    scene.add(pointcloud);
});
```

Everything else that happens in `loadCloud()` is used to transform the point cloud to the origin, change some material properties and the navigation and to update the user interface, including the progress bar.

4.2 Web Page with hardcoded link

viewer.html displays a point cloud with a hard coded path. You can change the `sceneProperties.path` value to your point cloud URL.

4.3 URL format

A typical Point Server URL would like:

`http://<www.myserver.com>:<10123>/web`