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Condrey Corporation
125 The Parkway, Suite 500
Greenville, SC 29615
U.S.A.
www.condreycorp.com
Conventions Used

**Bold**  Words in **bold** indicate key terms or items of interest.

*Italics*  Words in *italics* indicate names, such as the name of a menu item, selectable option, or a screen name.

**Code**  Sections of code such as actual text from a configuration file, message structure, or other text representing actual parameters within a file.

- **Best practice.** Although the information contained here may not be appropriate in all cases, it is the general rule of thumb.

- **General information.** Content here is generally helpful in better understanding the operation or design of part of the product.

- **Warning or notice.** This content should be carefully read and understood to prevent problems with configuration or operation of the product.
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Chapter 1: How Pointspin Works

1.1 Overview

Pointspin™ is a solution deliverable within the File Access 360™ family of products from Condrey Corporation™. The mission of Pointspin is to provide a means of serving websites directly from within the confines of network storage governed by Microsoft Active Directory.

More specifically, Pointspin can serve websites that are stored within user Home Folders or from within group-based network storage. These websites may be managed by the users and groups themselves.
1.2 How Pointspin Works

Pointspin installs as a service or daemon on a single server in the customer environment. Once running, it authenticates to Microsoft Active Directory and the associated network file system through a proxy account. Once authenticated, Pointspin is able to access and serve any website content to be published in the HTML subfolder (by default named *public_html*) in a user’s or group’s home folder, or a manual folder if so configured.

By order of precedence, Pointspin looks for and serves the following web pages out of the HTML folder: *index.htm*, *index.html*, *default.htm*, *default.html*, *home.htm*, *home.html*, *welcome.htm*, *welcome.html*. So for example, if *index.htm* and *index.html* exist in the same HTML folder which Pointspin is set up to serve, then *index.htm* will be served.

If web content resides in the subfolder, the Pointspin Engine serves it up by assigning a URL based on the webserv + er name and user home folder or group home folder name. For example, the URL for web content located in a user home folder would be:

http://www.domainname/~username.

If the user or group wants to restrict access to the website, access rules are established using the .PSAccess file where users and credentials are established (see Appendix B).

Condrey Corporation’s File System Factory could greatly reduce the provisioning time for all your users by automatically creating the *public_html* folder and automatically delivering any contents to that folder. Check it out at:

www.condreycorp.com/filesystemfactory
1.3 Administration
A web-based administrative interface lets you set up the proxy account, user index, URL and other configuration settings. The Pointspin Engine, in addition to functioning as the web server, also implements the settings from the administrative interface. The Pointspin Engine is engineered to let you establish your initial configuration settings with minimal post installation administration. There are numerous configuration options that allow customization beyond what is described here as well along with options for managing access control.

1.4 Product Benefits
Pointspin meets the needs of the administrator who wants to allow the easy and effective publishing of web content right out of a folder.

It is useful for several reasons:
- promotes online presence of an organization, group, or individual
- serves HTML code generated by any number of web authoring software (Adobe Dreamweaver, Komodo Edit, Aptana Studio, Microsoft Word...even a plain text editor like Notepad!)
- works right out of the box
- saves administrators time
- simple management interface
- readily extensible with Condrey Corporation’s File System Factory
- handles hundreds of concurrent web page requests
Chapter 2: Downloading and Licensing Pointspin

This section provides procedures for downloading the product, an overview of license types and procedures for obtaining and updating a license file.

2.1 Downloading Pointspin


2. Click the following file:
   - Pointspin-Engine-1.x-AD-xxx.iso

3. Save the file to a location on your hard disk.

2.2 Licensing Overview

Pointspin has two license types:

<table>
<thead>
<tr>
<th>License Type</th>
<th>Intended Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>Is not limited and allows for the use of all AD storage types, home folders, collaborative storage, auxiliary storage, and manual storage locations.</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Allows you to try Pointspin for an unlimited number of users for 30 days.</td>
</tr>
</tbody>
</table>
2.3 Obtaining a Production License

To purchase a Production License of Pointspin, visit http://www.condreycorp.com/pointspin/ and click Request Quote.

Once you have purchased Pointspin, you are sent an email message from the Condrey Corporation License Generator with an embedded link to the license file.

1. From the email message, click the embedded link.
   
   A screen similar to the following appears:

   ![Pointspin AD Version 1](image)

   The link for your license file appears below:
   
   PointspinADY1_myTree_Jun-13-2012_LICENSE.DAT
   
   (Please use Right-Click...Save Target As...to download the file.)

   Note that if you are replacing a license file in an existing installation, the file must be renamed to LICENSE.DAT. If you have problems with this file and need assistance, please contact support@condreycorp.com

   2. Right-click the license file, select Save Target As, then save the license file to a folder of your choice.
   
   3. Note where the license file is saved.
   
   You need to retrieve the license during the Pointspin installation.

2.4 Obtaining an Evaluation License

1. In a Web browser, go to www.condreycorp.com/pointspin/.

2. Click the Request License link.

   A new Web page appears with registration fields for you to complete.
3. Complete the fields and click Submit.
   An e-mail from the License Generator is automatically sent to you with an embedded link for accessing the license.

4. Click the link to access a new Web page with an embedded license file.

5. Right-click the license file, select Save Target As, then save the license file to a folder of your choice.

6. Note where the license is saved.
   You need to retrieve the license during the Pointspin installation.
Chapter 3: Installing Pointspin

When you install Pointspin, you install an Engine (web server) and an Engine Configuration Utility. Administrative work is done through a web interface with a standard browser.

Pointspin’s default port setting (HTTPS 3059) does not conflict with other Condrey Corporation products. Condrey Corporation recommends changing the port numbers to 80 and 443. These ports may conflict with other web servers if they are installed on the same server.

3.1 Overview of Pointspin Components

Engine Service
The engine service handles all licensing and configuration and is the web server that will share the public_html folders via browser access in a read-only HTTP-GET only fashion.

Administration
All Pointspin administration is performed through a Web browser. The workstation running the Web browser must be able to access the appropriate port on the computer hosting the Engine service, which by default is port 3059.

3.2 Operating System Requirements
Install Pointspin on one of the Windows environments below.

Windows Server 2008 R2 (Member or DC Server)
- Minimum of 3GB of RAM
- Dual or quad core processor
- 64 bit operating system
- Minimum of 500MB of available disk space
- Forest Functional Level 2003 in Native mode
- Novell Client installed

Windows 7 Workstation (for demo purposes)
- Minimum of 3GB of RAM
- Dual or quad core processor
• 64 bit operating system
• Minimum of 500MB of available disk space
• Must be member of domain
• Novell Client installed

3.3 Supported Web Browsers
Pointspin can be managed using any of the following modern Web browsers:

- Internet Explorer
- Firefox
- Chrome
- Safari
- Opera

3.4 Pointspin ISO
All components are accessible via the ISO. In the root directory of the ISO is a convenient install.html file that will allow you to select the correct file to install. You can mount the iso on any of the supported platforms and download the install package required by your operating system.
3.5 Run the Installation Wizard
This first phase of the installation installs the Pointspin Engine service. Afterwards, you complete the installation by running the Setup Wizard.

Pointspin uses only one Engine service per domain.

1. At the Windows machine where you will host the Pointspin Engine service, double-click the installation file:
   - Pointspin-Engine-1.0.0-x64-xxx.msi (64-bit platform)

2. When you are asked if you want to run this file, click Run.
   An Introduction page appears in the Pointspin Installation Wizard.
3. Read the text and click Next.
4. Accept the licensing terms and click Next.
5. Accept the installation path or indicate a new path by using the Browse button.
   To review possible locations, you can click Disk Usage to see all available volumes with disk size and disk availability data.
6. Click Next.
7. Click Install to begin the installation.
8. Click Finish. The configuration utility should launch automatically.
9. Proceed with Configuring the Engine Service via the configuration utility.

3.6 Configuration Utility
The configuration utility is an application designed to help get the Engine service setup with a particular IP Address and port, and to generate an SSL Certificate specific to the environment where Pointspin is installed.

Pointspin is a web server hosting content to be accessed via a browser, and therefore standard web ports are recommended for http (80) and https (443), but may conflict with other web servers installed on the server. It is possible to add secondary IP Addresses onto a single server so port conflicts can be avoided. If you need help doing this, please refer to Appendix D: Secondary IP Address.
Pointspin uses OpenSSL™ to secure the point-to-point communication between the browser on the workstation and the server. An SSL certificate is required for this communication to work.

From the Configuration Utility:

1. Configure the Host Address by selecting the appropriate IP Address from the drop-down menu.
2. Configure the Service Ports by typing in the desired port numbers.
3. Click the SSL Certificate option under the Configuration Section.
4. View and accept default unique SSL Certificate or Generate New Certificate
   a. Click Generate New Certificate.
   b. Enter the appropriate Subject Host Name for the SSL Certificate.
   c. Select the appropriate Key Size, or leave the default of 2048.
   d. Select the appropriate Expiration Days until this SSL Certificate expires, or leave the default of 10 years.
e. Click the Generate button.
f. Once the SSL Certificate has been generated, click the Close button.
g. The certificate text should now be reviewable in the window.
h. Click the Save button to save the configuration.

5. Click the Start button in the Service section to start the Pointspin Engine Service.
6. Proceed with “Run the Setup Wizard.”

3.7 Run the Setup Wizard

Complete the Pointspin installation by running the Setup Wizard using any standard Web browser. In the Setup Wizard you will:

- Upload the product license
- Optionally extend schema for collaborative storage
- Create a Pointspin Proxy object
- Create a Pointspin Proxy Rights Group
• Create a Pointspin Administrators Group
• Make yourself a member of the Pointspin Administrators Group
• Provision rights for Pointspin Proxy Rights Group automatic or manual
• User Index
• Setup storage resources

If you would like to restart the Wizard after you finish it, you must rename or delete the Pointspin.lic file at the following location on your web server:

• C:\ProgramData\Condrey Corporation\Pointspin-AD\Engine\config

Now just Stop and Start the Pointspin Engine from the Pointspin Engine Config menu and log back into the administrative web interface. The Wizard Mode will appear again.

Note
You must be a member of the Domain Admins group in the domain where Pointspin is installed to run the Setup Wizard.

1. Using a standard Web browser, enter the IP address or DNS name of the Windows machine where you installed the Pointspin Engine service, followed by :3059.
   For example: https://10.10.10.251:3059
   The login page appears.

2. In the Username field, enter the username using either of the following syntaxes:
   • Domain name followed by a backslash and username.
     For example: domain\administrator
   • Username followed by the @ character followed by the domain name.
For example: administrator@domain

⚠️ Important
If you are installing Pointspin into a subdomain instead of the forest root, you will need to use the ID for the subdomain administrator rather than the administrator of the parent domain.

3. Enter the password and click Login.
Since this is the initial setup of Pointspin, the Setup Wizard is launched automatically, where the first task in the setup is uploading the license file.

4. Click Browse to specify the location of the Pointspin license file.

5. Click Upload File.
6. Extend the schema if you are going to serve web pages from collaboratative storage

The next task in the Setup Wizard is defining objects and rights in Active Directory so that Pointspin can operate correctly.

The following page appears displaying the default names for the Pointspin proxy object, Proxy Rights Group, and Pointspin Administrators Group. It also indicates that you will be added to the Pointspin Administrators Group.

7. Accept the default names and the default setting.
8. Click Next.
We recommend that you do not change any of the default names because if you need to work with a Condrey Corporation Support representative in the future, it will be much easier to locate the object and groups and then diagnose any problems. By adding yourself to the PointspinAdmins group you will be the only group member and therefore, the only user that can log in and perform administrative tasks. To authorize others to administer Pointspin tasks, you will need to add them to the group.

9. Browse the user containers you wish to index. Only index users will be able to serve up web pages.

This step of the wizard shows you all the shares in the current domain and allows you to select all shares in the domain for hosting web pages, or you can be specific and choose only the shares allowed to host web pages.
10. Click *Finish* Wizard to complete the setup of Pointspin.

With the tasks completed in the Setup Wizard, you are presented with a *Server Status* page.
### 3.8 Adding Pointspin Administrators

With the PointspinAdmins group created, you should now add to the group all the users that you want to serve as Pointspin administrators.

1. Launch Active Directory Users and Computers.
2. Open the PointspinAdmins group.
3. Add the users that will serve as Pointspin administrators to the group.

### 3.9 Installing in a Multi-Domain Environment

Pointspin is engineered to manage users and groups only in the domain where the product is installed. In environments that have more than one domain within the same Active Directory forest, you can install a copy of Pointspin in each domain. When multiple copies of Pointspin are installed within the same forest, each copy will manage only those users and groups in the domain where it is installed. There is no interaction between the copies of Pointspin and therefore, your individual installations and configuration settings will not conflict.
Chapter 4: Managing Pointspin

Once you have installed Pointspin and run the Setup Wizard, you are ready to start operating the software. The Web browser-based administrative interface includes options for managing the operation of the product. This includes log management, license management, object index, and most importantly, policy management.

Using a standard Web browser, enter the IP address or DNS name of the Windows machine where you installed the Pointspin Engine service, followed by :3059. For example: https://10.10.10.251:3059

Each secting will be define in the Pointspin administrative interface

4.1 Server Status
The server status screen gives you a quick look at server and version, proxy objects, licensing, object index count and storage rebuild info.
4.2 Object Index

The Pointspin Object Index is a listing of all the objects Pointspin may serve its sites from. As such, to keep up with a constantly-changing Directory System, it must be rebuilt periodically. This page schedules the rebuilding time to be done on a regular basis (you can change this on the Object Index page after the Setup Wizard is complete). Also, you have the option to search the objects you choose recursively or not.
4.3 Storage Resources

Storage Resources lists all the shares found according to the discovery options you choose. You have the option to list all the shares on your Directory Service or else the shares on specific servers. This share list is the basis of the Browse feature on the Manual Storage page.

4.4 Pointspin Policy

Overview of Pointspin Policies

Policy allows the administrator to set various parameters regarding storage, content, and publishing management, as well as engine configuration options. It is through this interface that the administrator may set up a the storage types, create a blacklist group, block content types, adjust the engine thread count, and set other options.
4.4.1 Storage Management

Storage Management is a section dedicated to enabling and configuring User Home Folder Storage, Collaborative Storage, Manual Storage, and Auxiliary Storage (if Condrey Corporation File System Factory is installed). You may enable or disable each type of storage and then press Save at the bottom of the page to make them take effect. The Prefix refers to the character which precedes the storage tag, and the HTML Folder is the server storage space from which Pointspin serves its sites. For example, if John Smith is a provisioned user on your server and his username is jsmith, if he placed an index.html document in a folder called public_html under his home directory, his website would be accessible to the internet at http://domainname/~jsmith. The default prefix here is “~” for User Home Folder Storage, and the default HTML Folder is public_html, but these can be changed from the Policy page. Note that the prefix field is customizable but will only accept one of the following valid URL characters: [0-9],[a-z],[A-Z], "!"","","",","",","",","",","","","","","","","","","
Prefixes cannot be duplicated across storage types. HTML Folder names may not contain path symbols like “.” or “\” or “/”. Instead, the HTML Folder refers to the folder directly under the corresponding user or group. Aside from User Home Folder Storage, Pointspin makes publishing from Collaborative Storage (group storage) a
possibility. Manual Storage (ad-hoc storage) is more fully configurable from the Manual Storage page, but under this section, you may enable/disable it and set the prefix. And finally, Auxiliary Storage is well-situated to work with the schema-extending capabilities in Condrey Corporation’s File System Factory.

4.4.2 Content Management
Content Management gives the administrator control over what type and size of content Pointspin may publish. The Maximum Content Size can be entered in either kilobytes or megabytes ranging from 1-2047. Pointspin will return a 403 Forbidden error upon attempting to access a file over this size limit. In the Blocked Content Types field, entering and saving a file extension will block Pointspin from serving that type of file. File extensions may be entered either with or without the “.” before the extension (“mp3” or “.mp3” both work), and they are case-insensitive. Delimit multiple extensions with a comma, semicolon, or newline (enter). After entering multiple extensions, ensure Pointspin returns a list in the format: “[file extension 1], [file extension 2], ... ,[file extension n]”.

4.4.3 Publishing Management
Publishing Management allows users or groups to be blocked from publishing. Users can be blocked from publishing a User Home Folder site by setting up the “blacklist” folder here in the
Policy page and then adding them to that group in your Directory Service. Any group may be blocked from publishing its Collaborative Storage site by adding it to the Blocked Groups list here.

### 4.4.4 Engine Configuration

Engine Configuration is an advanced set of options that will allow an administrator to set a Maximum and Essential number of operating system threads the Pointspin Engine may use, as well as a Thread Timeout. Maximum Thread Count must be between 64 and 1024 (default 64), Essential Thread Count between 4 and 768 (default 4), and Thread Timeout between 1 and 16 (default 5). Note that a larger Maximum is not always better because it can cause too many threads to be opened up on the system and slow it down. Also included in this section is the Cache Timeout configuration to be entered in units of seconds between 0 and 2147483647.
4.4.5 Manual Storage

Manual Storage provides the ability to publish out of a folder that is not tied to an identity. Using the Browse and Add buttons, you can select a folder on the system out of which a site can be served. Remember that in an identity-based storage type like User Home or Collaborative, the word after the prefix set on the Policy page is the username or group name whose website you want to reach. Since Manual Storage is by definition without identity, the word (which we call Manual Storage Tag Name) is definable here on this administrative page. The UNC Path is the equivalent of the HTML Folder on the Policy page, but here we ensure its validity by navigating to it with the Browse button.

4.4.6 Collaborative Storage

Collaborative Storage assigns home folder paths to groups.

Click Assign to assign a home folder to a group.
4.4.7  Log Management

Engine logs are stored where the Pointspin engine is installed. By default the logging is set to retain the 10 most current logs at 10MB each. You can modify that as you wish. There are also some advance logging features you can enable to aid in troubleshooting.
4.4.8 Runtime Configuration

Runtime Configuration gives a listing of important data able to be configured by Pointspin.

4.4.9 Stop Accepting Logins

Stop Accepting Logins allows the administrator to turn off external requests to the Pointspin server. When Stop Accepting Logins is clicked and a reason is entered for shutting down the server, only requests from the local server will be accepted. The symbol on Server Status next to Accepting Logins will change from a green light to a halt sign.
4.4.10 Obtain Evaluation License
4.4.11  Upload License
Upload license is used to upload a new production license after a trial license or production license has expired.

4.4.12  Check For Updates
Check for updates will determine if you are on the latest released version of the Pointspin engine.
Chapter 5: Customizing Pointspin

5.1 Custom User Login Screen
To make it easier to “brand” the login screen that each Pointspin user will see when he logs into his PSAccess-enhanced (see Appendix B) website, we have provided access to the HTML and CSS that makes up that login screen. You can change these files, `customuserlogin.html` and `custom.css` to the look and feel of your organization instead of using the default `userlogin.html` and `pointspin.css`.

They may be found on your web server at `C:\ProgramData\Condrey Corporation\Pointspin-AD\Engine\data\www\sample_custom_login`.

Note that ProgramData is a hidden file (thus will not appear by default in Windows Explorer) and must be unhidden or the above address typed in the Explorer bar explicitly.

After you have edited `customuserlogin.html` and `custom.css`, you need to copy and paste all the contents of the `sample_custom_login` folder to the `www` directory. Pointspin is configured such that it will recognize these changes and now read your new, branded login page with its style sheet. If you want to change back to the default `userlogin.html` and `pointspin.css` for the login screen, simply cut and paste `customuserlogin.html` and `custom.css` back to `sample_custom_login`, at which Pointspin which revert to the default login screen.

5.2 Custom Error Pages
In the same `www` directory as above (`C:\ProgramData\Condrey Corporation\Pointspin-AD\Engine\data\www\`), you may find the HTML pages Pointspin returns when it encounters a 400 (bad request), 401 (not authorized), 403 (forbidden), 404 (not found), and 414 (request URL too long) error.
Of course, the Pointspin engine itself decides when those error pages are returned, but with accessibility to the HTML files you can consider changing them to something more specific to your organization.
Chapter 6: Getting Users Started

Making a website for the first time can be challenging. We want users to be as happy with making and publishing their websites with Pointspin as we are, so we have written a Getting Started web page and detailed User Guide. Simply log onto http://www.condreycorp.com/pointspin/download and download the gettingStarted.zip file.

After extracting the contents of gettingStarted.zip, open up index.html in your web browser to access a Getting Started page.

![Getting Started](image)

<table>
<thead>
<tr>
<th>Name</th>
<th>Date modified</th>
<th>Type</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>images</td>
<td>4/27/2012 10:33 AM</td>
<td>File folder</td>
<td></td>
</tr>
<tr>
<td>templates</td>
<td>4/27/2012 10:33 AM</td>
<td>File folder</td>
<td></td>
</tr>
<tr>
<td>index.html</td>
<td>5/1/2012 2:38 PM</td>
<td>Chrome HTML</td>
<td>8 KB</td>
</tr>
<tr>
<td>license.txt</td>
<td>4/25/2012 11:21 AM</td>
<td>Text Document</td>
<td>17 KB</td>
</tr>
<tr>
<td>style.css</td>
<td>4/30/2012 1:21 PM</td>
<td>Cascading Style</td>
<td>5 KB</td>
</tr>
<tr>
<td>User Guide.pdf</td>
<td>4/30/2012 1:28 PM</td>
<td>Adobe Acrobat</td>
<td>932 KB</td>
</tr>
</tbody>
</table>

You will find several helpful links on this page for learning HTML, downloading a modern web browser, accessing website templates, and also User Guide.pdf, which goes into a more detailed explanation of what Pointspin is and how to use it.
As you might notice, allowing Pointspin to serve this `gettingStarted` folder as a manual publishing location would be the perfect way to allow each of your users to access this material, all the while promoting your organization’s new web publishing capabilities through Pointspin.

And since the Getting Started webpage is an HTML document, it is editable. We recommend changing the parts highlighted by a red box in the figure below based on how Pointspin has been configured within the administrative web interface. For instance, you might have changed the user prefix to be a “_” instead of “~” as it is by default. In either case, this is a great way to instruct users on how to use Pointspin!

**6.1 Templates**

The User Guide is meant to help both those who have made their own websites before and are simply wondering how Pointspin is to be used, as well as those who are completely new to web content all together. Especially for those in the second group, who really might be lost on web design, we have included eight website templates, which are available for download from the Getting Started page. Like the Getting Started webpage itself, a downloaded template folder must be unzipped (“extracted”) before accessing its contents. See the User Guide for tips on how to edit them.
Appendix A: Pointspin Internals

This appendix is provided as a reference and as an advanced discussion on Pointspin function.

404 Configuration

If Pointspin detects either a 400 (Bad Request), 401 (Unauthorized), 403 (Forbidden), 404 (Not Found), or 414 (Request URL Too Long) error, it will send the appropriate HTML error page. These pages are fully customizable and are located in C:\ProgramData\Condrey Corporation\Pointspin-AD\Engine\data\www.

Cache Usage

Pointspin keeps a user/object cache so that it does not have to make a Directory Service call each time there is a request for a page to be served. Set the cache timeout (in seconds) on the Policy page. Note that like the Thread Count where it would appear that having a higher count would always increase Pointspin server performance, in this case, the Cache Timeout should not always be set to the lowest value, 1. Unless the server has the processing power to accommodate this, it will bog down the server with unnecessary calls to the system.
Appendix B: PSAccess

Pointspin also includes security capabilities through a mechanism called PSAccess files.

The file must be named .psaccess and located in the root of the public_html folder. The PSAccess file will block people from all of the files in the public_html folder. If the PSAccess file is present, it will block all users except those that the file allows, or members of groups that are allowed.

Windows Explorer will not by default allow you to make a new file with a leading dot, so:

1. Right click in any blank spot in public_html and make a new text file, psaccess.txt.
2. Click Save As and enter the name .psaccess
3. Edit .psaccess according to the rules below by right clicking it and clicking Edit.

Once a .psaccess file is created, even if blank, it will cause all users accessing the web page to authenticate.

The basic syntax is to have one group or user per line. The line should be formatted as:

```
Require user blawson
```

Or

```
Require group admins
```

The name of the user or group is everything that follows “require group” or “require user” up to the end of the line. This allows group and user names to include spaces.

For example:

```
Require group IT Support Staff
```
The group and user names are not case sensitive.

The common name will work for both groups and users. All users and groups have to be in the index to view web sites.

Users/Groups with Read & Execute, List Folder Contents and Read NTFS security and in the Pointspin User Index will automatically have access to the web pages.
Appendix C: Using Third Party Certificate With Pointspin

Condrey Corporation has provided the OpenSSL tools necessary to complete the following steps.

Requirements:
1. Create a DNS entry for your Pointspin server
2. Certificate Authorities require all of the following fields to be filled out properly, this information will be used when making the certificate request.
   a. CN=(DNS name of your Pointspin server)
   b. C=(Two digit country code)
   c. O=(Company Name) registered company name, no abbreviations
   d. OU=(Department)
   e. ST=(State or Province) State names must be spelled out.
   f. L=(City) City names must be spelled out.
3. A Certificate Signing Request (CSR) containing the aforementioned information

Generate a Certificate Signing Request (CSR) and Private Key
1. Open a Command Window on the Pointspin server
2. Change directory to the Program Files Pointspin installation folder.
   ```
   cd "%programdata%\Condrey Corporation\Pointspin\Engine\config"
   ```
3. Use openssl.exe to create a certificate signing request and private key. This step will require all of Common Name (CN) Company Information in the Requirements section.
   ```
   openssl req -out Pointspin.csr -new -newkey rsa:2048 -nodes -keyout Pointspin-private-key.pem
   ```
4. Submit the CSR to the Third Party Certificate Authority of your choice.

Most Certificate Authorities have a form with an html text area to paste the CSR into, while others have a browse and file upload option. Please follow the specific directions of the chosen certificate authority for submitting the CSR.
Convert the Certificate to PEM format

Generally the certificate authority will send a notification via email when the certificate is ready for download. The certificate will usually be either DER format or base64 DER format, and it will need to be converted to PEM format for use with the Pointspin Engine.

1. Open a Command Window on the Pointspin server
2. Change directory to the Program Files Pointspin installation folder.
   

   ```
   cd "%programdata%\Condrey Corporation\Pointspin\Engine\config"
   ```

   Note: If Program Files are not installed on the C:\ drive a change of drive letter may be necessary, by typing the drive letter followed by a colon. (d:)
3. Use openssl.exe to covert the Certificate to PEM format.

   ```
   openssl x509 -outform pem -in <name of the certificate file> -out server.pem
   ```

Append the Private Key to the signed Public Key.

The current server.pem now only contains the public key that was signed by the certificate authority, but the private key is also required.

1. Open a Command Window on the Pointspin server
2. Change directory to the Program Files Pointspin installation folder.

   ```
   cd "%programdata%\Condrey Corporation\Pointspin\Engine\config"
   ```

3. Use the built-in DOS command to concatenate the public and private keys together into the server.pem file.

   ```
   type Pointspin-private-key.pem >> server.pem
   ```

Once combined the server.pem file is ready to be used with the Pointspin Engine. Please restart the engine service to begin using the new certificate.
Appendix D: Secondary IP Address

Pointspin is configured to use HTTPS on port 3059 by default, which avoids conflicts with other web servers like Apache or IIS but requires the port to be explicitly typed in the URL (https://www.example.com:3059).

To avoid this inconvenience, we recommend adding a secondary IP address to your server.

2. Click View Status on the Local Area Connection Status dialog.
3. Click Properties.
4. Click Properties for IPv4 or IPv6 (depending on server configuration).
5. Click Advanced.
6. Under IP addresses, click Add.
7. Choose your new IP address and Subnet mask and click Add.
8. Now in the Pointspin for Active Directory Configuration Utility you may set HTTPS and HTTP Service Ports for your secondary IP address, which you can select from the Host Address drop-down menu.
Appendix E: Active Directory Schema Extensions

Pointspin for AD extends the Active Directory schema by adding two new attributes and one new class. These are:

- ccx-FSFAuxiliaryStorage
- ccx-FSFManagedPath
- ccx-FSFManagedAttributes

E.1 Attributes

ccx-FSFAuxiliaryStorage
A list of one or more paths pointing to managed auxiliary storage associated with this object

<table>
<thead>
<tr>
<th>Active Directory Attribute Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>ccx-FSFAuxiliaryStorage</td>
</tr>
<tr>
<td>LDAP Display Name</td>
<td>ccx-FSFAuxiliaryStorage</td>
</tr>
<tr>
<td>Admin Display Name</td>
<td>ccx-FSF-Auxiliary-Storage</td>
</tr>
<tr>
<td>Admin Description</td>
<td>List of one or more paths pointing to managed auxiliary storage associated with this object</td>
</tr>
<tr>
<td>ASN.1 ID</td>
<td>1.3.6.1.4.1.35052.1.1.100.1.1</td>
</tr>
<tr>
<td>Syntax</td>
<td>ADSTYPE_CASE_IGNORE_STRING</td>
</tr>
<tr>
<td>Sized – Lower Limit</td>
<td>-</td>
</tr>
<tr>
<td>Sized – Upper Limit</td>
<td>-</td>
</tr>
<tr>
<td>Single Valued</td>
<td>False</td>
</tr>
<tr>
<td>Schema ID GUID</td>
<td>c4bacb95-075e-11df-bcab-eee40b817f62</td>
</tr>
<tr>
<td>Search Flags</td>
<td>-</td>
</tr>
<tr>
<td>System Flags</td>
<td>-</td>
</tr>
</tbody>
</table>
ccx-FSFManagedPath
The Managed path directory attribute for objects (such as groups and containers) that do not inherently have a home folder attribute.

<table>
<thead>
<tr>
<th>Active Directory Attribute Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>ccx-FSFManagedPath</td>
</tr>
<tr>
<td>LDAP Display Name</td>
<td>ccx-FSFManagedPath</td>
</tr>
<tr>
<td>Admin Display Name</td>
<td>ccx-FSF-Managed-Path</td>
</tr>
<tr>
<td>Admin Description</td>
<td>Managed path attribute for collaborative objects</td>
</tr>
<tr>
<td>ASN.1 ID</td>
<td>1.3.6.1.4.1.35052.1.1.100.2.1</td>
</tr>
<tr>
<td>Syntax</td>
<td>ADSTYPE_CASE_IGNORE_STRING</td>
</tr>
<tr>
<td>Sized – Lower Limit</td>
<td>-</td>
</tr>
<tr>
<td>Sized – Upper Limit</td>
<td>-</td>
</tr>
<tr>
<td>Single Valued</td>
<td>True</td>
</tr>
<tr>
<td>Schema ID GUID</td>
<td>c4bacb96-075e-11df-bcab-eee40b817f62</td>
</tr>
<tr>
<td>Search Flags</td>
<td>-</td>
</tr>
<tr>
<td>System Flags</td>
<td>-</td>
</tr>
<tr>
<td>Link ID</td>
<td>-</td>
</tr>
<tr>
<td>Attribute Security GUID</td>
<td>cd55682f-3987-446d-a18e-cfd8d53b95f2</td>
</tr>
<tr>
<td>Partial Attribute Set Member</td>
<td>False</td>
</tr>
</tbody>
</table>
### E.2 Classes

**ccx-FSFManagedAttributes**

An auxiliary class holding common attributes managed by Pointspin for AD.

<table>
<thead>
<tr>
<th>Active Directory Class Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>ccx-FSFManagedAttributes</td>
</tr>
<tr>
<td>LDAP Display Name</td>
<td>ccx-FSFManagedAttributes</td>
</tr>
<tr>
<td>Admin Display Name</td>
<td>ccx-FSF-Managed-Attributes</td>
</tr>
<tr>
<td>Admin Description</td>
<td>Auxiliary class holding common attributes managed by File System Factory for AD</td>
</tr>
<tr>
<td>ASN.1 ID</td>
<td>1.3.6.1.4.1.35052.1.1.2.1.1</td>
</tr>
<tr>
<td>Schema ID GUID</td>
<td>c4bacb93-075e-11df-bcab-eee40b817f62</td>
</tr>
<tr>
<td>Class Type</td>
<td>Auxiliary</td>
</tr>
<tr>
<td>Parent Class</td>
<td>top</td>
</tr>
<tr>
<td>Default Object Category</td>
<td>ccx-FSFManagedAttributes</td>
</tr>
<tr>
<td>Naming Attribute</td>
<td>-</td>
</tr>
<tr>
<td>Mandatory Attributes</td>
<td>-</td>
</tr>
<tr>
<td>Optional Attributes</td>
<td>ccx-FSFAuxiliaryStorage</td>
</tr>
<tr>
<td></td>
<td>ccx-FSFManagedPath</td>
</tr>
<tr>
<td>Possible Superiors</td>
<td>-</td>
</tr>
<tr>
<td>System Possible Superiors</td>
<td>-</td>
</tr>
<tr>
<td>System Flags</td>
<td>-</td>
</tr>
<tr>
<td>Default Security Descriptor</td>
<td>-</td>
</tr>
</tbody>
</table>