Envoy

aruba
a Hewlett Packard Enterprise company

ClearPass

Integration Guide
Change Log

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Modified By</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018-01</td>
<td>Nov-2018</td>
<td>Arpit Bhatt</td>
<td>Initial release</td>
</tr>
<tr>
<td>2019-01</td>
<td>July-2019</td>
<td>Arpit Bhatt</td>
<td>Minor Corrections</td>
</tr>
</tbody>
</table>

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Introduction

This guide covers the setup, configuration, and monitoring of the ClearPass extension for Envoy and the configuration of webhook in Envoy for the Integration with Aruba ClearPass. This guide walks through the v2 of this integration. We will also cover the migration steps from v1 to v2.

The Envoy v2 integration requires Envoy Enterprise edition.

Envoy Visitors is a visitor management platform for a modern front desk which helps streamline visitor Sign-in. When visitors arrive, Envoy makes it easy for them to Sign-in, presents them with relevant forms where they can provide their information, sign documents (NDAs) and optionally notifies the person they are visiting of their arrival using an Email or SMS.

ClearPass is an industry leading Guest Management solution that delivers secure, automated guest access workflows. It’s very useful for an enterprise to combine these two applications to get a seamless visitor management system that automates visitor’s Wi-Fi requirements.

This Extension serves two primary use-cases

1. Creates a guest account upon Visitor Sign In
2. Disables a guest account upon Visitor Sign Out

With Envoy hosted in the cloud and ClearPass sitting primarily on-prem, there are challenges in making these two applications communicate in real time so that a visitor receives guest Wi-Fi credentials from ClearPass as soon as he registers using Envoy Visitors application. Traditionally the apps would communicate using APIs where an application would request information which is usually followed by a response. Hence in order to get real-time information you have to poll or request as often as possible which is not scalable. The answer or the solution is a webhook which does not wait for a request to send information but sends the data as soon as it’s available.

Before we proceed with the flow, we need to understand the concept of webhooks and skyhook.

What is a webhook?

A webhook (also called a web callback or HTTP push API) is a way for an app to provide other applications with real-time information. A webhook delivers data to other applications as it happens, meaning you get data immediately.

What is skyhook?

Skyhook was developed to overcome the inability for cloud-based applications to send events [webhooks] directly into a ClearPass that was typically deployed on the trust side of a corporate firewall. In short, it is a service that runs in AWS. ClearPass nodes running on-prem, use extensions to open a persistent connection into Skyhook to receive the events originally sent from a 3rd party cloud application specific for that customer/tenant.

As an overview, Envoy running in the cloud will send a webhook upon a Visitor Sign in or a Sign out event. This will communicate with skyhook. The ClearPass extension configured and installed will maintain a persistent connection with skyhook awaiting an event (Sign in/ Sign out).
Software Requirements

The minimum software version required for ClearPass is 6.7.2. At the time of writing, version 6.7.7 is available and is the recommended release. This Integration Guide covers installation steps and screenshots from a ClearPass server running 6.7.7. ClearPass runs on hardware appliances with pre-installed software or as a Virtual Machine under the following hypervisors. Hypervisors that run on a client computer such as VMware Player are not supported.

- VMware ESXi 5.5, 6.0, 6.5 or higher
- Microsoft Hyper-V Server 2012 R2 or 2016 R2
- Hyper-V on Microsoft Windows Server 2012 R2 or 2016 R2
- KVM on CentOS 7.5

For Envoy v2 integration, customers must have the Enterprise License on Envoy.

Access to the Extension Store

Access to the Extension Store to download extensions is simplified in ClearPass 6.7. The ability to download extensions from the store and to validate support entitlement for access to the Software Updates Portal (e.g. Posture & Profile Data Updates, Software Updates, & Skins) now uses the HPE Passport account credentials that are associated with the customers’ ClearPass licenses. This is configured where previously the subscription-id was defined, under Administration -> Agents and Software Updates -> Software Updates as shown below. Ensure you enter your HPE Passport credentials to enable Extension download capabilities.

![Figure 1: Entering HP Passport credentials](image)

Installation and Deployment Guide

The ClearPass installation and deployment guide is located here

Pictorial View of the Integration

The diagram below shows a pictorial overview of the components and how they interact with each other.

Figure 2: Pictorial view of ClearPass Policy Manager integration with Envoy
New Extension Support in ClearPass 6.7+

With the release of 6.7, several new features have been added to enhance the functionality of the extension framework. Previously, all extension installation and operation tasks required use of the API Explorer to interoperate with the Extension and the underlying framework. Now this functionality has been exposed with a new GUI. The GUI is accessed from within the Guest UI and is shown below, **Administration -> Extensions**.

Extensions and IP address configuration support

The other major additions in the 6.7 release are the ability to define the extension framework base IP network and statically define the IP address of the individual extensions. The latter being useful when deploying extensions in a cluster and the requirement for a fixed IP address for the same extension across a cluster regardless of which ClearPass node or nodes it is installed on.

Extensions and web proxy support

Prior to 6.7 support for web proxy was limited to the installation of the extensions. Starting in ClearPass 6.7, extensions now support communications with 3rd parties via a web proxy. This adds incremental web proxy functionality. If a web proxy is defined in ClearPass Policy Manager, then an extension will use that configuration.

---

**Note** that the Policy Manager web proxy configuration is ONLY read by the extension at installation time. If the web proxy configuration is changed in Policy Manager, then the extension must be re-installed so the new settings are re-read and bonded to the extension.

---

**Figure 3: Extension framework GUI**
Configuring the base Extension IP subnet, this is defined within Policy Manager as shown below under Administration -> Server Manager -> Server Configuration [chose your node] Service Parameters [ClearPass system service]. The default is 172.17.0.1/16, this address is the non-routed address of the ClearPass node itself. The IP addresses range for the extensions are based upon the network prefix used.

The subnet defined here for the extension framework must be 172.17.0.0/16.

Figure 4: Defining the base IP SUBNET and LOCALHOST for the Extensions framework

Note that changing the extension base IP address will require the extension service to be restarted.

Changing the “Extensions Network Address” range is necessary if either the MGMT or DATA interface are also using an address in the extension default range of 172.17.x.x/12. Set the new network address range as needed and restart the extension service for this to take effect.
Configuration Steps

There are primarily 3 steps involved in getting this integration configured.

1. Register and request for a Skyhook tenant
2. Configuration of Envoy for Integration

It is assumed you have SMTP and SMS configured to allow ClearPass Guest to send visitor account details to the Visitor/Guest.

Step I: Register and Request for a Skyhook Tenant ID

- Register on the URL [https://peoplemove.typeform.com/to/Z80ezD](https://peoplemove.typeform.com/to/Z80ezD)

  Follow the instructions on the form to request for the Skyhook tenant ID. This ID is unique per customer.

- Read the instructions carefully and ensure you use your company email address only.

**Figure 5: Skyhook tenant registration email ID**
• Select Envoy for our integration

**Figure 6: Skyhook tenant registration application to integrate**

2. Please select the App you wish to integrate with using Skyhook? *

   ![Selections]

   - [x] Envoy
   - [ ] SinePoint Pro
   - [ ] Teamgo (GoReception)
   - [ ] Teem LobbyConnect

3. Please enter company name associated with this Skyhook registration? *

   ![Input]

   **arubaCPtmelab**

   ![Submit]

   **END USER AGREEMENT**


   ![Completion]

   67% completed

• Choose a Unique Company Identifier for your skyhook app. Kindly read the instructions carefully and avoid spaces or special characters

**Figure 7: Skyhook tenant registration company identifier**
• Accept Terms and Conditions and Submit the request.

You will receive a response within 24-48 hours upon submitting a request.

Following is a sample response with the desired details.

**Figure 8: Sample email response upon registration**

![Sample email response](image)

Thanks for your interest in our integration between Envoy and ClearPass. Please find below your registered tenant details for our Skyhook platform which will enable your ClearPass deployment to receive real-time sign-in events from the Envoy cloud platform.

You can find some draft documentation steps for the Envoy integration on the following portal: [https://clearpass-extensions.gelato.io/guides/envoy-visitor-registration](https://clearpass-extensions.gelato.io/guides/envoy-visitor-registration) at this time we are recommending a minimum version of ClearPass Policy Manager 6.7.2.

Below are your Skyhook tenant mapping details as requested:

```
"skyhookTenant": "3d72456d-fbd1-49cd-a\*\*\*",
"dbAccessToken": "eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJleHAiOiJENEJd",
```

The extension id required to download the latest build of the Envoy integration is as follows:

```
"storeId": "ba284216-8d1e-40c7-b78a-fa7810c45738"
```

Kindly copy the `skyhookTenant` and the `dbAccessToken` in the highlighted area in a text file. This will be used for configuration of the extension in ClearPass as well as configuring the tenant details on the Envoy plugin.
Step II: Configuring Envoy for ClearPass Integration

Setup and configuration of Envoy is beyond the scope of this guide. Here we specify the steps necessary to configure the integration.

Below are the configuration steps to follow.

- Login to Envoy using your credentials on https://dashboard.envoy.com

  Select the Location you wish to integrate with ClearPass as highlighted below. Navigate to Integrations and “Install” the ClearPass plugin.

Figure 9: Install plugin in Envoy

- Once the plugin is installed, click on Configure and follow the steps.

  For the first step, copy the Envoy Plugin Install Token. This will be used for the extension configuration in ClearPass to perform health checks.

Figure 10: Envoy plugin setup 1
For the next step, we need to use the `skyhookTenant` obtained in **Step 1** from the email in **Figure 8**. Copy this value in the **CLEARPASS TENANTNAME** section as shown below.

Ensure that the default URL in the section **SKYHOOK API HOST** matches with https://skyhook.clearpassbeta.com/api/skyhook/envoy. Do not edit the field if it does or unless instructed by Aruba TAC.

**Figure 11: Envoy plugin setup 2**

- Select the SMS Gateway that will be used to send the credentials to a visitor. We should use **ClearPass SMS Gateway** as an option here.

---

**NOTE**

The other option is to use the Envoy SMS gateway (using Twilio). The SMS gateway used here uses the SMS template shown in the screenshot. This can be modified as per requirements. For this setup, we are going to use the ClearPass SMS Gateway.
The last step shows the Status Report of the health checks performed by ClearPass extension.

ClearPass extension sends a health check every 5 minutes using the Envoy Plugin Install token for the given tenant. The statistics associated with this health check are shown here. This will only happen after the installation of the Envoy extension which is covered under the section Step III: Envoy Extension Installation and Configuration. Click on Complete Setup.
Step III: Envoy Extension Installation and Configuration

Starting in ClearPass 6.7, a Graphical User Interface (GUI) was introduced to make the process of interacting with the extension framework easier. To access the extension GUI, from the Guest System, under Administration find the Extension User Interface as shown below.

**Figure 14: Extensions framework GUI**

From here, click on 'Install Extension', and the search box below appears. Enter the keyword “Envoy” and click on 'Search'.

**Figure 15: GUI Extension installation**

Starting 6.7, in a cluster environment an extension can be installed on the subscriber nodes directly. Do not install the older version (1.0). It will soon be deprecated. Ensure you select version 2.0.0 as shown below.
Click on the extension and then the "Install" option, and if necessary, set the IP address. It will automatically pick an IP address if not assigned. Also, it can be set later if required.

**Figure 17: GUI extension configuration at install time**
After the extension has been installed, review the extension configuration as necessary and adjust as needed. Notice the options to Start, Delete, Reinstall or Show Logs and the option to review and set the extension configuration.

The default configuration used for extension is below:

```json
{
    "skyhookTenant": "0f4cxxxx-xxxx-xxxx-xxxx-2e04897691a8",
    "dbAccessToken": "********",
    "envoyInstallToken": "********",
    "countryIsoCode": "US",
    "phoneNumberField": "Your Phone Number",
    "cppmDefaultExpiryHrs": 8,
    "cppmGuestRoleName": "[Guest]",
    "cppmGuestRoleId": 2,
    "cppmGuestSmsReceipt": true,
    "cppmGuestEmailReceipt": true,
    "cppmGuestAccessCode": false,
    "dbLogging": false,
    "logLevel": "INFO"
}
```

A copy of the Envoy Extension with the desired configuration is shown below, this will need to be modified for your deployment. Include the `skyhookTenant`, `dbAccessToken` and `envoyInstallToken` that will be specific to your environment. Change any other default values if necessary. Select 'Restart' and click on Save Changes to restart the extension.

**Figure 18: GUI review and setting the Extension configuration**
The table below explains each option with the values and examples required for configuration.

**Figure 19:** Extension configuration options

<table>
<thead>
<tr>
<th>Configuration attribute</th>
<th>Description</th>
<th>Example/Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>skyhookTenant</td>
<td>The Skyhook tenant ID received in the registration email.</td>
<td>c7xxxxx8-b2b6-4125-9741-cxxxxxxxxx38a6</td>
</tr>
<tr>
<td>dbAccessToken</td>
<td>The access token for Skyhook received in the registration email.</td>
<td>Long Random string like 7INXYr1YUixxxxxv...</td>
</tr>
<tr>
<td>envoyInstallToken</td>
<td>The install token from Envoy used for Health Checks to ensure a valid communication channel exists.</td>
<td>f2343xxx-xxxx-xxxx-xxxx-2abd3e415a12</td>
</tr>
<tr>
<td>CountryIsoCode</td>
<td>The country code to use for phone number formatting when the number is not specified in the international format.</td>
<td>US, IN</td>
</tr>
<tr>
<td>phoneNumberField</td>
<td>The sign-in field from Envoy to use for the visitor phone number.</td>
<td>“Your Phone Number”</td>
</tr>
<tr>
<td>cppmDefaultExpiryHrs</td>
<td>The default number of hours for an account to be active.</td>
<td>8</td>
</tr>
<tr>
<td>cppmGuestRoleName</td>
<td>The role name to be used in ClearPass Guest when creating the account. This value should match with the cppmGuestRoleid</td>
<td>[Contractor], [Guest], [Employee], Custom Role</td>
</tr>
<tr>
<td>cppmGuestRoleid</td>
<td>This value sets the role id to use when creating guest accounts</td>
<td>1 - [Contractor], 2 - [Guest], 3 - [Employee], 4 - Custom Role</td>
</tr>
<tr>
<td>cppmGuestSmsReceipt</td>
<td>Sets the value of auto_send_sms for ClearPass to send the Guest credentials receipt via SMS</td>
<td>true/false</td>
</tr>
<tr>
<td>cppmGuestEmailReceipt</td>
<td>Sets the value of auto_send_smtp for ClearPass to send the Guest credentials receipt via SMTP</td>
<td>true/false</td>
</tr>
<tr>
<td>cppmGuestAccessCode</td>
<td>Enables creation of random codes as Guest Username. If not used the default email field is used as username.</td>
<td>true/false</td>
</tr>
</tbody>
</table>
Set ppmGuestSmsReceipt value to false if leveraging the Envoy SMS Gateway. This would trigger an SMS using Envoy’s SMS Gateway which leverages Twilio in the backend.

After the configuration and the restart of the extension, click on Show Logs. You should see the following.

**Figure 20: Log validation**

![Log validation screenshot]

The above log states that the extension is now ready to process the events for Envoy.

You can change the logLevel to DEBUG under configuration for detailed logs. These are very useful for troubleshooting and should be included before raising a support case if necessary.
Envoy Sign-in flow

The configuration of Envoy Sign-in form is beyond the scope of this guide however there are a couple of interesting features introduced in Envoy v2 extension which requires us to go through this in brief. These features are not available in v1.

An Envoy Sign-in flow can be configured by selecting the location of your choice and then navigating to Visitors > Settings > Sign-in flow. Click on Sign-in fields.

Figure 21: Custom phone number field

The v2 extension now allows you to use any custom field as a Phone number field. This gives you the flexibility to change the name of the field displayed on the form. It can now be changed for example to “Mobile Number” or “Cellphone Number” or any other custom label. In v1 this was hardcoded and cannot be changed.

This field is then mapped to visitor_phone field in ClearPass Guest using the extension configuration parameter phoneNumberField as described in the “Extension configuration options” in Figure 19. It allows an administrator to effectively rename this field in Envoy and map the value to visitor_phone field in ClearPass Guest which is then used by ClearPass to SMS the credentials.
Envoy v2 extension can also consume information from other custom fields defined in the form. One can also add a custom field in the Sign-in form the input to which will be captured under the Guest account details within ClearPass. For instance, the custom field “Favourite Drink” is added to this form as shown in the figure. This can be added by clicking “Add a New Field” which is highlighted.

Figure 22: Add custom field
This is captured under Guest account details within ClearPass. Go to **Guest > Manage Accounts**, select a registered account and click on **Show Details**.

**Figure 23: Guest account details**

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td></td>
<td>3042</td>
</tr>
<tr>
<td>username</td>
<td>Username:</td>
<td>a_username</td>
</tr>
<tr>
<td>auto_send_sns</td>
<td>Auto SMS:</td>
<td>1</td>
</tr>
<tr>
<td>auto_send_smtp</td>
<td>Auto Email:</td>
<td>1</td>
</tr>
<tr>
<td>auto_update_account</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>create_time</td>
<td>Created:</td>
<td>1541018798</td>
</tr>
<tr>
<td>current_state</td>
<td>Current State:</td>
<td>disabled</td>
</tr>
<tr>
<td>do_expire</td>
<td>Expire Action:</td>
<td>0</td>
</tr>
<tr>
<td>email</td>
<td>Email Address:</td>
<td><a href="mailto:arpit.bhatt@hpe.com">arpit.bhatt@hpe.com</a></td>
</tr>
<tr>
<td>enabled</td>
<td>Account Status:</td>
<td></td>
</tr>
<tr>
<td>envoyLocationCity</td>
<td></td>
<td>Santa Clara</td>
</tr>
<tr>
<td>envoyLocationCountry</td>
<td></td>
<td>US</td>
</tr>
<tr>
<td>envoyLocationId</td>
<td></td>
<td>45099</td>
</tr>
<tr>
<td>envoyLocationName</td>
<td></td>
<td>QA DEV</td>
</tr>
<tr>
<td>envoyLocationState</td>
<td></td>
<td>CA</td>
</tr>
<tr>
<td>envoyLocationTimeZone</td>
<td></td>
<td>America/Los Angeles</td>
</tr>
<tr>
<td>envoy_company_id</td>
<td></td>
<td>3596</td>
</tr>
<tr>
<td>envoy_company_name</td>
<td></td>
<td>Aruba Networks</td>
</tr>
<tr>
<td>envoy_nua</td>
<td></td>
<td></td>
</tr>
<tr>
<td>envoy_original_nua_sign_date</td>
<td></td>
<td>2018-10-18T01:55:52.000-07:00</td>
</tr>
<tr>
<td>envoy_signed_in_at</td>
<td></td>
<td>2018-10-18T20:45:00.000Z</td>
</tr>
<tr>
<td>envoy_signed_in_by</td>
<td></td>
<td>Arpit Bhatt (Aruba)</td>
</tr>
<tr>
<td>envoy_signed_in_via</td>
<td></td>
<td>Dashboard</td>
</tr>
<tr>
<td>expired_notify_status</td>
<td></td>
<td>Expired Notification: 1</td>
</tr>
<tr>
<td>expire_time</td>
<td>Expiration Time:</td>
<td>1541019914</td>
</tr>
<tr>
<td>favourite_drink</td>
<td></td>
<td>Stella</td>
</tr>
</tbody>
</table>

To add further, you can also use this field for the reports within Insight.
Migration Steps from Envoy v1 to Envoy v2

Envoy v1 was available as a ClearPass extension prior to writing this guide. Customers who already have v1 installed are recommended to move to v2 for performance enhancements. The v2 version of the Extension also provides an additional flexibility in defining custom fields as shown in Figure 22.

Following are the migration steps.

1. Request for a new SkyHook Tenant ID for Envoy v2 integration. The steps for the same are specified in the section “Step I: Register and Request for a Skyhook Tenant ID”.

2. Stop the Envoy v1 extension installed on your ClearPass server. Navigate to ClearPass Guest and go to Administration > Extensions. Click on the Envoy Extension to Stop it as shown below.

Figure 24: Stop extension

3. Install the new Envoy plugin for ClearPass Integration. Use the steps in the section “Step II: Configuring Envoy for ClearPass Integration”.

4. Follow the section “Step III: Envoy Extension Installation and Configuration” to install the new Envoy v2 extension.

5. Test the functionality for few days to ensure it works. If yes, the old extension can be deleted. If no, it can be re-started to ensure no service interruption. Contact Aruba support for any further assistance with troubleshooting.
Testing/Demo

Now that the components are all configured and ready to use, let’s walk through the experience from the visitor and administrator perspective. In order to do so, the first step for a visitor is to sign in using the Envoy Visitors app running on an iPad at a reception in the customer setup.

Configuring an iPad to assist customers with registration at front desk is beyond the scope of this document. Essentially, one needs to download the Envoy Visitors app from the appstore and register the device to your Envoy account.

Detailed steps are available here [https://dashboard.envoy.com/devices/ipads/new](https://dashboard.envoy.com/devices/ipads/new)

1. Visitor walks up to a tablet used for registration. Every company can personalize the branding by using their logos for the registration pages and email. A simple registration Sign-in page configured for our demo is shown below.

   Visitor taps to sign in.

**Figure 25: Visitor Sign-in**
II. A first-time visitor is asked to fill the form completely with his details as shown below. The visitor is also asked to select the Sponsor, the person he is visiting. The sponsor is notified via an email/SMS of the visitor’s arrival. We have used basic forms here for demo. These forms are customizable and can be created as per customer requirements.

*Figure 26: Visitor details*

III. The next steps will ask the visitor to click a picture if configured and then make them digitally sign the required forms like NDA etc. There are several options available for the Sign-in flow on Envoy.

IV. Once done, you will see a welcome message. This could be a message, image or a video based on the configuration on Envoy. The customization options are a part of the Sign-in flow. This finishes the registration from a visitor perspective.
V. Visitor should receive an email as well as an SMS with his credentials to login to guest Wi-Fi. Following is the snapshot of the email. Notice the account expiry time is set to 8 hours by default.

Figure 27: Visitor email receipt

You can change the Receipt Template (Guest Manager Receipt) under Configuration > Receipts > Templates.
VI. After the visit, user can Sign out at the registration desk using the same tablet. Type the first 3 letter of the name used during Sign in and select the user.

Figure 28: Visitor Sign-out

Now let’s see what happens in the backend from an administrator perspective.

I. Login to ClearPass Guest and go to Manage Accounts under Guest.

Figure 29: ClearPass Guest account creation

The new account has been created upon registration. Note the Expiration time, this should match with the Envoy extension configuration setting for `cppmDefaultExpiryHrs`. By default, it is set to 8 hours. Another thing to note is the Role which is set to [Guest]. This depends on the extension configuration settings for `cppmGuestRoleName` and `cppmGuestRoleId`. This could also be set to a custom Role value if required. The configuration for the same is beyond the scope of this guide.

II. If you enable DEBUG and Click on Show Logs under Extension, you should see the following details as a part of the Sign in event.

```
[2018-10-24T08:10:46.907] [INFO] envoy - [Sign In] The following guest signed in: clearpass.test@gmail.com
[2018-10-24T08:10:46.908] [DEBUG] envoy - {"status":"sign-in","visitor":"Test User","username":"clearpass.test@gmail.com","password":30922,"tenant":"3d72456d-fbd1-49cd-aa08-xxxxxxxxxxx ","extId":"313deebb-3807-45ee-ace8-f4e908fc83cb"}
[2018-10-24T08:10:47.373] [DEBUG] envoy - handleEnvoyHealthCheck Response: [202] payload: "ACCEPTED"
[2018-10-24T08:10:47.373] [INFO] envoy - Successfully called Envoy healthcheck
[2018-10-24T08:10:47.373] [DEBUG] envoy - Successfully sent healthcheck update to Envoy.
```
III. Upon Sign out, the visitor account will be disabled. This can be validated under Manage Accounts in ClearPass Guest

**Figure 30: ClearPass Guest account disabled**

IV. The user’s Wi-Fi session should also get disconnected automatically upon Sign out. This depends on the policy configured for the Guest SSID. This configuration is beyond the scope of this document.

V. You would see a similar Sign out event in the DEBUG logs.
Appendix A – Additional Diagnostics and Support

The Extensions Service

The ClearPass extension is supported by a new system service that was initially added in 6.6. This service should be running. Note that restarting this service will affect all deployed and running extensions.

To check on the state and to restart the service, go to Administration > Server Manager > Server Configuration [select a ClearPass node] > Service Control. From here start/stop the extension service. By default, this service is automatically started.

Figure 31: Checking on the extensions service and how to start/stop the service

Extension logs and debugging

Referencing the configuration previously used, adjust the "logLevel" to "DEBUG". In the new 6.7 GUI change the configuration and restart the extension as shown below. Logs can then be viewed from the 'Show Logs'.

Figure 32: Using the GUI to change the DEBUG level

Remember after changing the logging level, the extension will need to be restarted for this change to take effect.
**Accessing extension logs within ClearPass ‘Collect Logs’**

In addition to the logging of messages that be examined in the extension as shown above, it’s possible to configure the extension to log messages so that they can be collected and examined via the Policy Manager ‘Collect Logs’ system function. This is extremely useful for Aruba TAC. The logs are available under Administration > Server Manager > Server Configuration > Collect Logs.

If there is a requirement for Aruba TAC to investigate a system issue, one of the items they regularly ask for is the system logs to aid with their diagnostic investigation. The ClearPass extension can write its logs such that they are available and can be collected with all other system diagnostics information when the ‘Collect Logs’ function is run. Remember that by default, the logLevel is set to INFO but TRACE, DEBUG, INFO, WARN, ERROR, FATAL can also be set. Any of the levels will display the information for the selected state and lower. For example, if INFO is selected, it will show messages for INFO, WARN, ERROR, FATAL.

After the Logs have been collected and exported from the system, expand the GZ file and locate the extension logs in the following location ‘PolicyManagerLogs->extension’ as shown below.

*Figure 33: Extension logs location in ‘Collect Logs’ diagnostic GZ file*