

VMware AirWatch Certificate Authentication for EAS with NDES-MSCEP

For VMware AirWatch

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Chapter 1: Overview

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AirWatch Certificate Authentication for EAS with NDES-MSCEP

This document explains the configurations required for the Microsoft Exchange Client Access Server (CAS) and AirWatch to allow a device to connect to Microsoft Exchange ActiveSync (EAS) using a certificate for authentication.

Prerequisites for EAS with NDES-MSCEP

The following tasks must be completed before proceeding with the steps outlined in this document.

- A certificate authority server must be set up and configured as described in the **Setting up a Microsoft CA for NDES/SCEP/MSCEP** document. The CA must be an Enterprise CA as opposed to a Stand Alone CA (Stand Alone does not allow for the configuration and customization of templates).
 - A Network Device Enrollment Service, also referred to as MSCEP server setup. NDES is only available in the Enterprise version of Microsoft Server 2008 and 2008 R2.
- Microsoft Exchange with ActiveSync enabled.
- Internet Information Services (IIS) on the EAS server must have the option “Client Certificate Mapping Authentication” installed.

Chapter 2: Exchange ActiveSync with NDES and MSCEP Installation, Setup, and Configuration

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Step 1: Set Up a Trust between Active Directory and the Certificate Authority, EAS with NDES-MSCEP

In order for Microsoft Exchange ActiveSync to authenticate a user from a certificate, it must first trust the source of the certificate.

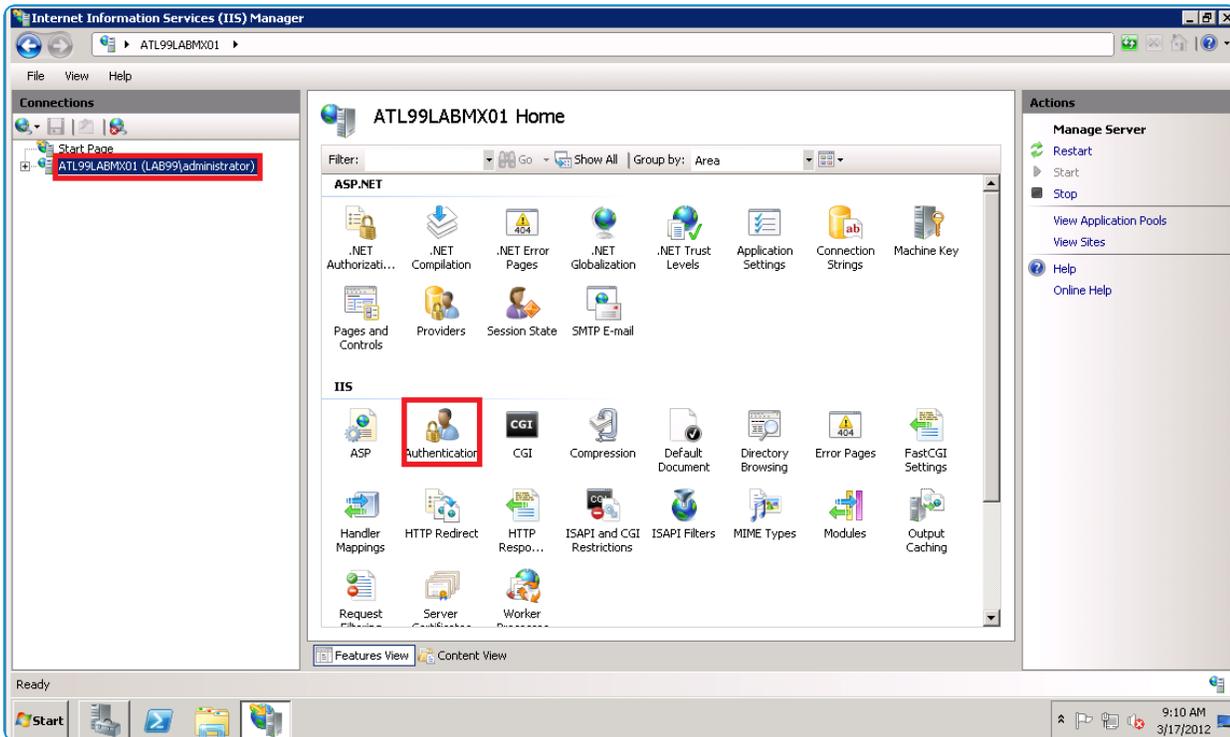
1. On the Certificate Authority server, select **Start > Run**.
2. Type MMC in the dialog box and press **Enter** to launch the Microsoft Management Console (MMC).
3. Click **File > Add/Remove Snap-in...** from the MMC main menu.
4. Select **Enterprise PKI** from the list of Available snap-ins and then select **Add**.
5. Click **OK**.
6. Right-click **Enterprise PKI** and select **Manage AD Containers**.
7. Select the **NT AuthCertificates** tab and verify the Certificate Authority is listed. If not, select **Add** to add the Certificate Authority to the group.
8. Click **OK**.

Step 2: Set Permissions on Exchange Server

In order for devices to authenticate with Microsoft Exchange ActiveSync, you must configure several changes on the Exchange Server.

Certificate Authentication

1. On the Exchange server, select **Start > Run**.
2. Type `inetmgr` in the dialog box to launch **Internet Information Services (IIS)**.
3. Select the server in the left-hand **Connections** pane.
4. Under IIS, double-click the **Authentication** icon.



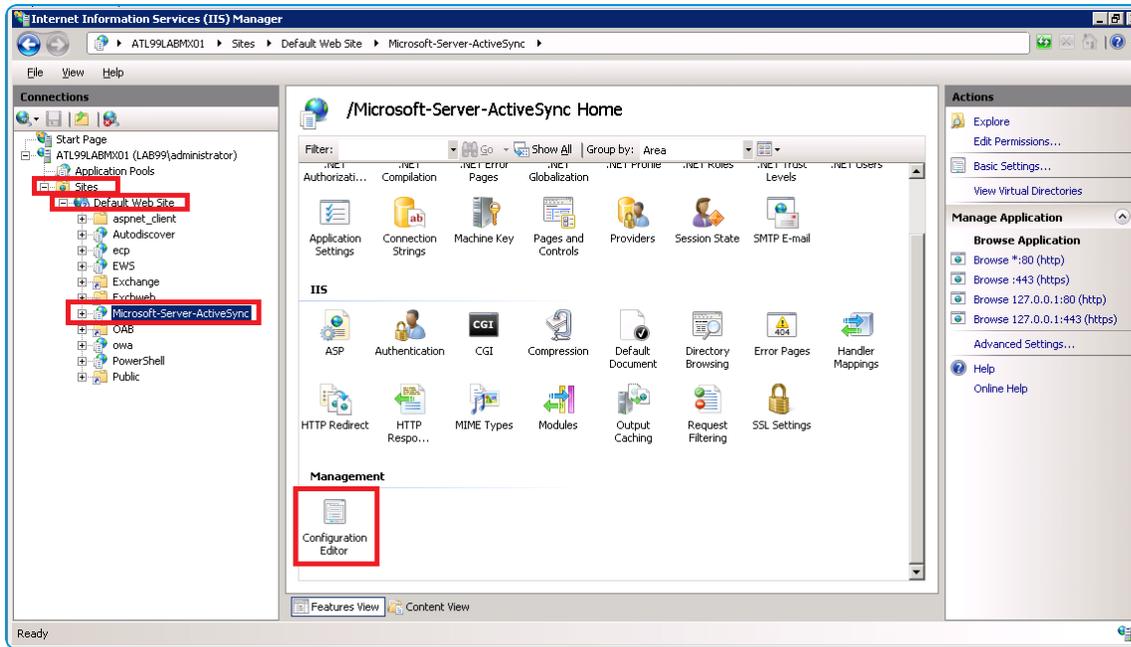
5. Select **Active Directory Client Certificate Authentication** and then select **Enable**.

Configuration Editor

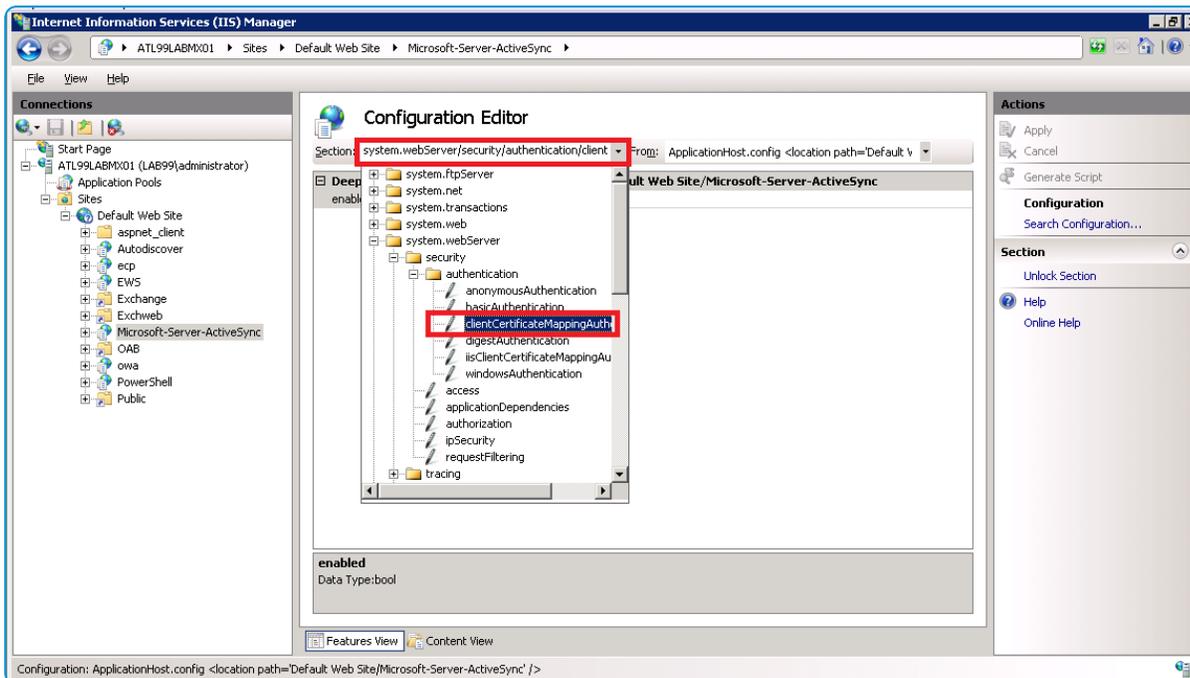
1. Click + to expand **Site** and then **Default Web Site** to display all available configuration editors.
 - a. If you are using MS Server 2008 R2 or later, the **Configuration Editor** icon appears as shown below; Select **Microsoft-Server-ActiveSync** and double-click on the **Configuration Editor** icon. Skip steps 1. b & 1. c, and go directly to step 2.
 - b. If you are using Exchange servers older than 2008 R2, you need to be familiar with the use of **appcmd.exe** and run it from the command prompt.
 - c. Open a command prompt by selecting **Start > Run**. In the dialog box type **cmd** and select OK. In the command prompt, type the following command:


```
appcmd.exe set config "Microsoft-Server-ActiveSync" -
section:system.webServer/security/authentication/clientCertificateMappingA
uthentication /enabled:"True" /commit:apphost
```

If you performed this step, then skip the remaining steps and advance to [Setting up Secure Socket Layer \(SSL\)](#).



2. Navigate to `system.webserver/security/authentication` in the Section drop-down menu.
3. Select `clientCertificateMappingAuthentication`.

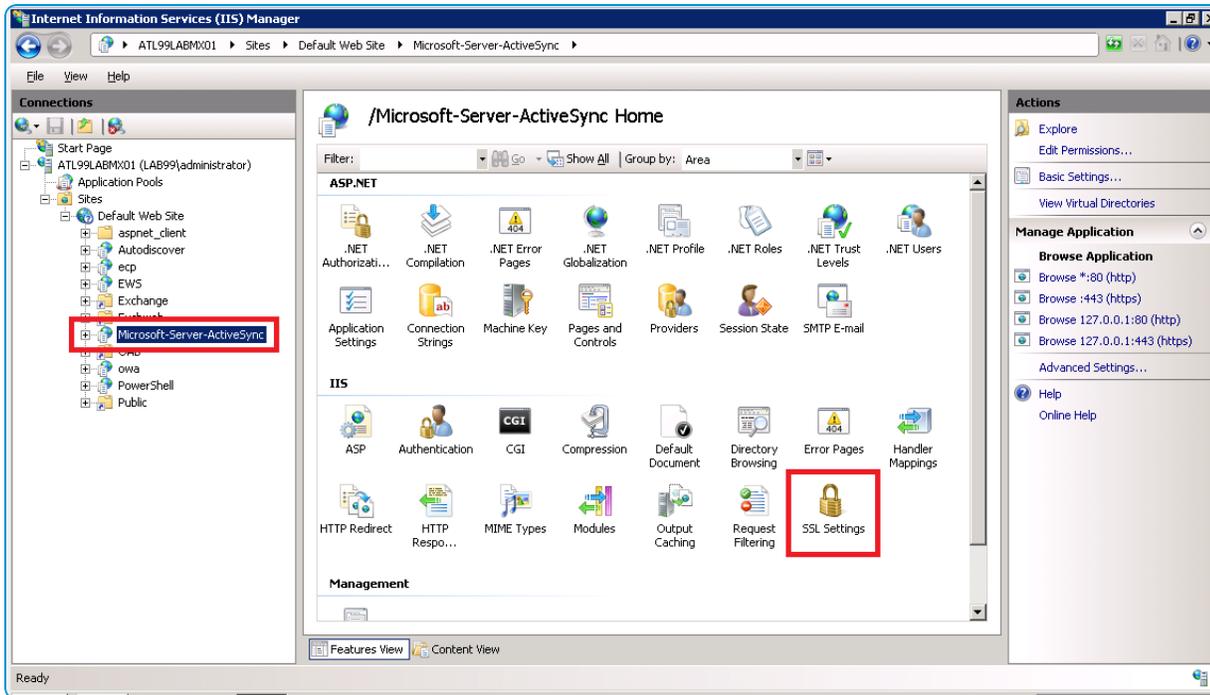


4. Select True from the drop-down menu on the Enabled option.

Set Up Secure Socket Layer (SSL)

If only certificate authentication is being used, then you must configure Secure Socket Layer (SSL).

1. Select **Microsoft-Server-ActiveSync**, and then double-click the **SSL Settings** icon.



2. Select **Accept** if other types of authentication are allowed. If only certificate authentication is allowed, then select the **Require SSL** checkbox and then select **Required**.

Adjust uploadReadAheadSize Memory Size

Since certificate based authentication uses a larger amount of data during the authentication process, some adjustments must be made in IIS configuration to account for the increased amount of data. This is accomplished by increasing the value of the `uploadReadAheadSize`. The following steps guide you through the configuration:

1. Open a command prompt by selecting **Start > Run**.
2. Type `cmd` in the dialog box and select **OK**.
3. Enter the following commands to increase the value of the `uploadReadAheadSize` from the default of 48KB to 10MB:

```
C:\Windows\System32\inetsrv\appcmd.exe set config -section:system.webServer/serverRuntime /uploadReadAheadSize:"10485760" /commit:apphost
```

```
C:\Windows\System32\inetsrv\appcmd.exe set config "Default Web Site" - section:system.webServer/serverRuntime /uploadReadAheadSize:"10485760" /commit:apphost
```

"Default Web Site" is used. If the name of the site has been changed in IIS then the new name needs to replace "Default Web Site" in the second command.

4. Enter the IIS Reset command to perform an IIS reset by entering the following command:
`iisreset`

Step 3: Configuring Certificate Authority And Certificate Template In AirWatch, EAS with NDES-MSCEP

In order for AirWatch to retrieve a certificate from a certificate authority, you must correctly configure the AirWatch Console to use the certificate. There are two steps to this process.

- Configure the certificate authority.
- Configure the certificate template.

Procedure

1. Open the AirWatch Console.
2. Login as a user with AirWatch Administrator privileges or higher.
3. Navigate to **Devices > Certificates > Certificate Authorities**.
4. Click **Add**.
5. Select from the **Generic SCEP** from the Authority Type drop-down menu prior to completing any other configuration settings for the certificate authority.
6. Enter the following details about the CA in the remaining fields:
 - Enter the actual certificate authority Name in the **Certificate Authority** field. This is the name of the CA to which the NDES/SCEP/MSCEP endpoint is connected. This can be found by launching the **Certification Authority** application on the CA server.
 - Enter a brief **Description** for the new CA.
 - Enter the URL of the CA server in the **SCEP URL** field.
 - Select the **Challenge Type** radio button that reflects whether or not a challenge phrase is required for authentication. If you want additional authentication, select the **Static** radio button and enter an authentication phase consisting of a singular key or password that used to authenticate the device with the certificate enrollment URL. If additional authentication is not required, select **No Challenge**.
7. Click **Test Connection**. If you select Save prior to **Test Connection**, a “Test is unsuccessful” error displays.
8. Click **Save**.
9. Select the **Request Templates** tab
10. Click **Add** to add a new certificate template.
11. Complete the certificate template information:
 - Enter a name for the new **Request Template**.
 - Enter a brief **Description** for the new certificate template.
 - Select the certificate authority that was just created from the **Certificate Authority** drop-down menu.
 - Enter the **Subject Name** or Distinguished Name (DN) for the template. The text entered in this field is the

“Subject” of the certificate, which can be used by the network administrator to determine who or what device received the certificate.

A typical entry in this field is “CN=AirWatch.{EnrollmentUser}” or “CN={DeviceUid}” where the {} fields are AirWatch lookup values.

- Select the private key length from the **Private Key Length** drop-down box.:
This is typically 2048 and should match the setting on the certificate template that is being used by NDES/SCEP/MSCEP.
- Select the **Private Key Type** using the applicable checkbox.
This should match the setting on the certificate template that is being used by NDES/SCEP/MSCEP.
- Click **Add** to the right of **San Type** to include one or more Subject Alternate Names with the template. This is used for additional unique certificate identification. In most cases, this needs to match the certificate template on the server. Use the drop-down menu to select the San Type and enter the subject alternate name in the corresponding data entry field. Each field supports lookup values.
- Select the **Automatic Certificate Renewal** checkbox to have certificates using this template automatically renewed prior to their expiration date. If enabled, specify the Auto Renewal Period in days.
- Select the **Enable Certificate Revocation** checkbox to have certificates automatically revoked when applicable devices are unenrolled or deleted, or if the applicable profile is removed.
- Select the **Publish Private Key** checkbox to publish the private key to the specified web service endpoint (Directory Services or custom web service)

12. Click **Save**.

Step 4: Create Profile for Exchange ActiveSync, EAS with NDES-MSCEP

The final step in setting up the Exchange Active Sync Certificate Authentication is creating and deploying the AirWatch profile that pushes the Exchange Server settings to the device. This profile contains the information necessary for the device to connect to Exchange, as well as the certificate that the device uses to authenticate.

1. Navigate to **Devices > Profiles > List View**.
2. Click **Add**.
3. Click the applicable device platform to launch the **Add a New Profile** dialog.
4. Configure the **General** settings for the profile. The General settings determine how the profile is deployed and who receives it as well as other overall settings.
5. Select **Credentials** from the profile options at left and then select **Configure**.
6. Select **Define Certificate Authority** from the Credential Source drop-down menu.
7. Select the certificate authority you created previously from the **Certificate Authority** drop-down menu.
8. Select the certificate template you created previously from the **Certificate Template** drop-down menu.
9. Select **Exchange ActiveSync** from the profile options at left and then select **Configure**.

You must configure the Credentials payload settings before the Exchange ActiveSync payload settings.

10. Configure the **Exchange ActiveSync** settings:

- Enter an account name in the **Account Name** field. This is the name that displays on the device to indicate which email account is active so it should be accurately descriptive.
- Enter the Exchange ActiveSync host in the **Exchange Active Sync Host** data entry field. This is the actual endpoint of the mail server.
Do not include “http://”, “https://” at the beginning or “/Microsoft-server-activesync” at the end.
- Ensure the **Use SSL** checkbox is selected. Authentication using certificates fails over a non-SSL connection.
- Deselect the **Use S/MIME** checkbox if enabled by default.
- The **Domain** data entry field should contain the email domain for the user account.
- The **Username** data entry field should contain the email address of the user when on the device.
- The **Email Address** text box should contain the email address of the user when on the device
Domain, Username, and Email Address can be obtained using Lookup Values which will retrieve the text stored in the applicable field of the User Profile.
- Select the credential you created previously from the **Payload Certificate** drop-down menu.

11. Click **Save** or select **Save and Publish** to publish this profile to a device.

Chapter 3:

Testing and Troubleshooting

Testing and Troubleshooting, EAS with NDES-MSCEP

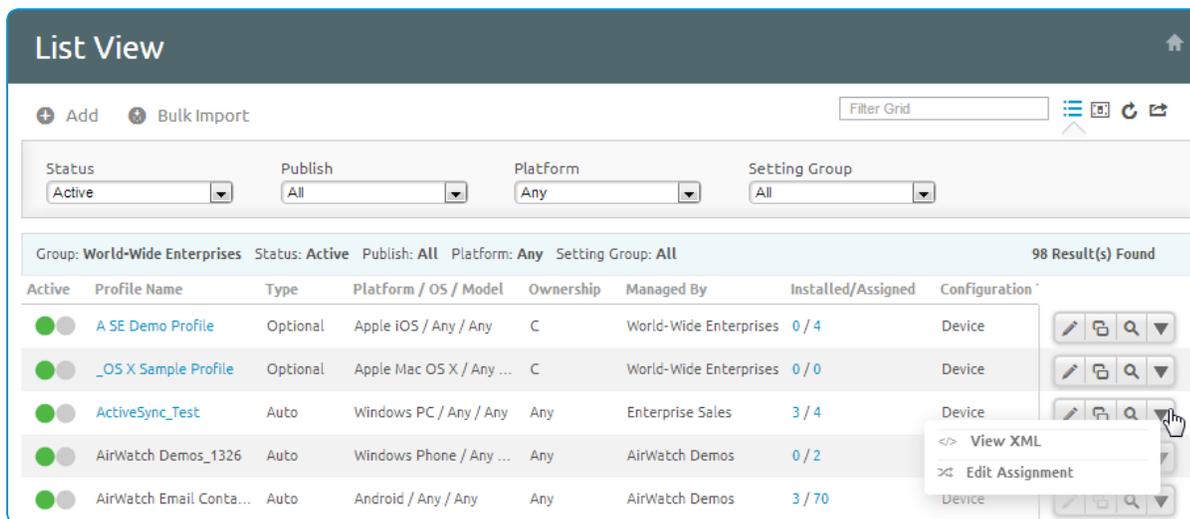
You can confirm that the certificate is operational by pushing a profile to the device and testing whether or not the device is able to connect and sync to the configured Exchange ActiveSync endpoint. If the device does not connect and shows a message indicating the certificate cannot be authenticated or the account cannot connect to Exchange ActiveSync, then there is a problem in the configuration.

Ensure a certificate is being issued by the certificate authority to the device by checking the following information:

1. Launch the certification authority application on the certificate authority server and browse to the issued certificates section.
2. Locate the last certificate issued and verify it shows a subject matching the subject created when the certificate was generated in the AirWatch Console.
If there is no certificate, then there is an issue with the certificate authority, client access server (e.g., ADCS), or the AirWatch connection to client access server.
3. Ensure the permissions of the client access server (e.g., ADCS) Admin Account is applied correctly to the certificate authority and the certificate template.
4. Ensure the account information is entered correctly in the AirWatch configuration.

If the certificate is being issued, ensure that it is in the profile and on the device:

1. Navigate to **Devices > Profiles > List View**.
2. Click to the right of the applicable Exchange ActiveSync profile to launch the Actions menu and select **View XML**.



3. On the device, access the list of installed profiles.
4. View details for the applicable profile and ensure the certificate is present.
5. Confirm that the certificate contains the **Subject Alternative Name** (or SAN) section and within that section there is an **Email** and **Principal** name with the appropriate data. If this section is not in the certificate, then either the template is incorrect or the certificate authority has not been configured to accept SAN. Refer to the section on configuring the certificate authority.
6. Confirm the certificate contains the **Client Authentication** in the **Enhanced Key Usage** section. If not present, then the template is not configured correctly.

If the certificate is on the device and contains the correct information, then the problem is most likely with the security settings on the Exchange ActiveSync server. Confirm the address of the Exchange ActiveSync server is entered correctly in the AirWatch profile and that all security settings have been adjusted to allow certificate authentication on the Exchange ActiveSync server.

A reliable test is to manually configure a single device to connect to the Exchange ActiveSync server using certificate authentication. This should work outside of AirWatch and until this works properly, AirWatch will not be able to configure a device to connect to Exchange ActiveSync with a certificate.