# Symantec<sup>™</sup> Managed PKI<sup>®</sup>

Integration Guide for ActiveSync®



## Symantec<sup>™</sup> Managed PKI<sup>®</sup> Integration Guide for ActiveSync<sup>®</sup>

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Chapter

# Integrating Managed PKI Certificates with Microsoft<sup>®</sup> ActiveSync<sup>®</sup>

Managed PKI certificates can be integrated with many common applications to enable secure communications and online access. This document describes how to integrate Managed PKI certificates with Microsoft® ActiveSync® to enable S/MIME (with or without userID and password authentication) using certificate mapping.

## **Pre-requisites**

This integration has been qualified on the following platform:

- Microsoft Exchange ActiveSync<sup>®</sup> 14
- Windows<sup>®</sup> 2008 Server R2 64-bit Standard or Enterprise edition
- Microsoft Exchange<sup>®</sup> Server 2010
- Microsoft Internet Information Services<sup>®</sup> (IIS) 7.5

## **Integration Overview**

Integrating Managed PKI certificates with ActiveSync consists of the following general steps:

- "Prepare for Certificate Mapping for ActiveSync" on page 1
- "Map Certificates" on page 5
- "Test ActiveSync" on page 7

## Prepare for Certificate Mapping for ActiveSync

To prepare certificate mapping for ActiveSync, you configure ActiveSync and Exchange to enable certificate mapping for Active Directory (AD). Note the following special considerations:

- Your Exchange server and ActiveSync must be configured for userID and password.
- The Exchange server must be a member of a domain.
- The CDP for certificates issued by Managed PKI and which map to ActiveSync must be reachable without going through a proxy. If your client certificates are missing, the CDP is not available, or if the CRL cannot be accessed, certificate mapping will fail.
- To check if your CDP is not available, refer to the procedures in "Verifying if the CDP is Available" on page 9.

**Note:** If you are unable to reach the CRL without going through a proxy, you can set the web server to run as an administrator. Refer to the instructions at <a href="http://support.microsoft.com/kb/294305">http://support.microsoft.com/kb/294305</a>. However, running the web server as an administrator is not recommended.

## Configure ActiveSync to Request Certificates

- 1 Open the Exchange Management console.
- $2 \quad Click \ on \ Server \ Configuration \rightarrow Client \ Access \rightarrow Exchange \ Active Sync \rightarrow Properties.$
- 3 Select the Authentication tab.

General	Authentication Remote File Servers		
Select To ena either I	the authentication method or methods that this virtual directory accepts ble authentication between the Exchange server and a mobile phone, Basic authentication or Client certificate authentication is required.		
<mark>⊠ <u>B</u>a</mark>	sic authentication (password is sent in clear text)		
Client	ertificate authentication:		
O Ignore client certificates			
O Ac	C Accept client certificates		
• <u>R</u> e	quire client certificates		
(i) To	configure SSL settings for this ActiveSync virtual directory, use the		



- To enable certificate and userID/password authentication, select Basic authentication (password is sent in clear text) and Require client certificates.
- To enable certificate authentication only, select Require client certificates.

## Configure ActiveSync to Map Certificates to Active Directory

1 The ability to map certificates to Active Directory is typically not enabled by default. You must enable this manually. Refer to the Active Directory documentation or Microsoft for instructions. Make sure that the following Authentication options are enabled:





Figure 1-2 Top-level authentication method settings

- **b** At the Microsoft-Server-ActiveSync level:
  - Enable basic authentication for certificate and userID/password authentication.
  - Disable all authentication methods for certificate only authentication.





**2** Using a POWERSHELL, run the following commands to enable mapping to occur at the ActiveSync level. This can be done manually or programmatically.

C:\Windows\SysWOW64\inetsrv\appcmd.exe unlock config /section:client CertificateMappingAuthentication

#### The command will return the following response:

Unlocked section "system.webServer/security/authentication/client CertificateMappingAuthentication" at configuration path "MACHINE/ WEBROOT/APPHOST".

C:\Windows\SysWOW64\inetsrv\appcmd.exe set config "Default Web Site/ Microsoft-Server-ActiveSync" -section:clientCertificateMapping Authentication /enabled:true

#### The command will return the following response:

Applied configuration changes to section "system.webServer/security/ authentication/clientCertificateMappingAuthentication" for "MACHINE/ WEBROOT/APPHOST/Default Web Site/Microsoft-Server-ActiveSync" at configuration commit path "MACHINE/WEBROOT/APPHOST/Default Web Site/ Microsoft-Server-ActiveSync"

3 Restart the World Wide Web Publishing Service. From the **Start** menu, click **Administrative Tools**→ Services → World Wide Web Publishing Service → Restart.

## Configure IIS and ActiveSync to Trust a Third Party CA

Complete the following steps on the system that hosts Exchange and ActiveSync to establish a trust relationship with the IIS server.

- 1 Open the Microsoft Management Console (MMC).
- 2 Click **File** → **Add/Remove Snap-in...**.
- 3 Select the Certificate snap-in for the Computer account on the local computer and click OK.

Console1 - [Console Root]	Add or Remove Snap-Ins You can select snap-ins for this console from those available on your computer and o extensible snap-ins; you can configure which extensions are enabled. Available snap-ins: Selected snap-ins:
Action view Pavorites Window Hep     New Ctrl+N     Open     Save Ctrl+O     Save Ctrl+O     Save Ctrl+O     Save Ctrl+O     Save Ctrl+O     Save Ctrl+S     Save Ac     Add/Remove Snap-in     Ctrl+M     Opbors     1 C:\Windows\system32\dsa.msc     2 ServerManager.msc     3 Exchange Management Console.m     4 C:\Windows\\services.msc     Exit	Snap-in       Vendor         Active Directory Do       Mcrosoft Cor         Active Directory Site       Mcrosoft Cor         Active Control       Mcrosoft Cor         Certificates       Mcrosoft Cor         Computer Managem       Corectificates snap-in         Device Manager       Disk Management         Event Newer       This snapin will always manage certificates for.         My user account       My user account         Description:       Computer account

Figure 1-4 Selecting the Certificate snap-in for the Computer account on the local computer

- 4 Double-click Certificates (Local Computer).
- 5 Double-click Trusted Root Certificate Authorities.
- 6 Right-click on the Certificates folder under Trusted Root Certification Authorities and click All Tasks.
- 7 Select Import.

🚰 Console1 - [Console R	oot\Certificates (Loo	al Cor	nputer)\Truste
🚡 File Action View I	Favorites Window	Help	
🗢 🔿   🖄 📊 📋	o 🗟 🚺 🖬		
📔 Console Root 🖃 🔄 Certificates (Local C	mouter)		Issued To
			Class 3 Public
🤍 🖃 📔 Trusted Root Ce	rtification Authorities	>	Copyright (c)
Certificates			
🕀 🚞 Enterprise Tru:	All Tasks	<u> </u>	Import
🕀 🚞 Intermediate C	View	•	Microsoft Aut
🕀 🚞 Trusted Publish	New Window from He	re	Microsoft Co
Untrusted Cert	New Wildow Holl Here		Microsoft Cor
Ŧ 📔 Third-Party Ro	New Taskpad View		Microsoft Roy
Trusted People =	Defrech		Microsoft Roc
Remote Deskto	Kerresh		Microsoft Tim
🕀 📃 Certificate Enri	Export List		
🕀 📃 Smart Card Tru	Help		
🛨 🔛 Trusted Device		_	
			RootCA1

Figure 1-5 Importing the trusted CAs

8 Follow the prompts to install the trusted root CAs.

9 Repeat Step 1, "Open the Microsoft Management Console (MMC)." through Step 8, "Follow the prompts to install the trusted root CAs." for any intermediate CAs, except import them to the Intermediate Certification Authorities → Certificates branch rather than the Trusted Root Certification Authorities → Certificates branch.

## **Map Certificates**

There are two ways to map certificates with Microsoft. You can implement one or both of these methods.

Alternative Security Identities: This method is the most reliable method of mapping and works with any client authentication certificate. There is no need for specific fields in the certificate to be managed (no need to set UPN in SubjectAltName for example). Both One-to-One and Many-to-One mapping methods are available, which allows greater flexibility. Many-to-One also facilitates mapping many certificates to a single service account.

Symantec has qualified this method with all versions of ActiveSync.

 Universal Principal Name (UPN) Mapping: This method allows certificates that include a UPN field in their Subject Alternative Name to map to the Universal Principal Name for the user. If you do not have a UPN in your certificate that matches the corresponding user's Universal Principal Name, then you must use the Alternative Security Identities method for certificate mapping.

Symantec has qualified this method with ActiveSync 14 and 14.1.

## Certificate Mapping Option 1 - Alternative Security Identities

- 1 Open the Active Directory Users and Computers snap-in. From the **Start** menu, click **Administrative Tools** → **Active Directory Users and Computers**.
- 2 Select View → Advanced Features.
- 3 Navigate to your end user (under Users).
- 4 Right-click on the user's name and select Name Mappings.



Figure 1-6 Selecting Name Mappings for an end user

- 5 The Security Identity Mapping dialog box appears. Click **Add** and navigate to the certificate that you want to map to this user (the certificate should be in x509 format).
- 6 Select how you want the certificate to be mapped:

- To have this certificate map to one user, select the Use Issuer for alternate security identity and Use Subject for alternate security identity checkboxes. This is the default.
- To map additional certificates to this user, click **Add** and map another certificate, making sure that the **Use Issuer for alternate security identity** and **Use Subject for alternate security identity** checkboxes are selected for each certificate added.
- If you want all certificates from this issuer to map to this user, unselect the **Use Subject for alternative security identity** checkbox. You might use this when you want all certificates from a private root to map to a single service account.

Attribute	Information	
	E=testUser@cademo1.com	
	CN=test user	
	CN=Users	
	DC=cademo1	
Subject	DC=com	
d	CN-RootC41	
dentity Ma	pping	
🗹 Usels	suer for alternate security identity	
Use S	ubject for alternate security identity	

Figure 1-7

Mapping a single certificate to a single user

### Certificate Mapping Option 2 - UPN mapping

Configure your domain to recognize your Certificate Authority as being authorized to issue certificates that include the UPN value:

- 1 Obtain a copy of your root CA certificate (.cer) and copy it to your domain controller (this is typically not the same machine that hosts Exchange and ActiveSync).
- **2** Issue the following command when logged in as Domain Administrator on the Primary Domain Controller:

certutil -dspublish -f YourRoot.cer NTAuthCA

Where YourRoot.cer is the filename of the root CA that you want to authorize to use the UPN mapping.

It may take some time for this change to replicate across all systems on the domain.

• You can verify if an individual system has recognized this update by examining the following registry location:

 $HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\EnterpriseCertificates\NTAuth\Certificates$ 

Double-click on the certificates under this branch and look for one that includes the subject DN of YourRoot.cer.

• You can immediately force the update on any system in the domain by running the gupdate /force command on that system.

			Certificate		
			General De	tails Certification Pati	h]
			Show: <a< th=""><th>l&gt;</th><th></th></a<>	l>	
			Field		Value
test user Properties		? ×	SMIME     SMIME     Subject     Certific	Capabilities t Key Identifier ate Template Name	[1]SMIME Capability: Object I cc 09 3c 6d dd 1a 1c ca 40 50
Dial-in	Environment	Sessions	Author	ity Key Identifier	KevID=a2 09 6f ab ac 77 ec 0
Remote control	Remote Desk	op Services Profile	CRL D	stribution Points	[1]CRL Distribution Point: Distr
Personal Virtual Desktop	COM+	UNIX Attributes	author	ity Information Access	[1]Authority Info Access: Acc
General Address Account	Profile   Telephones	Organization   Member Of	Enhance	ed Key Usage	Encrypting File System (1.3.6
	Trans   Transpiration		Subject	t Alternative Name	Other Name:Principal Name
User logon name:					
testUser	@cademo1.co	m 🔹	Other Nam Principal	e: Name=testUser@cade	emo 1.com
User logon name (pre-window	5 2000).				
CADEMO1\	testUser		1		
Logon Hours Log	On To				

Figure 1-8 Verifying if the root CA has been recognized by a user's system

## **Test ActiveSync**

Testing your configuration requires two steps:

- "Test Certificate Mapping" on page 7
- "Test with an ActiveSync Emulator" on page 8

### **Test Certificate Mapping**

Complete the following steps to test if the certificate mapping is configured correctly.

- 1 Select a user that has an Exchange mailbox for which certificate mapping has been configured.
- 2 Use the private key for the user's certificate to install the certificate into Internet Explorer.
- **3** Using Internet Explorer, navigate to https://<ExchangeServer>/Microsoft-Server-ActiveSync (for example, https://exch1.cademo1.com/Microsoft-Server-ActiveSync.)

You are prompted to select or confirm a certificate. This should be the user certificate added in previous step. (If not, verify that you set the correct root and intermediate CAs as trusted in "Configure IIS and ActiveSync to Trust a Third Party CA" on page 4.

4 Select the certificate. You may see an error page with a message similar to the following:

HTTP Error 505.0 - Http Version Not Supported

This page cannot be displayed because the HTTP version is not supported.

- 8 | Integrating Managed PKI Certificates with Microsoft® ActiveSync® Test ActiveSync
  - You can safely ignore this error.



Figure 1-9 Verifying the Logon User

- 5 Verify that the Logon User matches the expected user in the certificate mapping (see Figure 1-7). If the Logon User is Anonymous or To be determined, verify that you have configured your certificate mapping correctly in "Map Certificates" on page 5. Also:
  - Make sure you issue the appcmd.exe commands as described in "Configure ActiveSync to Map Certificates to Active Directory" on page 2.
  - Make sure you can reach the CRL that is published in the CDP without having to go through a proxy.

## Test with an ActiveSync Emulator

Using an ActiveSync emulator, test that the configuration works end-to-end. This example test uses the Exchange ActiveSync MD (EAS MD) available at http://mobilitydojo.net/downloads.

- 1 Select Trust all Certificates.
- 2 Enter the userID in the Username field, but leave the Password field blank.
- 3 Select Use Client Certificate (Specify Path) and enter the path to the certificate file.
  - If you enter the path to a .cer file (where the private key is installed already in CAPI), leave the **Certificate password (if applicable)** field blank.
  - If you enter the path to a .pfx file, enter the password for the file in the **Certificate password (if applicable)** field.

4 Click **Basic Connectivity Test** or **Full Sync Test**, as appropriate. You will be prompted to select which MS-APProtocol Version you want to test if you run the Full Sync Test. All tests should pass.

ain	Device Information Certificate In	fo Information Rights Management Base64 Utility Autodiscover About
~	1	
Line	mection Parameters	Device Parameters Device Properties
Use	test User	Device lo.
Pas	isword:	Device Type
Don	main: cademo1.com	User Agent: Support security policies
Sen	ver Address:	COdet
exc	h1.cademo1.com	
Only	y FQDN - don't include http(s)://	Clear Output Minary XML 1 Word Wrap (Binary XML) 1 Base64
	Use SSL	
	Use Client Certificate (Snecify Path)	Testing HTTP GET:
	Uses (0, block of the second o	Hesponse: The remote server returned an error: (505) Http Version Not Supported.
	Users (Public Vest User.cer	This is connect behaviour, and means your Exchange server is responding!
Cert	tricate password (if applicable):	Ratus: PASS
L		Testing HTTP OPTIONS:
	ACD-stars B/series	Allow.OPTIONS.POST
MO	-ASProtocol Version	MS-Server-Active Sync:14.1 MS-ASPretocol/Versions:2.0.2.1.2.5.12.0.12.1.14.0.14.1
14	.1 (Exchange 2010 SP1)	MS-
12	1 (Exchange 2010)	ASProtocolCommands:Sync.SendMail,SmartForward,SmartReply.GetAttachment.GetHierarchy.Cr
12	0 (Exchange 2007 RTM)	eateCollection, DeleteCollection, MoveCollection, FolderSync, FolderCreate, FolderDelete, FolderUpd ate_MoveItems GetItemEstimate MeetingResponse Search Settings Ping ItemOnerations Provision
		Resolve Recipients, ValidateCert
-		Public:OPTIONS.POST
Act	lione	Content-Length:U
	Basic Connectivity Test	Date:Thu, 17 Nov 2011 04:34:17 GMT
-	controlling for	Server:Microsoft-IIS/7.5
	Full Sync Test	X-Powered-By:ASP.NET
	Remote Wipe (Emulated)	Status: PASS

Figure 1-10 Testing with the Exchange ActiveSync MD emulator

## Verifying if the CDP is Available

Complete the following steps to verify if the CDP is available:

- 10 Integrating Managed PKI Certificates with Microsoft® ActiveSync® Verifying if the CDP is Available
  - 1 Enroll for and pick up a sample client certificate. The CRL Distribution Points will be listed in the certificate. Open the certificate to view the details.

Certificate	? 🛛			
General Details Certification Pat	h			
Show: <all></all>	~			
Field	Value 🔼			
Valid from	Monday, November 21, 2011 Wednesday, November 21, 20			
E Subject	alantest0102.verisign.net RSA (2048 Bits)			
Subject Alternative Name	DNS Name=alantest0102.veri			
Basic Constraints	Subject Type=End Entity, Pat			
CRL Distribution Points	[1]CRL Distribution Point: Distr			
[1]CRL Distribution Point Distribution Point Name:	D2 09 40 39 95 42 (0 11 09 99 🔳			
Full Name: URL=http://pilotonsitecrl.verisign.com/VeriSignIncSCEPTesting1/LatestCR L.crl				
E	dit Properties			
	ОК			



- 2 Select CRL Distribution Points.
- **3** Copy and paste the URL into a browser.

If you are prompted to download the CRL, you have successfully reached the CDP from your browser.

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