

SAP with Luna SA Integration Guide



THE
DATA
PROTECTION
COMPANY

Document Information

Document Part Number	007-012552-001 (Rev A)
Release Date	May 2014

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Limitations

This document does not include the steps to set up the third-party software. The steps given in this document must be modified accordingly. Refer to Luna SA documentation for general Luna setup procedures.

Disclaimer

The foregoing integration was performed and tested only with the specific versions of equipment and software and only in the configuration indicated. If your setup matches exactly, you should expect no trouble, and Customer Support can assist with any missteps. If your setup differs, then the foregoing is merely a template and you will need to adjust the instructions to fit your situation. Customer Support will attempt to assist, but cannot guarantee success in setups that we have not tested.

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CHAPTER 1

Introduction

Adobe® document services enhance the document handling capabilities of SAP Web Application Server (SAP Web AS). Adobe document services allow SAP applications (either Java or ABAP) to take advantage of the full range of capabilities in Adobe Acrobat® Professional, Adobe Acrobat Standard, and Adobe Reader®.

SAP can have an “Adobe Document Services” (ADS) module integrated that is used to digitally sign PDF documents. As part of this configuration, SAP supports the use of an HSM to store the private key, certificate and to perform the signing.

Scope

3rd Party Application Details

- SAP

Supported Platforms

The following platforms are supported for Luna 5.2 & Luna 5.3:

- Windows 2008 R2

HSMs and Firmware Version

- Luna SA 5.2, Firmware V6.2.1
- Luna SA 5.3, Firmware V6.10.2

Prerequisites

Luna SA Setup

1. Install and configure the Luna client as normal on the SAP server
2. Modify the chrystoki.ini to use the 32 bit cryptoki.dll
 - Change the LibNT path
[Chrystoki2]
LibNT=C:\Program Files\SafeNet\LunaClient\win32\cryptoki.dll

- Copy the chrystoki.ini file from “C:\Program Files\SafeNet\LunaClient” and paste it in “C:\Program Files\SafeNet\LunaClient\win32”



NOTE: Leave a copy of the modified chrystoki.ini in the “C:\Program Files\SafeNet\LunaClient” folder.

CHAPTER 2

Integrating Luna SA with SAP

SAP does have some documentation regarding the configuration, but it is “missing” some key details. This document will outline the actual configuration requirements.

For this to work, you MUST use the 32bit cryptoki library. SAP uses embedded Adobe code to perform the signing, and Adobe products including Acrobat Pro, Adobe Reader, LiveCycle Digital Signatures and ADS in SAP only work with the 32 bit cryptoki library.

SAP Documentation Links:

Adobe Document Services Configuration Guide:

http://help.sap.com/saphelp_snc70/helpdata/en/37/504b8cbc2848a494facfdc09a359b1/content.htm

Credentials for Document Certification and Digital Signatures:

http://help.sap.com/saphelp_snc70/helpdata/en/db/aafb211ead420faeaa24e99eb5f41/content.htm?frameset=/en/37/504b8cbc2848a494facfdc09a359b1/frameset.htm

Configuring Credential Attributes:

http://help.sap.com/saphelp_snc70/helpdata/en/2d/223cac65804e03b9044059c4f59201/content.htm

Credential Attributes:

http://help.sap.com/saphelp_snc70/helpdata/en/d6/88a2f8bdf4a1cb5ed007ab79754b9/content.htm?frameset=/en/73/852854f9d6418b9574dab0d321d258/frameset.htm

Create test keys and certificate

1. Use CMU to generate a keypair

```
C:\Program Files\SafeNet\LunaClient>cmu generatekeypair -slot=1 -modulusBits=2048 -publicExp=65537 -sign=1 -verify=1 -labelPublic="SF public Verify Key" -labelPrivate="sf Private Verify Key" -id=101000
Please enter password for token in slot 1 : *****

Select RSA Mechanism Type -
[1] PKCS [2] FIPS 186-3 Only Primes [3] FIPS 186-3 Auxiliary Primes : 1
```

```

C:\Program Files\SafeNet\LunaClient>cmu list
Please enter password for token in slot 1 : *****
Failure to Login to HSM

C:\Program Files\SafeNet\LunaClient>cmu list
Please enter password for token in slot 1 : *****
handle=2349      label=sf Private Verify Key
handle=2068      label=CMU Unwrapped RSA Private Key
handle=2157      label=HSMPOC
handle=2348      label=SF public Verify Key

```

2. Use CMU to generate a certificate request

```

C:\Program Files\SafeNet\LunaClient>cmu requestcertificate -slot=1
Please enter password for token in slot 1 : *****
Select the private key for the request :

Handler Label
2349      sf Private Verify Key
2068      CMU Unwrapped RSA Private Key
Enter handler (or 0 for exit) : 2349
Enter Subject 2-letter Country Code (C) : CA
Enter Subject State or Province Name (S) : ON
Enter Subject Locality Name (L) : Ottawa
Enter Subject Organization Name (O) : SafeNet
Enter Subject Organization Unit Name (OU) : Sales
Enter Subject Common Name (CN) : SafeNet
Enter EMAIL Address (E) : s@ca.com
Enter output filename : C:\Temp\Lexmark\sforrest.req

```

3. Use a third party website to sign the CSR (<http://www.getacert.com/>)
4. Copy and paste the “CSR” text into the CSR field

The screenshot shows a web browser window with the address bar displaying www.getacert.com/signacert.html. The browser's taskbar includes icons for Apps, Google, Bell Mail, EasyWeb, Pages - SNo, LunaDocs, SafeNet JIRA, MKS, and SafeNet Product Wiki. The main content area features the 'getaCert' logo and a text prompt: 'Submit your Certificate Signing Request(CSR) to be decoded and signed by getaCert. Here you can submit your CSR a your certificate is valid or to display the information held in the CSR.' Below this text is a large, empty rectangular text input field. At the bottom left of the page, there is a button labeled 'SubmitCSR'.

Submit your Certificate Signing Request(CSR) to be decoded and signed by getaCert. Here you can submit your certificate is valid or to display the information held in the CSR.

```
-----BEGIN NEW CERTIFICATE REQUEST-----
MIICvDCCAAQCAQAwZELMAkGA1UEBhMCQ0ExCzAJBgNVBAGTAK9OMQ8wDQYDVQQH
EwZPdhRhd2ExEDA0BgNVBAoTB1NhZmVOZXQxZjAMBgNVBAcTBVNhbGVzMRAwDgYD
VQQDEwdTYWZlTmV0MRyYwFAYJKoZIhvcNAQkBFgdzQGEuY29tMIIBIjANBgkqhkiG
9w0BAQEFAAOCAQ8AMIIBCgKCAQEAprJYOWP35gRm9/gM3wji8S1mwzf0Jn2cPM7q
pdmI5Orwa7GkQ3mWs0hj43ZwapNj4sVuYZ/OQ45HPQkp/hVjYECb05jS5cvy+pOG
9K8x01B0nLm8SsqU00TNjkE8PcHZULIS00hSdmSvmkp/2nTd6wfG9ncrFa4k7oye
KS1kHysv0XT8kyWcI19UzLtW0sAb00RK1tWtxgmHycaOfTY8ZVbVKY7ubJ87npPz
4L84J2pbe0RgYyCw3ORjJEovScuFpKzf9vK3dVhAOcQPUD1+yFLI6N0Pgr356H2P
PIJUrrUkntwG02ZDowhwHcj1YXVR5wHGf90HHzdPZQfORTzxQIDAQABoAAwDQYJ
KoZIhvcNAQEFBQADggEBBAKDbHsa8D3b/mB546Qjo/q1WEDeI+B7xVXr0NNkUiEhC
k3G1W1yYzVK+s0wv+I4atDgeKGzTY7UW6o+JQP2hBgBYaZmummRIMt670vZsGPFr
tuSQoIzqlBO9Rr4L5fuPV+LdHuyAQzA0NjmgFSZ8srAQ5TZz11M1zyM51aJTFMqJ
9yG9I8cuRF2YFQmsrTbn552/OPhGw7p7TcIY11xnMrfumIYP0EOxkTW7b2ERljMo
jw7TwdYTsa+XkWXG4MCmu81QAKazTgAMwkiy1C08K94KNLWLIohnMKaVFG8I++8v
FVvk7XurmU/INsfG3TtLwHZg2j5GRdItajGHDPgg2ASE=
```

SubmitCSR

5. Use CMU to import the certificate into the partition



NOTE: Keep a copy of the CER file handy as you will need it to get the SHA1 value.

```
C:\Program Files\SafeNet\LunaClient>cmu import -slot=1 -inputFile=sforrest.cer -
label="SforrestCert"
Please enter password for token in slot 1 : *****

C:\Program Files\SafeNet\LunaClient>cmu list
Please enter password for token in slot 1 : *****
Failure to Login to HSM

C:\Program Files\SafeNet\LunaClient>cmu list
Please enter password for token in slot 1 : *****
handle=2349      label=sf Private Verify Key
handle=2068      label=CMU Unwrapped RSA Private Key
handle=2157      label=HSMPOC
handle=2169      label=SforrestCert
handle=2348      label=SF public Verify Key
```

6. Use CMU to associate the certificate with the correct Private Key

```
C:\Program Files\SafeNet\LunaClient>cmu setAttribute -handle=2169 -id=101000
Please enter password for token in slot 1 : *****
```

Configure SAP Credential (SAP Visual Administrator)

The screenshot shows a web-based configuration form for an HSM Record. The form is titled 'Configure SAP Credential (SAP Visual Administrator)'. It contains the following fields and controls:

- Type:** A dropdown menu with 'HSM Record' selected.
- Alias:** A text input field.
- P12 File:** A text input field with a 'Browse...' button to its right.
- Sha1:** A text input field.
- Slot:** A text input field.
- DLL Path:** A text input field.
- Password:** A text input field.
- Confirm Password:** A text input field.

At the bottom of the form, there are four buttons: **Add**, **Delete**, **New**, and **Refresh**.

- Type – HSM Record
- Alias field – Your choice
- Sha1 field –Thumbprint value from the Certificate
- Slot – HSM slot number (with or without spaces, both work)
- DLL Path - C:\Program Files\SafeNet\LunaClient\win32\cryptoki.dll
- Password\Confirm Password – Luna SA partition password

Completed credential (SforrestCert) entry example (32 bit):

Runtime		Properties		Additional Info	
Credentials		CRLs		Passwords	
Trusted Anchors		Misc			
Alias	...	P12...	Slot	DLL Path	Sha1
Sforrest	HSM		1	D:\SafeNet\LunaClient\cryptoki.dll	41c1eba1d7873e8f139ac10838aa926db48e6...
SforrestCert	HSM		1	D:\SafeNet\LunaClient\win32\cryptoki.dll	41c1eba1d7873e8f139ac10838aa926db48e6...

SAP (with Adobe Document Services) is now configured to sign PDF using key and certificate on the Luna SA
Sample Error – 64bit Cryptoki.dll

As a reference, the following error was being generated when SAP was configured to use the 64bit Cryptoki.dll

```

ERROR CODE      : 201,501
ERROR MESSAGE   :
Processing exception during a "Sign" operation.#Request start time: Wed Mar 12 00:46:05 PKT 2014#com.adobe.ProcessingException: com.adobe.ProcessingException: Credential login failure error detected while signing a PDF f
ADS: com.adobe.ProcessingException: com.adobe.ProcessingException: Credential login failure error detected while signing a PDF for credential: sf Private Verify Key(201,501).

```