

# AN ONE STOP GUIDE TO CONFIGURE SNC SAPROUTER



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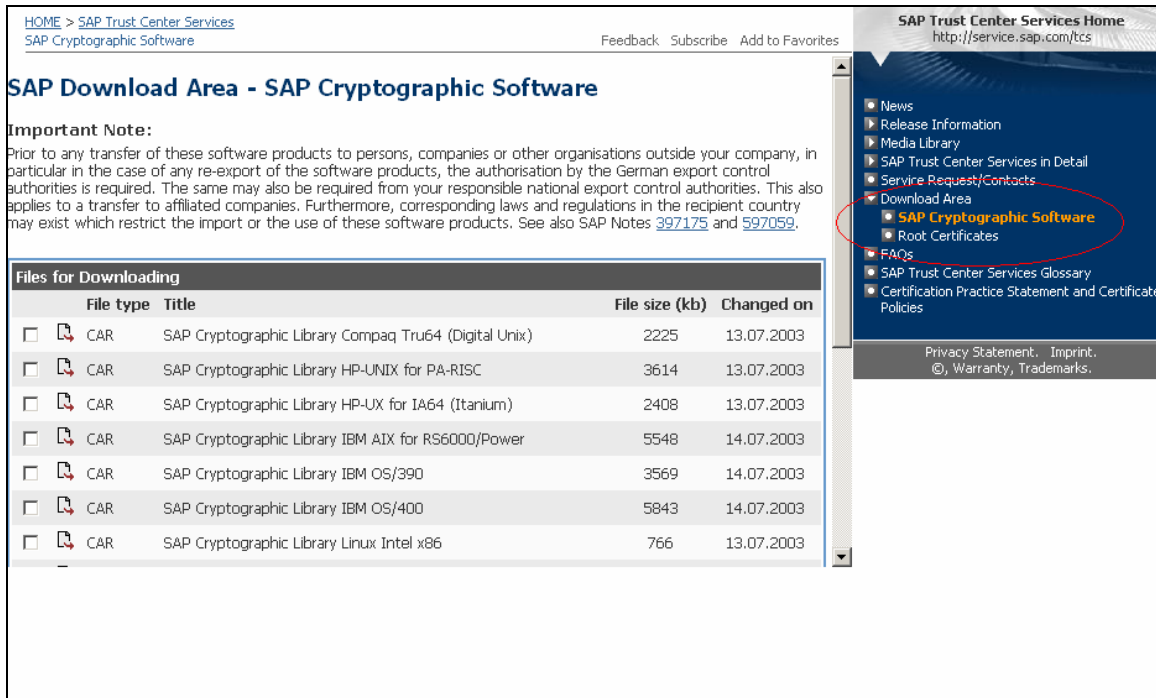
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## SAP SNC CONFIGURATION

### DOWNLOADING CRYPTOGRAPHIC SOFTWARE

Download the cryptographic software from service market place [www.service.sap.com/tcs](http://www.service.sap.com/tcs). As shown below.



HOME > [SAP Trust Center Services](#)  
SAP Cryptographic Software

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**SAP Trust Center Services Home**  
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- Download Area
  - SAP Cryptographic Software**
  - Root Certificates
- FAQs
- SAP Trust Center Services Glossary
- Certification Practice Statement and Certificate Policies

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**SAP Download Area - SAP Cryptographic Software**

**Important Note:**  
Prior to any transfer of these software products to persons, companies or other organisations outside your company, in particular in the case of any re-export of the software products, the authorisation by the German export control authorities is required. The same may also be required from your responsible national export control authorities. This also applies to a transfer to affiliated companies. Furthermore, corresponding laws and regulations in the recipient country may exist which restrict the import or the use of these software products. See also SAP Notes [397175](#) and [597059](#).

Files for Downloading				
	File type	Title	File size (kb)	Changed on
<input type="checkbox"/>	CAR	SAP Cryptographic Library Compaq Tru64 (Digital Unix)	2225	13.07.2003
<input type="checkbox"/>	CAR	SAP Cryptographic Library HP-UNIX for PA-RISC	3614	13.07.2003
<input type="checkbox"/>	CAR	SAP Cryptographic Library HP-UX for IA64 (Itanium)	2408	13.07.2003
<input type="checkbox"/>	CAR	SAP Cryptographic Library IBM AIX for RS6000/Power	5548	14.07.2003
<input type="checkbox"/>	CAR	SAP Cryptographic Library IBM OS/390	3569	14.07.2003
<input type="checkbox"/>	CAR	SAP Cryptographic Library IBM OS/400	5843	14.07.2003
<input type="checkbox"/>	CAR	SAP Cryptographic Library Linux Intel x86	766	13.07.2003

Extract the cryptographic libraries and sapgenpse and ticket files in to the saprouter.exe location using

```
# SAPCAR -xvf < cryptographic car file>
```

## CREATING THE KEY

Next goto [www.service.sap.com/tcp](http://www.service.sap.com/tcp) get the *distinguish* name . Then execute the following commands by copy paste the distinguished name

```
/* "CN & "OU " in the distinguish name will be different for different organizations */
```

```
#./sapgenpse get_pse -v -r certreq -p local.pse  
"CN=yourhostname , OU=123456, OU=SAProuter, O=SAP, C=DE "
```

```
Got absolute PSE path  
"/usr/sap/C11/SYS/exe/run/local.pse".  
Please enter PIN:<press enter>  
Please reenter PIN:<press enter>  
Supplied distinguished name: "CN=YourHostName, OU=12345,  
OU=SAProuter, O=SAP,  
C=DE "  
Generating key (RSA, 1024-bits) ... succeeded.  
certificate creation... ok  
PSE update... ok  
PKRoot... ok  
Generating certificate request... ok.
```

## TRANSMITTING THE KEY

It will generate a key in "certreq ". Next step is copy this key to [www.service.sap.com/tcp](http://www.service.sap.com/tcp) against your SAP router registration . The ---- BEGIN CERTIFICATE REQUEST to --- END CERTIFICATE REQUEST should also be copied \*/

```
# cat certreq  
-----BEGIN CERTIFICATE REQUEST-----  
MIIBmDCCAQECAQAwWDELMAkGA1UEBhMCREUxDDAKBgNVBAoTA1NBUEDESMBAGA1UE  
CxMjU0FQcm91dGVyMRMwEQYDVQQLZwoweMDAwNjMyNzY2MRIwEAYDVQQDEwltZnFz  
YXBwcmQwgZ8wDQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAP/sY2nK8NR85+HZne3d  
7ZQITR2tdlCG8gbJ/88SWFwcWrxjmd5me8jR9x9ut8wISSVkwgKCCZ/fM74XRGLU4V  
HQ/8hjht8bP93Uyf06hE9re//SszGlySNdhG3TMx/wslJW8PAk0KXGoZjMjRKRVE  
Pd4Upb7jKhGoTcyacJNi7SILAgMBAAGgADANBgkqhkiG9w0BAQUFAAOBgQA3mM3W  
9qBgCXcoN/XGp6/odakIQzRsQ8PJYhu2ogEwDixu3bNWW3doiig1qCCsJdyAdzfi  
/yY/bUk/SJxDWVXZzYfw5c0Y3wmbDhqqLw3mm7nbVWFf6q8cn9MNeF1FdlUIfy70  
Yq8Inb/ropL1eMnkTlhepa79HifdmHoAdjXDGQ==  
-----END CERTIFICATE REQUEST-----
```

Copy the above key and paste it like shown below

The screenshot shows the SAP Trust Center Services interface. At the top, there is a navigation bar with 'HOME', 'Standard Page', 'Inbox', 'MyProfile', 'Search', 'Quick Links', and 'Help'. Below this, there are tabs for 'Template 1' and 'Template 2'. The main content area is titled 'SAProuter Certificates' and includes a 'Feedback' and 'Add to Favorites' link. The primary instruction is 'Create CSR on SAProuter', which states: 'Copy & Paste the following highlighted text and use it as the [Distinguished name] parameter in the *sapgenpse* program running on your SAProuter to create the Personal Security Environment (PSE) and Certificate Signing Request (CSR)'. Below this, the distinguished name is provided: 'CN= **hostname** OU= **123456** OU=SAProuter, O=SAP, C=DE'. The next section is 'Insert the Certificate Signing Request', with three steps: 1. Copy the Certificate Request generated with *sapgenpse* from the text file. 2. Insert the Certificate Request in the following text field. 3. Choose *Request Certificate*. A text area contains the following certificate request key, which is circled in red: '-----BEGIN CERTIFICATE REQUEST-----\nMIIBmDCCAQECAQAwWDELMAkGA1UEBhMCREUxDDAKBgNVBAAoTA1NBUDESMBAG\nA1UEC\nxMjU0OFQcm91dGVyMRMwEQYDVQQL\nEwowMDAwNjMyNzY2MRIwEAYDVQQDEwlt\nZnFz\nYXBwcmQwgZ8wDQYJKoZIhvcNAQEB\nBQADgY0AMIGJAoGBAP/sY2nK8NR85\n+HZne3d\n7ZQITR2td1CG8gbJ/88SWFcW\nrjmD5me8jR9x9ut8wISSVkwgKCCZ\n/fM74XRG1U4V\nHQ/8hjht8bP93Uyf06hE9re//Ssz\nGlySNdhG3TMx/ws1JW8PAk0KXGozj\nMJrKRVE\nPd4Upb7jKhGoTcyacJNi7SILAgMB\nAAAgADANBgkqhkiG9w0BAQUFAAOB\nGQA3mM3W\n9qBgCXccN/XGp6/odakIQzRsQ8PJ\nYhu2ogEwDixu3bNWW3doiig1qCCs\nJdyAdzfi\n/yy/bUk/SJxDWVXZzYfw5c0Y3wmb\nDhqqLw3mm7nbVWFn6q8cn9MNeF1F\nfd1UIfY70\nYq8Inb/ropL1eMnkT1hepa79HI\nfdmHoAdjXDGQ==\n-----END CERTIFICATE REQUEST-----'. At the bottom of the page, there are 'Back' and 'Request Certificate' buttons, both of which are circled in red.

After Copying, click on the "Request Certificate" Button .

Next screen will display the certificate. Copy and paste the generated certificate in a new file named 'srcert' in the same location of your saprouter .

N:B Do not forget to copy the BEGIN and END tags too.

## CREATING THE CERTIFICATE

Windows users can use notepad and UNIX vi editor.

```
vi srcert < paste> <ESC><SHIFT> : x
```

```
# vi srcert
```

```
-----BEGIN CERTIFICATE-----
```

```
MIIHqAYJKoZIhvcNAQcCoIIHmTCCB5UCAQEExADALBqkqhkiG9w0BBwGgggd9MIICd
TCCAd6gAwIBAgIC11MwDQYJKoZIhvcNAQEEBQAwrjEELMAkGA1UEBhMCREUxDDAKBg
NVBAoTA1NBUEDESMBAGA1UECzMJU0FQcm91dGVyMRUwEwYDVQQDEwxtQVByb3V0ZXI
gQ0EwHhcNMDQwMTIxMDQwMDI0WhcNMDUwMTIxMDQwMDI0WjBYMQswCQYDVQQGEwJE
RTEMMAoGA1UEChMU0FQMRIwEAYDVQQLEw1TQVByb3V0ZXIxEzARBgNVBAsTCjAwM
DA2MzI3NjYxYXZjAQBgNVBAMTCW1mcXNhcnhBYZDcBnzANBgkqhkiG9w0BAQEFAAOBjQ
AwgYkCgYEA/+xjacrw1Hzn4dmd7d3t1AhNHa12UIbyBsn/zxJYVxauOYPmZ7yNH3H
263zAhJJWRaAoIJn98zvhdEaVThUdd/yGOG3xs/3dTJ/TqET2t7/9KzMaXJI12Ebd
MzH/CyU1bw8CTQpcajOMwmspFUQ93hSlvuMqEahNzJqok2LtIgsCAwEAAAaNgMF4wD
<- ----- LINES DELETED ----->
hvcNAQEBBQADgY0AMIGJAoGBAP6a6fk9E5Is6W084kyTjY08fMi2IsCzfc0NYkp3C
Vb0cx04csKiZZwB/V+IOICTx+C4mUpXDeDnT07i6onBKLqs3Jj5opOABe3pOHABOk
a+GiajTQ4MBHpgf7pb5zRadqp7G6gx0bzGNIHxLx1U4jzbvZJF9xUIRJUB44adK2
/AgMBAAGjaTBnMA8GA1UdEwEB/wQFMAMBAf8wJQYDVR0RBB4wHIYaaHR0cDovL3Nl
cnZpY2Uuc2FwLmNvbS9UQ1MwDgYDVR0PAQH/BAQDAgH2MB0GA1UdDgQWBBSivTpjU
s0Z/L7oQ9Cu5YSgSffa/DAJBgUrDgMCHQUAA4GBAMgUUSEs6bZKH067xP+RwnJ4fP
3l/qoydP3PZvCO4ThQHkhqMMhG+28J+jyWMIjklAnJsJaWePBEBPbtLC5nKjNIZuW
WZaGOinWz192FGAHnoN2z0dcUTUljzLJrY/9NrCbfpC2TEqBQf1+Sr82D1JL6wmCX
Ej1pr1Kk/g7ZPYorMQA=
```

```
-----END CERTIFICATE-----
```

```
<ESC><SHIFT> : x
```

## IMPORTING CERTIFICATE

Next step is to import this certificate using the below command syntax .

```
# ./sapgenpse import_own_cert -c srcert -p local.pse
```

```
CA-Response successfully imported into PSE
"/usr/sap/MPS/SYS/exe/run/local.pse"
```

## SETTING SECURED LOGIN TO SAPROUTER

Now specify the user who is allowed secure login to PSE

Use `< sid> adm` if you want to start saprouter with sap admin user. If you omit `-O <user>`, the credentials are created for the logged in user account who is running the below command )

```
# ./sapgenpse seclogin -p local.pse -O saprouterUser

running seclogin with USER="saprouterUser"
creating credentials for yourself (USER="saprouterUser
")...
Added SSO-credentials for PSE
"/usr/sap/C11/SYS/exe/run/local.pse"
  "CN=YourHostName, OU=12345, OU=SAProuter, O=SAP, C=DE"
```

N:B Check a file named `cred_v2` is created in the same directory

## START SNC SAP ROUTER

### In Unix

In UNIX use the below syntax to start sap router using SNC

```
# nohup ./saprouter -r -G routerlog -S 3299 -K
"p:CN=YourHostName, OU=12345, OU=SAProuter, O=SAP, C=DE" &
```

### In windows

In Windows use the below syntax

```
<Drive>:\SNC-SaprouterDirectory\ saprouter -r -G routerlog
-S 3299 -K "p:CN=YourHostName, OU=12345, OU=SAProuter,
O=SAP, C=DE"
```

N:B `-K` option tells saprouter to load the SNC cryptographic library too.

## SAPROUTTAB ENTRIES

For SNC SAPROUTER , the entries should not be the same as non-saprouter

./saprountab should contain at least the following entries

```
# inbound connections MUST use SNC
KP "p:CN=sapserv2, OU=SAProuter, O=SAP, C=DE" <your_server1>
<port_number>
# repeat this for the servers and port_numbers you will need to allow,
# please make sure that all explicit ports are inserted in front of a
# generic entry '*' for port_number

# outbound connections to <sapservX> will use SNC
KT "p:CN=sapserv2 OU=SAProuter, O=SAP, C=DE" <sapservX>
<sapservX_inbound_port>

# permission entries to check if connection is allowed at all
P <IP address of a local host> <IP address of sapserv2>
# all other connections will be denied
D * * *
```

### Example:

For a SNC encrypted connection to the SAPRouter on sapserv2 (194.39.131.34), the saprountab should contain the following entries:

```
# # SNC-connection from and to SAP
KT "p:CN=sapserv2, OU=SAProuter, O=SAP, C=DE" 194.39.131.34 *

# SNC-connection from SAP to local R/3-System for Support
KP "p:CN=sapserv2, OU=SAProuter, O=SAP, C=DE" <R/3-Server> <R/3-
Instance>

# SNC-connection from SAP to local R/3-System for NetMeeting, if it is
needed
KP "p:CN=sapserv2, OU=SAProuter, O=SAP, C=DE" <R/3-Server> 1503

# SNC-connection from SAP to local R/3-System for saptelnet, if it is
needed
KP "p:CN=sapserv2, OU=SAProuter, O=SAP, C=DE" <R/3-Server> 23

# Access from the local Network to SAPNet - R/3 Frontend (OSS)
P <IP-address of a local PC> 194.39.131.34 3299

# deny all other connections
D * * *
```

## DEBUGGING

Check whether certificate is installed correctly

```
# ./sapgenpse get_my_name -v -n issuer
```

Opening PSE "/usr/sap/C11/SYS/exe/run/local.pse"...

PSE open ok.

ok.

Retrieving my certificate... ok.

Getting requested information... ok.

SSO for USER "UserID"

with PSE file "/usr/sap/C11/SYS/exe/run/local.pse"

Issuer : CN=SAProuter CA, OU=SAProuter, O=SAP, C=DE

If any errors found in the above , you can do all the steps once again . But make sure that cred\_v2, local.pse is deleted . If you want to create the ket once again delete certreq file too before doing so.

## CHECK THE ENVIRONMENT VARIABLES

Create the following entries are there in the .login ( dot login) script of the SNC saprouter user . ONLY THE **BOLD** AREAS

### UNIX

```
set path = ( /usr/bin /etc /usr/sbin /usr/ucb $HOME/bin /usr/bin/C11
/sbin /usr/SNC-saprouter/snc_library /usr/lib . )
setenv MAIL "/var/spool/mail/$LOGNAME"
setenv SECUDIR "/usr/SNC-saprouter"
setenv SNC_LIB "/usr/SNC-Saprouter/snc_library/libsapcrypto.o"
setenv LIBPATH
"/usr/lib:/lib:/usr/sap/C11/SYS/exe/run:/oracle/C11/92_64/lib:/usr/SNC-
saprouter/snc_library"
```

### WINDOWS

For windows create PATH, SECUDIR, SNC\_LIB and LIBPATH in their environment settings area.