
Replacing the certificates on Windows offline machines using ipins.

1 Clients affected

HMI Advanced. + M-IT client in offline mode
HMI Advanced. + AMM update client in offline mode
Sinumerik Operate + Sinumerik Integrate Client in offline mode on a Windows XP SP3 platform

2 Description of the procedure for offline certificate replacement

2.1 Copying the ipins.exe file

On the machine, copy into the local directory D:\Install either from a USB flash drive or across a local area network.

2.2 Restarting the machine (PCU)

The ipins.exe file is automatically executed when the PCU is restarted and the required certificate is updated. After execution, the program removes itself from the directory.

Note: To do this, the ipins.exe file must be copied into directory D:\Install and no other files must be located in this directory!

The certificates are

- stored in the registry under the following keys:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\SystemCertificates\AuthRoot\Certificates
- updated depending on the installed software component in the cacerts.pem file if
 - AMM for HMI Advanced Client is installed, the update is performed here:
F:\add_on\siint\bin\cacerts.pem
 - Sinumerik Operate (Windows XP) with Sinumerik Integrate Client is installed, the update is performed in the following files:
F:\hmis\siemens\sinumerik\hmi\cfg\cacerts.pem
F:\hmis\user\sinumerik\hmi\cfg\cacerts.pem
 - Sinumerik Operate (Windows 7) with Sinumerik Integrate Client is installed, the update is performed in the following files:
C:\ProgramData\Siemens\MotionControl\siemens\sinumerik\hmi\cfg\cacerts.pem
C:\ProgramData\Siemens\MotionControl\user\sinumerik\hmi\cfg\cacerts.pem

Program execution is logged in a log file, which is located in E:\ipins.log. If replacement was successful, an XML file is also created, which is stored in \tmp\Persistence\versions.xml. The content of this file is uploaded together with the machine model as soon as a connection to the server is established.

2.3 Content of the ipins.log file using Windows XP as an example

Installation is performed in the registry

```
OS: Windows XP SP3
Cacerts update started.
cacerts.pem file for PLSM found on following path:
F:\add_on\siint\bin\cacerts.pem
Checking cert DF3C24F9BFD666761B268073FE06D1CC8D4F82A4 in the cacerts.pem
file
Cert found as no. 62 in the file
Checking cert D6AEE31631F7ABC56B9DE8ABECCC4108A626B104 in the cacerts.pem
file
Cert found as no. 63 in the file
cacerts.pem file for SinInt Client on Operate not found on following
path:
F:\hmis1\user\sinumerik\hmi\cfg\cacerts.pem
cacerts.pem update not needed in this case.
cacerts.pem file for integrated client (old) found on following path:
F:\hmis1\siemens\sinumerik\hmi\cfg\cacerts.pem
Checking cert DF3C24F9BFD666761B268073FE06D1CC8D4F82A4 in the cacerts.pem
file
Cert found as no. 62 in the file
Checking cert D6AEE31631F7ABC56B9DE8ABECCC4108A626B104 in the cacerts.pem
file
Cert found as no. 63 in the file
Cacerts update ended.
Installing certificate ...
Certificate has been installed.
Certificate test : OK
Installing certificate ...
Certificate has been installed.
Certificate test : OK
Creating versions.xml.
versions.xml was created.
```

The cacerts.pem from AMM is expanded with the new certificates

```
OS: Windows XP SP3
Cacerts update started.
cacerts.pem file for PLSM found on following path:
F:\add_on\siint\bin\cacerts.pem
Checking cert DF3C24F9BFD666761B268073FE06D1CC8D4F82A4 in the cacerts.pem
file
Cert not found in the .pem file
Certificate appended to F:\add_on\siint\bin\cacerts.tmp
Checking cert D6AEE31631F7ABC56B9DE8ABECCC4108A626B104 in the cacerts.pem
file
Cert not found in the .pem file
Certificate appended to F:\add_on\siint\bin\cacerts.tmp
RotatePemFiles() moved F:\add_on\siint\bin\cacerts.pem to
F:\add_on\siint\bin\cacerts.bak
RotatePemFiles() moved F:\add_on\siint\bin\cacerts.tmp to
F:\add_on\siint\bin\cacerts.pem
cacerts.pem file for SinInt Client on Operate not found on following
path:
F:\hmis1\user\sinumerik\hmi\cfg\cacerts.pem
cacerts.pem update not needed in this case.
cacerts.pem file for integrated client (old) found on following path:
F:\hmis1\siemens\sinumerik\hmi\cfg\cacerts.pem
```

```
Checking cert DF3C24F9BFD666761B268073FE06D1CC8D4F82A4 in the cacerts.pem
file
Cert found as no. 62 in the file
Checking cert D6AEE31631F7ABC56B9DE8ABECCC4108A626B104 in the cacerts.pem
file
Cert found as no. 63 in the file
Cacerts update ended.
The certificate is already installed.
The certificate is already installed.
Creating versions.xml.
versions.xml was created.
```

If the certificate is already present, the log file contains the following:

```
OS: Windows XP SP3
Cacerts update started.
cacerts.pem file for PLSM found on following path:
F:\add_on\siint\bin\cacerts.pem
Checking cert DF3C24F9BFD666761B268073FE06D1CC8D4F82A4 in the cacerts.pem
file
Cert found as no. 62 in the file
Checking cert D6AEE31631F7ABC56B9DE8ABECCC4108A626B104 in the cacerts.pem
file
Cert found as no. 63 in the file
cacerts.pem file for SinInt Client on Operate not found on following
path:
F:\hmis1\user\sinumerik\hmi\cfg\cacerts.pem
cacerts.pem update not needed in this case.
cacerts.pem file for integrated client (old) found on following path:
F:\hmis1\siemens\sinumerik\hmi\cfg\cacerts.pem
Checking cert DF3C24F9BFD666761B268073FE06D1CC8D4F82A4 in the cacerts.pem
file
Cert found as no. 62 in the file
Checking cert D6AEE31631F7ABC56B9DE8ABECCC4108A626B104 in the cacerts.pem
file
Cert found as no. 63 in the file
Cacerts update ended.
The certificate is already installed.
The certificate is already installed.
Creating versions.xml.
versions.xml was created.
```

If an error has occurred, please send the content of file E:\ipins.log to the customer support responsible for you.

In case of error, the following log entry can occur:

```
Certificate update has failed.
Err: The registry value was not found.
```

3 Checking certificate replacement

All clients affected (see above) use the Windows XP SP3 operating system.

Check in the registry whether the certificate is installed.

- Open the registry editor (*Start -> Run -> "regedit"*)
- Navigate to the following path:
`HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\SystemCertificates\AuthRoot\Certificates\`
- Check whether the following entries are present:
`DF3C24F9BFD666761B268073FE06D1CC8D4F82A4`
`D6AEE31631F7ABC56B9DE8ABECCCC4108A626B104`

Checking the cacerts.pem files

The cacerts.pem files must contain the following two certificates:

Certificate Information:
Common Name: DigiCert Global Root G2
Organization: DigiCert Inc
Organization Unit: www.digicert.com
Country: US
Valid From: August 1, 2013
Valid To: January 15, 2038
Issuer: DigiCert Global Root G2, DigiCert Inc., www.digicert.com
Serial Number: 033af1e6a711a9a0bb2864b11d09fae5

```

-----BEGIN CERTIFICATE-----
MIIDjJcCANagAwIBAgIQAzrx5qcRqaC7KGSxHqn65TANBgkqhkiG9w0BAQsFADBl
MQswCQYDVQQGEwJVUzEVMBMGA1UEChMMRGinaUNlcnQgSW5jMRkwFwYDVQQLEwB3
d3cuZGlnaWNlcnQuYy29tMSAwHgYDVQQDExdEaWdpQ2VydCBHbG9iYWwgUm9vdCBH
MjAeFw0xMzA4MDEeMjAwMDBAFw0zODAxMTUxMTAwMDBAfGEwCzAJBgNVBAYTA1Vl
MRUwEwYDVQQEwxEaWdpQ2VydCBHbG9iGTAxBG9NBG9BASTeHd3dy5kaWdpY2VydC5j
b20xIDAeBgNVBAMTR0R2PzZlZXJ0IEdsb2JhbCBBSb290IEYhMjI1IjANBgkqhkiG
9w0BAQEFAAOCAQ8AMIIBCgKCAQEaUzfNnN7a8myaJcTsnX/RrohCgiN9RlUyfuI
2/Ou8jqJkTx65qsgGmvPrC3oXgkkrLpimn7Wo6h+4FR1IAWsuLecYxpsMNzaHxmx
1x7e/dfgy5SDN67sH0N03Xss0r0upS/kqbItOtSzpLYl6ztarAGCSYP9PUkY92eQ
q2EGnI/yuum06ZiYa7XzV+hdG82MHauVBJVJ8zUtlunJbd134/tJS7SsVQepj5Wz
tCO7TG1F8PapsPwUwtPlMVYwnSlcUfIKdzXOS0xZKBgyMUNGPHgm+F6HmIcr9g+UQ
vIOlCsrNPZzFBQ9AqNDhXsJITRnRw9FDKZJobq7mNWm4M4mphQIDAQABoIwQDAP
BgnVHRMGA1F8EBTADAQH/MA4GA1UdDwEB/wQEAwIBhjAdBgNVHQ4EFggQUBt1JUIBiV
5uNW5g/6+rks7QYXjzkwDQYJKoZIhvcNAQELBQADggEBAGBnKJrVdKhj6zHd6mcY
1Yl9PMWLSn/pvtserF9+wX3N3KjITOfnQoQj8kVnNeyIv/iPsGEMNKSuIEyExtv4
NeF22d+mQrvHRAiGfzZ0JFrabA0UWTW98kndth/Jsw1HKj2ZL7tcu7XUIOGZX1NG
Fdtom/DzMNU+MeKNhJ7jitalrj41E6Vf8PlUHBHQRFxGU7Aj64GxJUTfY8bJZ91
8rGomaFvE7FBcf6IKshPECBV1/MURexGRPTqh5UykW7+U0b6LJ3/iYK5S9kJRaTe
pLiaWN0bfVKfjllDiIGknibVb63dDcY3fe0Dkhvld1927jyNxFlWW6LZzm6zNTfl
MrY=
-----END CERTIFICATE-----

```

Certificate Information:

Common Name: DigiCert Global CA G2

Organization: DigiCert Inc

Organization Unit: www.digicert.com

Country: US

Valid From: August 1, 2013

Valid To: August 1, 2028

Issuer: DigiCert Global Root G2, DigiCert Inc., www.digicert.com

Serial Number: 0c8ee0c90d6a89158804061ee241f9af

-----BEGIN CERTIFICATE-----

```
MIIEizCCA3OgAwIBAgIQDI7gyQ1qiRWIBAYe4kH5rzANBgkqhkiG9w0BAQsFADBh
MQswCQYDVQQGEwJVUzEVMBMGA1UEChMMRGlnaUNlcnQgSW5jMRkwFwYDVQQLExB3
d3cuZGlnaWNlcnQuY29tMSAwHgYDVQQDExEaWdpQ2VydCBHbG9iYWwgUm9vdCBH
MjAeFw0xMzA4MDExMjAwMDBaFw0yODA4MDExMjAwMDBaMEQxCzAJBgNVBAYTA1VT
MRUwEwYDVQQKEwxEaWdpQ2VydCBJbmMxHjAcBgNVBAMTFURpZ21lDZXJ0IEdsb2Jh
bCBDQSBHBMjCCASIwDQYJKoZIhvcNAQEBBQADggEPADCCAQoQcgggEBANNIfL7zBYZd
W9UvhU5L4IatFaxhz1uvPmoKR/uadpFgC4przc/cV35gmAvkVNlW7SHMARZagV+X
au4CLyMnuG3UsOcGAngLH1ypmTb+u6wbBfpXzYEQQGfWMMItYNdSWYb7QjHqXnrx5
IuYUL6nG6AEfq/gmD6yOTSwyOR2Bm40cZbIc22Gois9g5+vCSHjEbyrpEJIJ7RfR
ACvmfe8EiRR0M6GyD5eHn7OgzS+8LOy4g2gxPR/VSpAQGQuBldYpd1H5NnbQtwl6
OErXb4y/E3w57bqkPyV93t4CTZedJMeJfD/1K2uaGvG/w/VNfFVbkhJ+Pi474j4
8V4Rd6rfArMCaWEAAaOCAVowggFWMBIGA1UdEwEB/wQIMAYBAf8CAQAwDgYDVR0P
AQH/BAQDAgGGMDQGCCsGAQUFBwEBBCgwJjAkBggrBgEFBQcwAYYYaHR0cDovL29j
c3AuZGlnaWNlcnQuY29tMHSwGAlUdHwR0MHIwN6A1oDOGmWh0dHA6Ly9jcmw0LmRp
Z21lZjZlZXJ0LmNvbS9EaWdpQ2VydEdsb2JhbFJvb3RHMjE5jcmwN6A1oDOGmWh0dHA6
Ly9jcmwzLmRpZ21lZjZlZXJ0LmNvbS9EaWdpQ2VydEdsb2JhbFJvb3RHMjE5jcmwPQYD
VR0gBDYwNDAYBgRVHSAAMCOWKAYIKwYBBQUHAgEWHGh0dHBzOi8vd3d3LmRpZ21lZj
ZXJ0LmNvbS9DUFMwHQYDVR0OBBYEFcRUky3QapJRUSVpAaqAR6aJ50AgMB8GA1Ud
IwQYMBaAFEE4iVCAylebJbuYP+vg5Eu0GF485MA0GCSqGSIb3DQEBCwUAA4IBAQA
OYSR+ZfrqoGvhOlaOJL84mxZvzbIRacxAxHhBsCsMsdaVSnaT0AC9aHes03ewPj2
dZ12uYf+QYB6z13jAMZbAuabeGLJ3LhimnftiQjXS8X9Q9ViIyfeBf1tcT8jW+rZ
8uckJ2/0lYDbliZkVIvP6hnZf1WZUXoOLRg9eFhSvGNvVwvRLNXSmDmyHBwW4co
atc7TlJfGa8kBpJIERqLrqwYElesA8u49L3KJg6nwd3jM+/AVTANlVlOnAM2BvjA
jxSZnE0qnsHhfTuvcdFuhOWKU4Z0BqYBvQ3lBetoxi6PrABDJXWKTUgNX31EGDk
92hiHuwZ4STyhXGs6QiA
```

-----END CERTIFICATE-----

The cacerts.pem files are to be found at the following paths

- If AMM is installed:
F:\add_on\siint\bin\cacerts.pem
- If Sinumerik Operate and Sinumerik Integrate Client are installed
F:\hmis\user\sিনumerik\hmi\cfg\cacerts.pem
- If Sinumerik Operate with integrated Sinumerik Integrate Client is installed
F:\hmis\siemens\sিনumerik\hmi\cfg\cacerts.pem