



## Certificate Authority Lists for ACNS 5.1.x Software and Later

For content acquisition from secure sites over HTTPS using strong authentication, only sites with certificates from standard certificate authorities are supported. Content cannot be acquired using strong authentication from secure origin servers that use certificates from nonstandard certificate authorities (CAs). If strong authentication was chosen for content acquisitions from such a site, the acquirer error statistics will contain a 401 (Unauthorized) error code, and the acquirer error log contains the following error message:

```
Strong Cert Authentication rejects certificate due to error: ssl error code
```

This problem occurs if the origin server uses a certificate that is not known as a standard certificate to the ACNS software acquirer. For content acquisition from secure sites over HTTPS using strong authentication, only sites with certificates from standard certificate authorities are supported.



### Note

With strong authentication, if there are any errors during certificate verification by the ACNS acquirer, then content from that site will not be acquired. With weak authentication, certain errors are allowed during certificate verification (for example, errors such as certificate has expired, certificate is not yet valid, and subject issuer mismatch).

Use one of these workarounds:

- Use weak authentication.
- On the secure server, use a certificate that was generated by one of the standard certificate authorities. ACNS network administrators should refer to the certificate list in this appendix to determine which CA certificate they should install on their origin servers.

The certificate list differs based on the version of the ACNS software. Refer to the following list if you are using ACNS 5.1 software or a later version of ACNS 5.1.x software:

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-----BEGIN CERTIFICATE-----
    Issuer: C=US, O=VeriSign, Inc., OU=Class 1 Public Primary
Certification Authority
Validity
    Not Before: Jan 29 00:00:00 1996 GMT
    Not After  : Aug  1 23:59:59 2028 GMT
    Subject: C=US, O=VeriSign, Inc., OU=Class 1 Public Primary Certification Authority
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: L=ValiCert Validation Network, O=ValiCert, Inc., OU=ValiCert
Class 3 Policy Validation Authority, CN=http://www.valicert.com//Email=info@valicert.com
Validity
    Not Before: Jun 26 00:22:33 1999 GMT
```

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        Not After : Jun 26 00:22:33 2019 GMT
        Subject: L=ValiCert Validation Network, O=ValiCert, Inc., OU=ValiCert
Class 3 Policy Validation Authority, CN=http://www.valicert.com//Email=info@valicert.com
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=BE, L=Brussels, O=BelSign NV, OU=BelSign Object Publishing
Certificate Authority, CN=BelSign Object Publishing CA/Email=webmaster@belsign.be
        Validity
            Not Before: Sep 19 22:03:00 1997 GMT
            Not After : Sep 19 22:03:00 2007 GMT
        Subject: C=BE, L=Brussels, O=BelSign NV, OU=BelSign Object Publishing
Certificate Authority, CN=BelSign Object Publishing CA/Email=webmaster@belsign.be
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, O=Equifax Secure, OU=Equifax Secure eBusiness CA-2
        Validity
            Not Before: Jun 23 12:14:45 1999 GMT
            Not After : Jun 23 12:14:45 2019 GMT
        Subject: C=US, O=Equifax Secure, OU=Equifax Secure eBusiness CA-2
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, O=VeriSign, Inc., OU=VeriSign Trust Network, OU=(c) 1999
VeriSign, Inc. - For authorized use only, CN=VeriSign Class 4 Public Primary Certification
Authority - G3
        Validity
            Not Before: Oct  1 00:00:00 1999 GMT
            Not After : Jul 16 23:59:59 2036 GMT
        Subject: C=US, O=VeriSign, Inc., OU=VeriSign Trust Network, OU=(c)
1999 VeriSign, Inc. - For authorized use only, CN=VeriSign Class 4 Public Primary
Certification Authority - G3
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=CA, ST=ON, L=Toronto, O=CertEngine Inc., OU=Certification
Authority Division, CN=certengine/Email=ca@certengine.com
        Validity
            Not Before: Jan  1 00:00:00 1998 GMT
            Not After : Jan 17 00:00:00 2038 GMT
        Subject: C=CA, ST=ON, L=Toronto, O=CertEngine Inc., OU=Certification
Authority Division, CN=certengine/Email=ca@certengine.com
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=IE, O=Baltimore, OU=CyberTrust, CN=Baltimore CyberTrust Code
Signing Root
        Validity
            Not Before: May 17 14:01:00 2000 GMT
            Not After : May 17 23:59:00 2025 GMT
        Subject: C=IE, O=Baltimore, OU=CyberTrust, CN=Baltimore CyberTrust
Code Signing Root
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, O=United States Postal Service, OU=www.usps.com/CPS,
CN=USPS Root CA Validity
            Not Before: Aug 16 21:06:39 2000 GMT
            Not After : Aug 15 13:06:25 2020 GMT
        Subject: C=US, O=United States Postal Service, OU=www.usps.com/CPS,
CN=USPS Production CA 1
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, O=Equifax, OU=Equifax Secure Certificate Authority
        Validity
            Not Before: Aug 22 16:41:51 1998 GMT
            Not After : Aug 22 16:41:51 2018 GMT
        Subject: C=US, O=Equifax, OU=Equifax Secure Certificate Authority
-----END CERTIFICATE-----

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-----BEGIN CERTIFICATE-----
    Issuer: C=DE, O=Deutsche Telekom AG, OU=TeleSec Trust Center,
CN=Deutsche Telekom Root CA
    Validity
        Not Before: Dec  9 09:11:00 1998 GMT
        Not After  : Dec  9 23:59:00 2004 GMT
    Subject: C=DE, O=Deutsche Telekom AG, OU=TeleSec Trust Center,
CN=Deutsche Telekom Root CA
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=IT, O=BNL Multiservizi S.p.A., OU=Certification Service
Provider, CN=BNL Corporate Certification/Email=key_management@bnl.it
    Validity
        Not Before: Aug 11 14:43:19 2000 GMT
        Not After  : Aug 10 14:43:19 2005 GMT
    Subject: C=IT, O=BNL Multiservizi S.p.A., OU=Certification Service
Provider, CN=BNL Corporate Certification/Email=key_management@bnl.it
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=US, O=VISA, OU=Visa International Service Association, CN=GP Root 3
    Validity
        Not Before: Aug 16 23:34:00 2000 GMT
        Not After  : Aug 15 23:59:00 2020 GMT
    Subject: C=US, O=VISA, OU=Visa International Service Association,
CN=GP Root 3
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=us, ST=Utah, L=Salt Lake City, O=Digital Signature Trust Co.,
OU=National Retail Federation, CN=DST (NRF) RootCA/Email=ca@digsigtrust.com
    Validity
        Not Before: Dec 11 16:14:16 1998 GMT
        Not After  : Dec  8 16:14:16 2008 GMT
    Subject: C=us, ST=Utah, L=Salt Lake City, O=Digital Signature Trust Co.,
OU=National Retail Federation, CN=DST (NRF) RootCA/Email=ca@digsigtrust.com
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=US, O=RSA Data Security, Inc., OU=Commercial Certification Authority
    Validity
        Not Before: Nov  4 18:58:34 1994 GMT
        Not After  : Nov  3 18:58:34 1999 GMT
    Subject: C=US, O=RSA Data Security, Inc., OU=Commercial Certification Authority
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=US, O=VeriSign, Inc., OU=Class 2 Public Primary Certification Authority
- G2, OU=(c) 1998 VeriSign, Inc. - For authorized use only, OU=VeriSign Trust Network
    Validity
        Not Before: May 18 00:00:00 1998 GMT
        Not After  : Aug  1 23:59:59 2028 GMT
    Subject: C=US, O=VeriSign, Inc., OU=Class 2 Public Primary Certification Authority
- G2, OU=(c) 1998 VeriSign, Inc. - For authorized use only, OU=VeriSign Trust Network
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=BE, O=GlobalSign nv-sa, OU=Root CA, CN=GlobalSign Root CA
    Validity
        Not Before: Sep 15 12:00:00 1998 GMT
        Not After  : Jan 28 12:00:00 2009 GMT
    Subject: C=BE, O=GlobalSign nv-sa, OU=Primary Class 1 CA,
CN=GlobalSign Primary Class 1 CA
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=ZA, ST=Western Cape, L=Cape Town, O=Thawte Consulting,
OU=Certification Services Division, CN=Thawte Personal Freemail CA/Email=personal-
freemail@thawte.com
    Validity

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        Not Before: Aug 30 00:00:00 2000 GMT
        Not After : Aug 27 23:59:59 2004 GMT
        Subject: C=ZA, ST=Western Cape, L=Cape Town, O=Thawte, OU=Certificate
Services, CN=Personal Freemail RSA 2000.8.30
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, O=VISA, OU=Visa International Service Association, CN=GP
Root 5
        Validity
            Not Before: Aug 17 00:28:00 2000 GMT
            Not After : Aug 16 23:59:00 2020 GMT
            Subject: C=US, O=VISA, OU=Visa International Service Association,
CN=GP Root 5
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, O=United States Postal Service, OU=www.usps.com/CPS,
CN=USPS Root CA
        Validity
            Not Before: Aug 15 19:35:58 2000 GMT
            Not After : Aug 15 19:35:58 2020 GMT
            Subject: C=US, O=United States Postal Service, OU=www.usps.com/CPS,
CN=USPS Root CA
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=ZA, ST=Western Cape, L=Cape Town, O=Thawte Consulting,
OU=Certification Services Division, CN=Thawte Personal Premium
CA/Email=personal-premium@thawte.com
        Validity
            Not Before: Jan  1 00:00:00 1996 GMT
            Not After : Dec 31 23:59:59 2020 GMT
            Subject: C=ZA, ST=Western Cape, L=Cape Town, O=Thawte Consulting,
OU=Certification Services Division, CN=Thawte Personal Premium CA/Email=personal-
premium@thawte.com
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: O=Xcert International Inc., OU=Xcert Root CA v1 1024
        Validity
            Not Before: Aug 18 18:50:56 2000 GMT
            Not After : Aug 15 19:01:08 2025 GMT
            Subject: O=Xcert International Inc., OU=Xcert Root CA v1 1024
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=CA, ST=ON, L=Toronto, O=BankEngine Inc., OU=Certification
Authority Division, CN=bankengine/Email=ca@bankengine.com
        Validity
            Not Before: Jan  1 00:00:00 1998 GMT
            Not After : Jan 17 00:00:00 2038 GMT
            Subject: C=CA, ST=ON, L=Toronto, O=BankEngine Inc., OU=Certification
Authority Division, CN=bankengine/Email=ca@bankengine.com
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=BE, L=Brussels, O=BelSign NV, OU=BelSign Secure Server
Certificate Authority, CN=BelSign Secure Server CA/Email=webmaster@belsign.be
        Validity
            Not Before: Jul 16 22:00:54 1997 GMT
            Not After : Jul 16 22:00:54 2007 GMT
            Subject: C=BE, L=Brussels, O=BelSign NV, OU=BelSign Secure Server
Certificate Authority, CN=BelSign Secure Server CA/Email=webmaster@belsign.be
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, ST=Utah, L=Salt Lake City, O=Xcert EZ by DST, CN=Xcert
EZ by DST/Email=ca@digsigtrust.com
        Validity
            Not Before: Jul 14 16:14:18 1999 GMT

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        Not After : Jul 11 16:14:18 2009 GMT
        Subject: C=US, ST=Utah, L=Salt Lake City, O=Xcert EZ by DST, CN=Xcert
        EZ by DST/Email=ca@digsigtrust.com
        -----END CERTIFICATE-----
        -----BEGIN CERTIFICATE-----
        Issuer: C=US, O=Entrust.net, OU=www.entrust.net/Client_CA_Info/CPS incorp. by ref.
        limits liab., OU=(c) 1999 Entrust.net Limited, CN=Entrust.net Client Certification
        Authority
        Validity
            Not Before: Oct 12 19:24:30 1999 GMT
            Not After : Oct 12 19:54:30 2019 GMT
        Subject: C=US, O=Entrust.net, OU=www.entrust.net/Client_CA_Info/CPS incorp. by
        ref. limits liab., OU=(c) 1999 Entrust.net Limited, CN=Entrust.net Client Certification
        Authority
        -----END CERTIFICATE-----
        -----BEGIN CERTIFICATE-----
        Issuer: C=US, O=American Express Company, Inc., OU=American Express
        Technologies, CN=American Express Global Certificate Authority
        Validity
            Not Before: Aug 14 19:06:00 1998 GMT
            Not After : Aug 14 23:59:00 2013 GMT
        Subject: C=US, O=American Express Company, Inc., OU=American Express
        Technologies, CN=American Express Global Certificate Authority
        -----END CERTIFICATE-----
        -----BEGIN CERTIFICATE-----
        Issuer: C=US, O=Equifax, OU=Equifax Premium Certificate Authority
        Validity
            Not Before: Aug 24 22:54:23 1998 GMT
            Not After : Aug 24 22:54:23 2018 GMT
        Subject: C=US, O=Equifax, OU=Equifax Premium Certificate Authority
        -----END CERTIFICATE-----
        -----BEGIN CERTIFICATE-----
        Issuer: C=ZA, ST=Western Cape, L=Cape Town, O=Thawte Consulting cc,
        OU=Certification Services Division, CN=Thawte Server CA/Email=server-certs@thawte.com
        Validity
            Not Before: Aug  1 00:00:00 1996 GMT
            Not After : Dec 31 23:59:59 2020 GMT
        Subject: C=ZA, ST=Western Cape, L=Cape Town, O=Thawte Consulting cc,
        OU=Certification Services Division, CN=Thawte Server CA/Email=server-certs@thawte.com
        -----END CERTIFICATE-----
        -----BEGIN CERTIFICATE-----
        Issuer: O=Xcert International Inc., OU=Xcert Root CA v1
        Validity
            Not Before: Aug 18 18:40:50 2000 GMT
            Not After : Aug 15 19:00:38 2025 GMT
        Subject: O=Xcert International Inc., OU=Xcert Root CA v1
        -----END CERTIFICATE-----
        -----BEGIN CERTIFICATE-----
        Issuer: C=us, ST=Utah, L=Salt Lake City, O=Digital Signature Trust Co., OU=DSTCA
        X2, CN=DST RootCA X2/Email=ca@digsigtrust.com
        Validity
            Not Before: Nov 30 22:46:16 1998 GMT
            Not After : Nov 27 22:46:16 2008 GMT
        Subject: C=us, ST=Utah, L=Salt Lake City, O=Digital Signature Trust Co., OU=DSTCA
        X2, CN=DST RootCA X2/Email=ca@digsigtrust.com
        -----END CERTIFICATE-----
        -----BEGIN CERTIFICATE-----
        Issuer: C=IT, O=BNL Multiservizi S.p.A., OU=Certification Service Provider, CN=BNL
        SSL Certification/Email=key_management@bnl.it
        Validity
            Not Before: Aug 11 14:41:14 2000 GMT
            Not After : Aug 10 14:41:14 2005 GMT
        Subject: C=IT, O=BNL Multiservizi S.p.A., OU=Certification Service
        Provider, CN=BNL SSL Certification/Email=key_management@bnl.it

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-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=US, O=VeriSign, Inc., OU=VeriSign Trust Network, OU=(c) 1999
VeriSign, Inc.- For authorized use only, CN=VeriSign Class 2 Public Primary Certification
Authority - G3
    Validity
        Not Before: Oct  1 00:00:00 1999 GMT
        Not After  : Jul 16 23:59:59 2036 GMT
    Subject: C=US, O=VeriSign, Inc., OU=VeriSign Trust Network, OU=(c)
1999 VeriSign, Inc. - For authorized use only, CN=VeriSign Class 2 Public Primary
Certification Authority - G3
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=WW, O=beTRUSTed, CN=beTRUSTed Root CAs, CN=beTRUSTed Root CA
    Validity
        Not Before: Jun 20 14:21:04 2000 GMT
        Not After  : Jun 20 13:21:04 2010 GMT
    Subject: C=WW, O=beTRUSTed, CN=beTRUSTed Root CAs, CN=beTRUSTed Root CA
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=US, O=VeriSign, Inc., OU=Class 1 Public Primary Certification Authority
    Validity
        Not Before: Aug  4 00:00:00 2000 GMT
        Not After  : Aug  3 23:59:59 2004 GMT
    Subject: O=VeriSign, Inc., OU=VeriSign Trust Network, OU=Terms of use
at https://www.verisign.com/RPA (c)00, CN=Class 1 Public Primary OCSP Responder
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=DE, ST=Hamburg, L=Hamburg, O=TC TrustCenter for Security in
Data Networks GmbH, OU=TC TrustCenter Class 3 CA/Email=certificate@trustcenter.de
    Validity
        Not Before: Mar  9 13:58:49 1998 GMT
        Not After  : Dec 31 13:58:49 2005 GMT
    Subject: C=DE, ST=Hamburg, L=Hamburg, O=TC TrustCenter for Security in
Data Networks GmbH, OU=TC TrustCenter Class 3 CA/Email=certificate@trustcenter.de
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=US, O=VeriSign, Inc., OU=Class 2 Public Primary Certification Authority
    Validity
        Not Before: Jan 29 00:00:00 1996 GMT
        Not After  : Aug  1 23:59:59 2028 GMT
    Subject: C=US, O=VeriSign, Inc., OU=Class 2 Public Primary
Certification Authority
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=IE, O=Baltimore, OU=CyberTrust, CN=Baltimore CyberTrust Mobile Root
    Validity
        Not Before: May 12 18:20:00 2000 GMT
        Not After  : May 12 23:59:00 2020 GMT
    Subject: C=IE, O=Baltimore, OU=CyberTrust, CN=Baltimore CyberTrust Mobile Root
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=US, O=VeriSign, Inc., OU=Class 1 Public Primary Certification Authority
- G2, OU=(c) 1998 VeriSign, Inc. - For authorized use only, OU=VeriSign Trust Network
    Validity
        Not Before: May 18 00:00:00 1998 GMT
        Not After  : May 18 23:59:59 2018 GMT
    Subject: C=US, O=VeriSign, Inc., OU=Class 1 Public Primary Certification Authority
- G2, OU=(c) 1998 VeriSign, Inc. - For authorized use only, OU=VeriSign Trust Network
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=US, O=Digital Signature Trust Co., OU=DSTCA E2
    Validity
        Not Before: Dec  9 19:17:26 1998 GMT

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        Not After : Dec  9 19:47:26 2018 GMT
        Subject: C=US, O=Digital Signature Trust Co., OU=DSTCA E2
-----END CERTIFICATE-----
        Not Before: Dec  9 19:17:26 1998 GMT, Not After: Dec  9
19:17:26 2018 GMT
-----BEGIN CERTIFICATE-----
        Issuer: C=ZA, ST=Western Cape, L=Cape Town, O=Thawte Consulting cc,
OU=Certification Services Division, CN=Thawte Premium Server
CA/Email=premium-server@thawte.com
        Validity
            Not Before: Aug  1 00:00:00 1996 GMT
            Not After : Dec 31 23:59:59 2020 GMT
        Subject: C=ZA, ST=Western Cape, L=Cape Town, O=Thawte Consulting cc,
OU=Certification Services Division, CN=Thawte Premium Server
CA/Email=premium-server@thawte.com
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, O=Entrust.net, OU=www.entrust.net/CPS incorp. by ref.
(limits liab.), OU=(c) 1999 Entrust.net Limited, CN=Entrust.net Secure Server
Certification Authority
        Validity
            Not Before: May 25 16:09:40 1999 GMT
            Not After : May 25 16:39:40 2019 GMT
        Subject: C=US, O=Entrust.net, OU=www.entrust.net/CPS incorp. by ref.
(limits liab.), OU=(c) 1999 Entrust.net Limited, CN=Entrust.net Secure Server
Certification Authority
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=SE, O=AddTrust AB, OU=AddTrust TTP Network, CN=AddTrust
Public CA Root
        Validity
            Not Before: May 30 10:41:50 2000 GMT
            Not After : May 30 10:41:50 2020 GMT
        Subject: C=SE, O=AddTrust AB, OU=AddTrust TTP Network, CN=AddTrust Public CA Root
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, O=Equifax Secure Inc., CN=Equifax Secure eBusiness CA-1
        Validity
            Not Before: Jun 21 04:00:00 1999 GMT
            Not After : Jun 21 04:00:00 2020 GMT
        Subject: C=US, O=Equifax Secure Inc., CN=Equifax Secure eBusiness CA-1
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=CA, ST=ON, L=Toronto, O=TraderEngine Inc., OU=Certification
Authority Division, CN=traderengine/Email=ca@traderengine.com
        Validity
            Not Before: Jan  1 00:00:00 1998 GMT
            Not After : Jan 17 00:00:00 2038 GMT
        Subject: C=CA, ST=ON, L=Toronto, O=TraderEngine Inc., OU=Certification
Authority Division, CN=traderengine/Email=ca@traderengine.com
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=SE, O=AddTrust AB, OU=AddTrust TTP Network, CN=AddTrust
Qualified CA Root
        Validity
            Not Before: May 30 10:44:50 2000 GMT
            Not After : May 30 10:44:50 2020 GMT
        Subject: C=SE, O=AddTrust AB, OU=AddTrust TTP Network, CN=AddTrust
Qualified CA Root
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, O=Digital Signature Trust Co., OU=DSTCA E1
        Validity
            Not Before: Dec 10 18:10:23 1998 GMT

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        Not After : Dec 10 18:40:23 2018 GMT
        Subject: C=US, O=Digital Signature Trust Co., OU=DSTCA E1
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=IT, O=BNL Multiservizi S.p.A., OU=Certification Service Provider,
CN=BBTOP TRADE Certification/Email=key_management@bnl.it
        Validity
            Not Before: Aug 11 14:52:07 2000 GMT
            Not After : Aug 10 14:52:07 2005 GMT
        Subject: C=IT, O=BNL Multiservizi S.p.A., OU=Certification Service
Provider, CN=BBTOP TRADE Certification/Email=key_management@bnl.it
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: O=Xcert International Inc., OU=Xcert Root CA 1024
        Validity
            Not Before: Aug 18 18:31:32 2000 GMT
            Not After : Aug 15 19:00:56 2025 GMT
        Subject: O=Xcert International Inc., OU=Xcert Root CA 1024
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, O=VeriSign, Inc., OU=Class 3 Public Primary Certification Authority
        Validity
            Not Before: Aug  4 00:00:00 2000 GMT
            Not After : Aug  3 23:59:59 2004 GMT
        Subject: O=VeriSign, Inc., OU=VeriSign Trust Network, OU=Terms of use
at https://www.verisign.com/RPA (c)00, CN=Class 3 Public Primary OCSP Responder
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, O=GTE Corporation, OU=GTE CyberTrust Solutions, Inc.,
CN=GTE CyberTrust Global Root
        Validity
            Not Before: Aug 13 00:29:00 1998 GMT
            Not After : Aug 13 23:59:00 2018 GMT
        Subject: C=US, O=GTE Corporation, OU=GTE CyberTrust Solutions, Inc.,
CN=GTE CyberTrust Global Root
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, O=GTE Corporation, OU=GTE CyberTrust Solutions, Inc.,
CN=GTE CyberTrust Root 3
        Validity
            Not Before: Aug 10 19:59:08 1998 GMT
            Not After : Aug 10 19:36:39 2008 GMT
        Subject: C=US, O=GTE Corporation, OU=GTE CyberTrust Solutions, Inc.,
CN=GTE CyberTrust Root 3
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=JP, O=CyberTrust Japan, Inc., CN=CyberTrust JAPAN Secure
Server CA
        Validity
            Not Before: Aug  4 08:06:32 1998 GMT
            Not After : Aug  4 23:59:00 2003 GMT
        Subject: C=JP, O=CyberTrust Japan, Inc., CN=CyberTrust JAPAN Secure
Server CA
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=IT, O=BNL Multiservizi S.p.A., OU=Certification Service
Provider, CN=BNL Professional Certification/Email=key_management@bnl.it
        Validity
            Not Before: Aug 11 14:45:06 2000 GMT
            Not After : Aug 10 14:45:06 2005 GMT
        Subject: C=IT, O=BNL Multiservizi S.p.A., OU=Certification Service
Provider, CN=BNL Professional Certification/Email=key_management@bnl.it
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----

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    Issuer: C=US, O=RSA Data Security, Inc., OU=Secure Server
Certification Authority
    Validity
        Not Before: Aug  4 00:00:00 2000 GMT
        Not After  : Aug  3 23:59:59 2004 GMT
    Subject: O=VeriSign, Inc., OU=VeriSign Trust Network, OU=Terms of use
at https://www.verisign.com/RPA (c)00, CN=Secure Server OCSP Responder
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=US, O=VeriSign, Inc., OU=Class 4 Public Primary
Certification Authority
    Validity
        Not Before: Jan 29 00:00:00 1996 GMT
        Not After  : Dec 31 23:59:59 1999 GMT
    Subject: C=US, O=VeriSign, Inc., OU=Class 4 Public Primary Certification Authority
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=US, O=GTE Corporation, OU=GTE CyberTrust Solutions, Inc.,
CN=GTE CyberTrust Root 5
    Validity
        Not Before: Aug 14 14:50:00 1998 GMT
        Not After  : Aug 14 23:59:00 2013 GMT
    Subject: C=US, O=GTE Corporation, OU=GTE CyberTrust Solutions, Inc.,
CN=GTE CyberTrust Root 5
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: L=ValiCert Validation Network, O=ValiCert, Inc., OU=ValiCert
Class 1 Policy Validation Authority, CN=http://www.valicert.com//Email=info@valicert.com
    Validity
        Not Before: Jun 25 22:23:48 1999 GMT
        Not After  : Jun 25 22:23:48 2019 GMT
    Subject: L=ValiCert Validation Network, O=ValiCert, Inc., OU=ValiCert
Class 1 Policy Validation Authority, CN=http://www.valicert.com//Email=info@valicert.com
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=JP, O=CyberTrust Japan, Inc., CN=CyberTrust JAPAN Root CA
    Validity
        Not Before: Aug  4 07:57:00 1998 GMT
        Not After  : Aug  4 23:59:00 2003 GMT
    Subject: C=JP, O=CyberTrust Japan, Inc., CN=CyberTrust JAPAN Root CA
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=DE, ST=Hamburg, L=Hamburg, O=TC TrustCenter for Security in
Data Networks GmbH, OU=TC TrustCenter Class 0 CA/Email=certificate@trustcenter.de
    Validity
        Not Before: Mar  9 13:54:48 1998 GMT
        Not After  : Dec 31 13:54:48 2005 GMT
    Subject: C=DE, ST=Hamburg, L=Hamburg, O=TC TrustCenter for Security in
Data Networks GmbH, OU=TC TrustCenter Class 0 CA/Email=certificate@trustcenter.de
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=US, O=VeriSign, Inc., OU=Class 3 Public Primary Certification Authority
- G2, OU=(c) 1998 VeriSign, Inc. - For authorized use only, OU=VeriSign Trust Network
    Validity
        Not Before: May 18 00:00:00 1998 GMT
        Not After  : Aug  1 23:59:59 2028 GMT
    Subject: C=US, O=VeriSign, Inc., OU=Class 3 Public Primary
Certification Authority - G2, OU=(c) 1998 VeriSign, Inc. - For authorized use only,
OU=VeriSign Trust Network
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: O=Thawte, OU=Thawte Universal CA Root, CN=Thawte Universal CA
Root
    Validity

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        Not Before: Dec  5 13:56:05 1999 GMT
        Not After  : Apr  3 13:56:05 2037 GMT
        Subject: O=Thawte, OU=Thawte Universal CA Root, CN=Thawte Universal CA
Root
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: O=Entrust.net, OU=www.entrust.net/CPS_2048 incorp. by ref.
        (limits liab.), OU=(c) 1999 Entrust.net Limited, CN=Entrust.net Certification Authority
        (2048)
        Validity
            Not Before: Dec 24 17:50:51 1999 GMT
            Not After  : Dec 24 18:20:51 2019 GMT
            Subject: O=Entrust.net, OU=www.entrust.net/CPS_2048 incorp. by ref.
            (limits liab.), OU=(c) 1999 Entrust.net Limited, CN=Entrust.net Certification Authority
            (2048)
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, O=GTE Corporation, CN=GTE CyberTrust Root
        Validity
            Not Before: Feb 23 23:01:00 1996 GMT
            Not After  : Feb 23 23:59:00 2006 GMT
            Subject: C=US, O=GTE Corporation, CN=GTE CyberTrust Root
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, O=VeriSign, Inc., OU=VeriSign Trust Network, OU=(c) 1999
        VeriSign, Inc. - For authorized use only, CN=VeriSign Class 1 Public Primary Certification
        Authority - G3
        Validity
            Not Before: Oct  1 00:00:00 1999 GMT
            Not After  : Jul 16 23:59:59 2036 GMT
            Subject: C=US, O=VeriSign, Inc., OU=VeriSign Trust Network, OU=(c)
            1999 VeriSign, Inc. - For authorized use only, CN=VeriSign Class 1 Public Primary
            Certification Authority - G3
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, O=VeriSign, Inc., OU=Class 1 Public Primary
        Certification Authority - G2, OU=(c) 1998 VeriSign, Inc. - For authorized use only,
        OU=VeriSign Trust Network
        Validity
            Not Before: May 18 00:00:00 1998 GMT
            Not After  : Aug  1 23:59:59 2028 GMT
            Subject: C=US, O=VeriSign, Inc., OU=Class 1 Public Primary
            Certification Authority - G2, OU=(c) 1998 VeriSign, Inc. - For authorized use only,
            OU=VeriSign Trust Network
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, O=GTE Corporation, OU=GTE CyberTrust Solutions, Inc., CN=GTE
        CyberTrust Root 2
        Validity
            Not Before: Aug 11 11:35:07 1998 GMT
            Not After  : Aug 11 11:22:16 2008 GMT
            Subject: C=US, O=GTE Corporation, OU=GTE CyberTrust Solutions, Inc.,
            CN=GTE CyberTrust Root 2
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=DE, ST=Hamburg, L=Hamburg, O=TC TrustCenter for Security in
        Data Networks GmbH, OU=TC TrustCenter Class 1 CA/Email=certificate@trustcenter.de
        Validity
            Not Before: Mar  9 13:56:33 1998 GMT
            Not After  : Dec 31 13:56:33 2005 GMT
            Subject: C=DE, ST=Hamburg, L=Hamburg, O=TC TrustCenter for Security in
            Data Networks GmbH, OU=TC TrustCenter Class 1 CA/Email=certificate@trustcenter.de
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----

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    Issuer: C=US, O=VeriSign, Inc., OU=VeriSign Trust Network, OU=(c) 1999
VeriSign, Inc.- For authorized use only, CN=VeriSign Class 3 Public Primary Certification
Authority - G3
    Validity
        Not Before: Oct  1 00:00:00 1999 GMT
        Not After  : Jul 16 23:59:59 2036 GMT
    Subject: C=US, O=VeriSign, Inc., OU=VeriSign Trust Network, OU=(c)
1999 VeriSign, Inc. - For authorized use only, CN=VeriSign Class 3 Public Primary
Certification Authority - G3
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=US, O=VeriSign, Inc., OU=Class 3 Public Primary Certification Authority
    Validity
        Not Before: Jan 29 00:00:00 1996 GMT
        Not After  : Aug  1 23:59:59 2028 GMT
    Subject: C=US, O=VeriSign, Inc., OU=Class 3 Public Primary Certification Authority
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=US, O=VeriSign, Inc., OU=Class 4 Public Primary Certification Authority
- G2, OU=(c) 1998 VeriSign, Inc. - For authorized use only, OU=VeriSign Trust Network
    Validity
        Not Before: May 18 00:00:00 1998 GMT
        Not After  : Aug  1 23:59:59 2028 GMT
    Subject: C=US, O=VeriSign, Inc., OU=Class 4 Public Primary Certification Authority
- G2, OU=(c) 1998 VeriSign, Inc. - For authorized use only, OU=VeriSign Trust Network
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=BE, O=GlobalSign nv-sa, OU=Root CA, CN=GlobalSign Root CA
    Validity
        Not Before: Sep  1 12:00:00 1998 GMT
        Not After  : Jan 28 12:00:00 2014 GMT
    Subject: C=BE, O=GlobalSign nv-sa, OU=Root CA, CN=GlobalSign Root CA
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: O=Xcert International Inc., OU=Xcert Root CA
    Validity
        Not Before: Aug 18 18:18:17 2000 GMT
        Not After  : Aug 15 19:03:17 2025 GMT
    Subject: O=Xcert International Inc., OU=Xcert Root CA
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=BE, O=GlobalSign nv-sa, OU=Root CA, CN=GlobalSign Root CA
Validity
        Not Before: Jan 28 12:00:00 1999 GMT
        Not After  : Jan 28 12:00:00 2009 GMT
    Subject: C=BE, O=GlobalSign nv-sa, OU=Primary Class 3 CA,
CN=GlobalSign Primary Class 3 CA
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: L=ValiCert Validation Network, O=ValiCert, Inc., OU=Class 1
Validation Authority - OCSP, CN=http://www.valicert.net//Email=info@valicert.com
    Validity
        Not Before: Feb 12 11:50:05 2000 GMT
        Not After  : Feb 10 11:50:05 2005 GMT
    Subject: L=ValiCert Validation Network, O=ValiCert, Inc., OU=Class 1
Validation Authority - OCSP, CN=http://www.valicert.net//Email=info@valicert.com
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=IT, O=BNL Multiservizi S.p.A., OU=Certification Service Provider,
CN=Multicertify/Email=key_management@bnl.it
    Validity
        Not Before: Aug 11 14:49:51 2000 GMT
        Not After  : Aug 10 14:49:51 2005 GMT

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        Subject: C=IT, O=BNL Multiservizi S.p.A., OU=Certification Service Provider,
CN=Multicertify/Email=key_management@bnl.it
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=DE, ST=Hamburg, L=Hamburg, O=TC TrustCenter for Security in
Data Networks GmbH, OU=TC TrustCenter Class 2 CA/Email=certificate@trustcenter.de
        Validity
            Not Before: Mar  9 13:57:44 1998 GMT
            Not After  : Dec 31 13:57:44 2005 GMT
        Subject: C=DE, ST=Hamburg, L=Hamburg, O=TC TrustCenter for Security in
Data Networks GmbH, OU=TC TrustCenter Class 2 CA/Email=certificate@trustcenter.de
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=BE, O=GlobalSign nv-sa, OU=Root CA, CN=GlobalSign Root CA
        Validity
            Not Before: Jan 28 12:00:00 1999 GMT
            Not After  : Jan 28 12:00:00 2009 GMT
        Subject: C=BE, O=GlobalSign nv-sa, OU=Primary Class 2 CA,
CN=GlobalSign Primary Class 2 CA
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, O=Digital Signature Trust Co., OU=DST (ANX Network) CA
        Validity
            Not Before: Dec  9 15:46:48 1998 GMT
            Not After  : Dec  9 16:16:48 2018 GMT
        Subject: C=US, O=Digital Signature Trust Co., OU=DST (ANX Network) CA
-----END CERTIFICATE-----
        Not Before: Dec  9 15:46:48 1998 GMT, Not After: Dec  9
15:46:48 2018 GMT
-----BEGIN CERTIFICATE-----
        Issuer: C=SE, O=AddTrust AB, OU=AddTrust TTP Network, CN=AddTrust
Class 1 CA Root
        Validity
            Not Before: May 30 10:38:31 2000 GMT
            Not After  : May 30 10:38:31 2020 GMT
        Subject: C=SE, O=AddTrust AB, OU=AddTrust TTP Network, CN=AddTrust
Class 1 CA Root
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, O=VISA, OU=Visa International Service Association
        Validity
            Not Before: Aug 16 21:52:00 2000 GMT
            Not After  : Aug 15 23:59:00 2020 GMT
        Subject: C=US, O=VISA, OU=Visa International Service Association
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=US, O=VeriSign, Inc., OU=Class 2 Public Primary
Certification Authority
        Validity
            Not Before: Aug  1 00:00:00 2000 GMT
            Not After  : Jul 31 23:59:59 2004 GMT
        Subject: O=VeriSign, Inc., OU=VeriSign Trust Network, OU=Terms of use
at https://www.verisign.com/RPA (c)00, CN=Class 2 Public Primary OCSP Responder
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
        Issuer: C=ZA, ST=Western Cape, L=Cape Town, O=Thawte Consulting,
OU=Certification Services Division, CN=Thawte Personal Freemail
CA/Email=personal-freemail@thawte.com
        Validity
            Not Before: Jan  1 00:00:00 1996 GMT
            Not After  : Dec 31 23:59:59 2020 GMT
        Subject: C=ZA, ST=Western Cape, L=Cape Town, O=Thawte Consulting, OU=Certification
Services Division, CN=Thawte Personal Freemail CA/Email=personal-freemail@thawte.com
-----END CERTIFICATE-----

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-----BEGIN CERTIFICATE-----
    Issuer: C=IE, O=Baltimore, OU=CyberTrust, CN=Baltimore CyberTrust Root
    Validity
        Not Before: May 12 18:46:00 2000 GMT
        Not After : May 12 23:59:00 2025 GMT
    Subject: C=IE, O=Baltimore, OU=CyberTrust, CN=Baltimore CyberTrust Root
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=US, O=Equifax Secure Inc., CN=Equifax Secure Global eBusiness CA-1
    Validity
        Not Before: Jun 21 04:00:00 1999 GMT
        Not After : Jun 21 04:00:00 2020 GMT
    Subject: C=US, O=Equifax Secure Inc., CN=Equifax Secure Global
eBusiness CA-1
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=DE, ST=Hamburg, L=Hamburg, O=TC TrustCenter for Security in
Data Networks GmbH, OU=TC TrustCenter Class 4 CA/Email=certificate@trustcenter.de
    Validity
        Not Before: Mar  9 14:00:20 1998 GMT
        Not After : Dec 31 14:00:20 2005 GMT
    Subject: C=DE, ST=Hamburg, L=Hamburg, O=TC TrustCenter for Security in
Data Networks GmbH, OU=TC TrustCenter Class 4 CA/Email=certificate@trustcenter.de
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: L=ValiCert Validation Network, O=ValiCert, Inc., OU=ValiCert
Class 2 Policy Validation Authority, CN=http://www.valicert.com//Email=info@valicert.com
    Validity
        Not Before: Jun 26 00:19:54 1999 GMT
        Not After : Jun 26 00:19:54 2019 GMT
    Subject: L=ValiCert Validation Network, O=ValiCert, Inc., OU=ValiCert
Class 2 Policy Validation Authority, CN=http://www.valicert.com//Email=info@valicert.com
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=CA, ST=ON, L=Toronto, O=MailEngine Inc., OU=Certification
Authority Division, CN=mailengine/Email=ca@mailengine.com
    Validity
        Not Before: Jan  1 00:00:00 1998 GMT
        Not After : Jan 17 00:00:00 2038 GMT
    Subject: C=CA, ST=ON, L=Toronto, O=MailEngine Inc., OU=Certification
Authority Division, CN=mailengine/Email=ca@mailengine.com
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=US, O=RSA Data Security, Inc., OU=Secure Server
Certification Authority
    Validity
        Not Before: Nov  9 00:00:00 1994 GMT
        Not After : Jan  7 23:59:59 2010 GMT
    Subject: C=US, O=RSA Data Security, Inc., OU=Secure Server
Certification Authority
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=ZA, ST=Western Cape, L=Cape Town, O=Thawte Consulting,
OU=Certification Services Division, CN=Thawte Personal Basic
CA/Email=personal-basic@thawte.com
    Validity
        Not Before: Jan  1 00:00:00 1996 GMT
        Not After : Dec 31 23:59:59 2020 GMT
    Subject: C=ZA, ST=Western Cape, L=Cape Town, O=Thawte Consulting,
OU=Certification Services Division, CN=Thawte Personal Basic
CA/Email=personal-basic@thawte.com
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
    Issuer: C=BE, O=GlobalSign nv-sa, OU=Root CA, CN=GlobalSign Root CA

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Validity
  Not Before: Jan 28 12:00:00 1999 GMT
  Not After : Jan 28 12:00:00 2009 GMT
  Subject: C=BE, O=GlobalSign nv-sa, OU=Partners CA, CN=GlobalSign
Partners CA
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
  Issuer: C=us, ST=Utah, L=Salt Lake City, O=Digital Signature Trust
Co., OU=United Parcel Service, CN=DST (UPS) RootCA/Email=ca@digsigtrust.com
  Validity
    Not Before: Dec 10 00:25:46 1998 GMT
    Not After : Dec  7 00:25:46 2008 GMT
    Subject: C=us, ST=Utah, L=Salt Lake City, O=Digital Signature Trust
Co., OU=United Parcel Service, CN=DST (UPS) RootCA/Email=ca@digsigtrust.com
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
  Issuer: C=US, O=VISA, OU=Visa International Service Association, CN=GP
Root 2
  Validity
    Not Before: Aug 16 22:51:00 2000 GMT
    Not After : Aug 15 23:59:00 2020 GMT
    Subject: C=US, O=VISA, OU=Visa International Service Association,
CN=GP Root 2
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
  Issuer: C=US, O=Digital Signature Trust Co., OU=DST-Entrust GTI CA
  Validity
    Not Before: Dec  9 00:02:24 1998 GMT
    Not After : Dec  9 00:32:24 2018 GMT
    Subject: C=US, O=Digital Signature Trust Co., OU=DST-Entrust GTI CA
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
  Issuer: C=us, ST=Utah, L=Salt Lake City, O=Digital Signature Trust
Co., OU=DSTCA X1, CN=DST RootCA X1/Email=ca@digsigtrust.com
  Validity
    Not Before: Dec  1 18:18:55 1998 GMT
    Not After : Nov 28 18:18:55 2008 GMT
    Subject: C=us, ST=Utah, L=Salt Lake City, O=Digital Signature Trust
Co., OU=DSTCA X1, CN=DST RootCA X1/Email=ca@digsigtrust.com
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
  Issuer: C=SE, O=AddTrust AB, OU=AddTrust External TTP Network,
CN=AddTrust External CA Root
  Validity
    Not Before: May 30 10:48:38 2000 GMT
    Not After : May 30 10:48:38 2020 GMT
    Subject: C=SE, O=AddTrust AB, OU=AddTrust External TTP Network,
CN=AddTrust External CA Root
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
  Issuer: C=US, O=VISA, OU=Visa International Service Association, CN=GP
Root 4
  Validity
    Not Before: Aug 17 00:19:00 2000 GMT
    Not After : Aug 16 23:59:00 2020 GMT
    Subject: C=US, O=VISA, OU=Visa International Service Association,
CN=GP Root 4
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
  Issuer: C=CA, ST=ON, L=Toronto, O=FortEngine Inc., OU=Certification
Authority Division, CN=fortengine/Email=ca@fortengine.com
  Validity
    Not Before: Jan  1 00:00:00 1998 GMT
    Not After : Jan 17 00:00:00 2038 GMT

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      Subject: C=CA, ST=ON, L=Toronto, O=FortEngine Inc., OU=Certification
Authority Division, CN=fortengine/Email=ca@fortengine.com
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
      Issuer: C=US, O=GTE Corporation, OU=GTE CyberTrust Solutions, Inc.,
CN=GTE CyberTrust Root 4
      Validity
        Not Before: Aug 13 13:51:00 1998 GMT
        Not After  : Aug 13 23:59:00 2013 GMT
      Subject: C=US, O=GTE Corporation, OU=GTE CyberTrust Solutions, Inc.,
CN=GTE CyberTrust Root 4
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
      Issuer: C=US, O=American Express Company, Inc., OU=American Express
Technologies, CN=American Express Certificate Authority
      Validity
        Not Before: Aug 14 22:01:00 1998 GMT
        Not After  : Aug 14 23:59:00 2006 GMT
      Subject: C=US, O=American Express Company, Inc., OU=American Express
Technologies, CN=American Express Certificate Authority
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
      Issuer: C=US, O=VeriSign, Inc., OU=Class 2 Public Primary
Certification Authority
      Validity
        Not Before: Jan 29 00:00:00 1996 GMT
        Not After  : Jan  7 23:59:59 2004 GMT
      Subject: C=US, O=VeriSign, Inc., OU=Class 2 Public Primary
Certification Authority
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
      Issuer: C=US, O=VeriSign, Inc., OU=Class 3 Public Primary
Certification Authority
      Validity
        Not Before: Jan 29 00:00:00 1996 GMT
        Not After  : Jan  7 23:59:59 2004 GMT
      Subject: C=US, O=VeriSign, Inc., OU=Class 3 Public Primary
Certification Authority
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
      Issuer: O=VeriSign, Inc, OU=www.verisign.com/repository/TestCPS Incorp. By Ref.
Liab.LTD., OU=For VeriSign authorized testing only. No assurances (C)VS1997
      Validity
        Not Before: Mar  4 00:00:00 1997 GMT
        Not After  : Mar  4 23:59:59 2025 GMT
      Subject: O=VeriSign, Inc, OU=www.verisign.com/repository/TestCPS
Incorp. By Ref. Liab. LTD., OU=For VeriSign authorized testing only. No assurances
(C)VS1997
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
      Issuer: C=AU, ST=Queensland, O=CryptSoft Pty Ltd, CN=Test PCA (1024 bit)
      Validity
        Not Before: Dec  2 21:38:51 1999 GMT
        Not After  : Jul 10 21:38:51 2005 GMT
      Subject: C=AU, ST=Queensland, O=CryptSoft Pty Ltd, CN=Test CA (1024 bit)
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
      Issuer: C=AU, ST=Some-State, O=Internet Widgits Pty Ltd, CN=PCA
      Validity
        Not Before: Jun 15 02:14:29 1997 GMT
        Not After  : Jul 15 02:14:29 1997 GMT
      Subject: C=AU, ST=Some-State, O=Internet Widgits Pty Ltd, CN=CA
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----

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Issuer: C=AU, ST=Some-State, O=Internet Widgits Pty Ltd, CN=PCA
Validity
  Not Before: Jun 14 22:54:45 1997 GMT
  Not After  : Jul 14 22:54:45 1997 GMT
Subject: C=AU, ST=Some-State, O=Internet Widgits Pty Ltd, CN=PCA
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
Issuer: C=GB, O=UCL, OU=ICE-TEL Project, CN=TrustFactory
Validity
  Not Before: Apr 22 14:39:14 1997 GMT
  Not After  : Apr 22 14:39:14 1998 GMT
Subject: C=GB, O=UCL, OU=ICE-TEL Project, CN=TrustFactory
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
Issuer: O=European ICE-TEL project, OU=V3-Certification Authority
Validity
  Not Before: Apr  2 17:35:53 1997 GMT
  Not After  : Apr  2 17:35:53 1998 GMT
Subject: O=European ICE-TEL project, OU=V3-Certification Authority,
L=Darmstadt
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
Issuer: O=European ICE-TEL project, OU=V3-Certification Authority
Validity
  Not Before: Apr  2 17:33:36 1997 GMT
  Not After  : Apr  2 17:33:36 1998 GMT
Subject: O=European ICE-TEL project, OU=V3-Certification Authority
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
Issuer: O=European ICE-TEL project, OU=V3-Certification Authority,
L=Darmstadt
Validity
  Not Before: Apr  2 17:35:59 1997 GMT
  Not After  : Apr  2 17:35:59 1998 GMT
Subject: O=European ICE-TEL project, OU=V3-Certification Authority,
L=Darmstadt, CN=USER
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
Issuer: C=Ca, L=Nepean, OU=No Liability Accepted, O=For Demo Purposes Only,
CN=Entrust Demo Web CA
Validity
  Not Before: Apr 26 13:35:01 1996 GMT
  Not After  : Apr 26 13:35:01 2006 GMT
Subject: C=Ca, L=Nepean, OU=No Liability Accepted, O=For Demo Purposes Only,
CN=Entrust Demo Web CA
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
Issuer: C=AU, ST=Queensland, O=CryptSoft Pty Ltd, CN=Test PCA (1024 bit)
Validity
  Not Before: Dec  2 21:35:48 1999 GMT
  Not After  : Jul 11 21:35:48 2005 GMT
Subject: C=AU, ST=Queensland, O=CryptSoft Pty Ltd, CN=Test PCA (1024 bit)
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
Issuer: C=AU, ST=Queensland, L=Brisbane, O=CryptSoft Pty Ltd,
OU=development, CN=CryptSoft Dev CA
Validity
  Not Before: Mar 22 13:34:04 1997 GMT
  Not After  : Mar 22 13:34:04 1998 GMT
Subject: C=AU, ST=Queensland, L=Brisbane, O=CryptSoft Pty Ltd,
OU=development, CN=CryptSoft Dev CA
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
Issuer: C=AU, ST=Queensland, L=Brisbane, O=CryptSoft Pty Ltd,

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OU=WORTHLESS CERTIFICATION AUTHORITIES, CN=ZERO VALUE CA - DEMONSTRATION PURPOSES ONLY
  Validity
    Not Before: Apr  3 13:22:54 1997 GMT
    Not After  : Apr  3 13:22:54 1998 GMT
    Subject: C=AU, ST=Queensland, L=Brisbane, O=CryptSoft Pty Ltd,
OU=WORTHLESS CERTIFICATION AUTHORITIES, CN=ZERO VALUE CA - DEMONSTRATION PURPOSES ONLY
-----END CERTIFICATE-----
```

