

15. The technical content or format of the Certificate presents an unacceptable risk to Application Software Suppliers or Relying Parties (e.g. the CA/Browser Forum might determine that a deprecated cryptographic/signature algorithm or key size presents an unacceptable risk and that such Certificates should be revoked and replaced by CAs within a given period of time).

13.1.6 Reasons for Revoking a Subordinate CA Certificate

The Issuing CA SHALL revoke a Subordinate CA Certificate within seven (7) days if one or more of the following occurs:

1. The Subordinate CA requests revocation in writing;
2. The Subordinate CA notifies the Issuing CA that the original certificate request was not authorized and does not retroactively grant authorization;
3. The Issuing CA obtains evidence that the Subordinate CA's Private Key corresponding to the Public Key in the Certificate suffered a Key Compromise or no longer complies with the requirements of Appendix A,
4. The Issuing CA obtains evidence that the Certificate was misused;
5. The Issuing CA is made aware that the Certificate was not issued in accordance with or that Subordinate CA has not complied with these Baseline Requirements or the applicable Certificate Policy or Certification Practice Statement;
6. The Issuing CA determines that any of the information appearing in the Certificate is inaccurate or misleading;
7. The Issuing CA or Subordinate CA ceases operations for any reason and has not made arrangements for another CA to provide revocation support for the Certificate;
8. The Issuing CA's or Subordinate CA's right to issue Certificates under these Requirements expires or is revoked or terminated, unless the Issuing CA has made arrangements to continue maintaining the CRL/OCSP Repository;
9. Revocation is required by the Issuing CA's Certificate Policy and/or Certification Practice Statement; or
10. The technical content or format of the Certificate presents an unacceptable risk to Application Software Suppliers or Relying Parties (e.g. the CA/Browser Forum might determine that a deprecated cryptographic/signature algorithm or key size presents an unacceptable risk and that such Certificates should be revoked and replaced by CAs within a given period of time).

13.2 Certificate Status Checking

13.2.1 Mechanisms

The CA SHALL make revocation information for Subordinate Certificates and Subscriber Certificates available in accordance with Appendix B.

~~If the Subscriber Certificate is for a high-traffic FQDN, the~~ CA MAY rely on stapling, in accordance with [RFC4366], to distribute its OCSP responses. A CA MAY include the CA / Browser Forum's mustStaple certificate extension OID (2.23.140.16.1) in the Certificate. If the CA includes the mustStaple extension in the Certificate, then ~~In this case,~~ the CA SHALL ensure that the Subscriber "staples" the OCSP response for the Certificate in its TLS handshake. The CA SHALL enforce this requirement on the Subscriber either contractually, through the Subscriber or Terms of Use Agreement, or by technical review measures implement by the CA.

13.2.2 Repository

The CA SHALL maintain an online 24x7 Repository that application software can use to automatically check the current status of all unexpired Certificates issued by the CA.

Appendix B – Certificate Extensions (Normative)

This appendix specifies the requirements for Certificate extensions for Certificates generated after the Effective Date.

(1) Root CA Certificate

Root Certificates MUST be of type X.509 v3.

A. basicConstraints

This extension MUST appear as a critical extension. The cA field MUST be set true. The pathLenConstraint field SHOULD NOT be present.

B. keyUsage

This extension MUST be present and MUST be marked critical. Bit positions for keyCertSign and cRLSign MUST be set. If the Root CA Private Key is used for signing OCSP responses, then the digitalSignature bit MUST be set.

C. certificatePolicies

This extension SHOULD NOT be present.

D. extendedKeyUsage

This extension MUST NOT be present.

(2) Subordinate CA Certificate

Subordinate CA Certificates MUST be of type X.509 v3.

A. certificatePolicies

This extension MUST be present and SHOULD NOT be marked critical.

certificatePolicies:policyIdentifier (Required)

The following fields MAY be present if the Subordinate CA is not an Affiliate of the entity that controls the Root CA.

certificatePolicies:policyQualifiers:policyQualifierId (Optional)

- id-qt 1 [RFC 5280].

certificatePolicies:policyQualifiers:qualifier:cPSuri (Optional)

- HTTP URL for the Root CA's Certificate Policies, Certification Practice Statement, Relying Party Agreement, or other pointer to online policy information provided by the CA.

B. cRLDistributionPoints

This extension MUST be present and MUST NOT be marked critical. It MUST contain the HTTP URL of the CA's CRL service.

C. authorityInformationAccess

~~With the exception of stapling, which is noted below, t~~This extension MUST be present. It MUST NOT be marked critical, and it MUST contain the HTTP URL of the Issuing CA's OCSP responder (accessMethod = 1.3.6.1.5.5.7.48.1). It SHOULD also contain the HTTP URL of the Issuing CA's certificate (accessMethod = 1.3.6.1.5.5.7.48.2). ~~See Section 13.2.1 for details.~~

~~The HTTP URL of the Issuing CA's OCSP responder MAY be omitted, provided that the Subscriber "staples" the OCSP response for the Certificate in its TLS handshakes [RFC4366].~~

D. basicConstraints

This extension MUST be present and MUST be marked critical. The cA field MUST be set true. The pathLenConstraint field MAY be present.

E. keyUsage

This extension MUST be present and MUST be marked critical. Bit positions for keyCertSign and cRLSign MUST be set. If the Subordinate CA Private Key is used for signing OCSP responses, then the digitalSignature bit MUST be set.

F. nameConstraints (optional)

If present, this extension SHOULD be marked critical*.

* Non-critical Name Constraints are an exception to RFC 5280 that MAY be used until the Name Constraints extension is supported by Application Software Suppliers whose software is used by a substantial portion of Relying Parties worldwide.

(3) Subscriber Certificate

A. certificatePolicies

This extension MUST be present and SHOULD NOT be marked critical.

certificatePolicies:policyIdentifier (Required)

- A Policy Identifier, defined by the issuing CA, that indicates a Certificate Policy asserting the issuing CA's adherence to and compliance with these Requirements.

The following extensions MAY be present:

certificatePolicies:policyQualifiers:policyQualifierId (Recommended)

- id-qt 1 [RFC 5280].

certificatePolicies:policyQualifiers:qualifier:cPSuri (Optional)

- HTTP URL for the Subordinate CA's Certification Practice Statement, Relying Party Agreement or other pointer to online information provided by the CA.

B. cRLDistributionPoints

This extension MAY be present. If present, it MUST NOT be marked critical, and it MUST contain the HTTP URL of the CA's CRL service. See Section 13.2.1 for details.

C. authorityInformationAccess

With the exception of ~~stapling, which is noted below~~ certificates with validity periods of 168 hours or less, this extension MUST be present. It MUST NOT be marked critical, and it MUST contain the HTTP URL of the Issuing CA's OCSP responder (accessMethod = 1.3.6.1.5.5.7.48.1). It SHOULD also contain the HTTP URL of the Issuing CA's certificate (accessMethod = 1.3.6.1.5.5.7.48.2). ~~See Section 13.2.1 for details.~~

~~The HTTP URL of the Issuing CA's OCSP responder MAY be omitted provided that the Subscriber "staples" OCSP responses for the Certificate in its TLS handshakes [RFC4366].~~

D. basicConstraints (optional)

If present, the cA field MUST be set false.

E. keyUsage (optional)

If present, bit positions for keyCertSign and cRLSign MUST NOT be set.

F. extKeyUsage (required)

Either the value id-kp-serverAuth [RFC5280] or id-kp-clientAuth [RFC5280] or both values MUST be present. id-kp-emailProtection [RFC5280] MAY be present. Other values SHOULD NOT be present.

(4) All Certificates

All other fields and extensions MUST be set in accordance with RFC 5280. The CA SHALL NOT issue a Certificate that contains a keyUsage flag, extendedKeyUsage value, Certificate extension, or other data not specified in this Appendix B unless the CA is aware of a reason for including the data in the Certificate.

CAs SHALL NOT issue a Certificate with:

- (a) Extensions that do not apply in the context of the public Internet (such as an extendedKeyUsage value for a service that is only valid in the context of a privately managed network), unless:
 - i. such value falls within an OID arc for which the Applicant demonstrates ownership, or
 - ii. the Applicant can otherwise demonstrate the right to assert the data in a public context; or
- (b) semantics that, if included, will mislead a Relying Party about the certificate information verified by the CA (such as including extendedKeyUsage value for a smart card, where the CA is not able to verify that the corresponding Private Key is confined to such hardware due to remote issuance).