Logius
Ministerie van Binnenlandse Zaken en Koninkrijksrelaties

Programme of Requirements part 3d: Certificate Policy for certificates in Autonomous Devices (G3) Domain

Version	4.10
Date	March 1, 2022

[OID 2.16.528.1.1003.1.2.6.1] Authenticity
[OID 2.16.528.1.1003.1.2.6.2] Confidentiality
[OID 2.16.528.1.1003.1.2.6.3] Combination

Publishers imprint

Version number   4.10

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Contents

1. INTRODUCTION

1.1 Overview

Refer to Programme of Requirements part 3 Basic Requirements.

1.2 Document name and identification

1.2.1 Revisions

1.2.1.1 Version 3.7 to 4.0

New

- Requirement 4.9.9-pkio69.

Modifications

- PoR requirements have been renumbered according to a new naming convention;
- The creation of a document containing the baseline and additional requirements;
- Changes to requirements can be found in the baseline and additional requirements documents respectively.

Editorial

- Editorial changes to requirements can be found in the baseline and additional requirements documents respectively. These changes have no effect on the content of the information.

1.2.1.2 Version 4.0 to 4.1

New

- Certification against ETSI TS 102 042 (effective date no later than 4 weeks after publication of PoR 4.1);

Modifications

None.

Editorial

- Small editorial modification to the following requirement:
  - Requirement 5.7.4-pkio86.

1.2.1.3 Version 4.1 to 4.2

New

- Requirement 7.1-pkio151 (effective date 1 juli 2016).

Modifications

None.

Editorial

None.

1.2.1.4 Version 4.2 to 4.3

New

- Addition of Issuer.organizationalIdentifier in the certificate profile (effective date 1-7-2016).

Modifications

- Description with attribute CertificatePolicies (effective date 1-7-2016);
- Removal of optional use KeyAgreement with Key Usage (effective date no later than 4 weeks after publication of PoR 4.3);
- ETSI TS 102 176-1 replaced by ETSI TS 119 312 (effective date no later than 4 weeks after publication of PoR 4.3);
- Dropped requirement pkio95 because of duplicate requirement in ETSI EN 319 411-1;
- Use of values in the BasicConstraints field no longer permitted in end entity certificates (effective date 1-7-2016);
- ETSI TS 102 042 replaced by ETSI EN 319 411-1 (effective date 1-7-2016).

Editorial

- Removed references to G1 Root (expired).

1.2.1.5 Version 4.3 to 4.4

New

None.

Modifications

- Removal of requirement 5.3.2-pkio79 (effective date 1-2-2017);
- Modificaton of requirement 7.1-pkio151; use of EKUs broken down to the different certificate types (effective date 1-2-2017);
- Clarification of issuer.organizationIdentifier field (effective date 1-2-2017);
- Tightening of use optional EKUs that conflict with the parent TSP CA certificate (effective date 1-2-2017).

Editorial

- Replaced CSP (Certificate Service Provider) with TSP (Trust Service Provider) in accordance with eIDAS directive.

1.2.1.6 Version 4.4 to 4.5

New

- Mandatory English CPS (requirement 2.2-pkio3, effective date 1-10-2017);
- Mandatory yearly renewal CPS (requirement 2.2-pkio156, effective date 1-1-2017).

Modifications

- Requirement 4.9.9-pkio67 now references RFC6960 instead of RFC2560 (effective date 31-12-2016);
- Allow/require EKU emailProtection in authenticity and non-repudiation certificates in requirement 7.1-pkio149 (effectrive date1-4-2017);
- Change in OID 2.16.528.1.1003.1.2.6.1 to also cover OCSP responder certificates (effective date 1-7-2017);
- Mandatory use of field "NextUpdate" in OCSP responses (requirement 4.9.9-pkio71, effective date 1-7-2017).

Editorial

- Removed typos from certificate profile;
- Removed CRL extensions and CRL entry (Are part of annex A of the base requirements).

1.2.1.7 Version 4.5 to 4.6

New

None.

Modifications

None.

Editiorial

None.

1.2.1.8 Version 4.6 to 4.7

New

- Requirement 7.1-pkio177 (effective date immediately after publication PoR 4.7).

Modifications

- Description of a number of certificate attributes replaced by reference to requirement 7.1-pkio174 (effective date 8 weeks after publication PoR 4.7);
- Reference to CWA 14 169 amended to EN 419 211 for QSCDs. This also sets requirements for the issue of QSCDs for requirements 6.1.1-pkio88, 6.2.11-pkio105, 6.4.1-pkio112 and 4.9.1-pkio52 (effective date immediately after publication PoR 4.7).

Editiorial

None.

1.2.1.9 Version 4.7 to 4.8

New

None.

Modifications

- Requirement 9.17-pkio139 removed (effective date immediately after publication PoR 4.8);
- Change in serial number requirements in requirement 7.1-pkio173 (effective date August 29, 2019).

Editiorial

- Reference to ETSI TS 101 456 7.2.8.d changed to 411-1 in requirement 6.1.2-pkio94 (effective date immediately after publication PoR 4.8);
- Private key definition change in requirement 4.9.1-pkio52 (effective date immediately after publication PoR 4.8);
- Reference change in requirement 4.9.9-pkio68 (effective date immediately after publication PoR 4.8).

1.2.1.10 Version 4.8 to 4.9

New

- Requirement 2.2-pkio191, the CPS of the TSP MUST follow the layout according to RFC 3647 (effective date after 01-04-2020).
- Requirement 4.9.1-pkio192, describes when certificates will be revoked (effective date 02-17-2020).

Modifications

- Removed PoR Part 3d from scope of additional requirement 4.9.1-pkio52 (effective date immediately after publication PoR 4.9).
- Changed long description in 6.1.1-pkio89, in addition, the TSP must also follow the requirements described in Chapters 5.1 and 5.1.1 of the most current Mozilla Root Store Policy (effective date 01-03-2020).
- Changed in the certificate profiles the criteria and description for basic attribute "subject.title" from O to V/N (effective date 02-12-2021).

Removals

- Requirement 4.9.3-pkio58 has been removed (effective date immediately after publication PoR 4.9).

- Requirement 6.1.1-pkio87 has been removed (effective date immediately after publication PoR 4.9).

Editorial

None.

1.2.1.11 Version 4.9 to 4.10

New

- Added basic requirement 8.2-pkio199.
- Added new additional requirement 8.4-pkio196.

Modifications

- Change the description, explanation, and criterium of the `extensions:subjectAltName:otherName` attribute in the certificate profile.
- Expand the description of the extensions:certificatePolicies field in the certificate profile with additional ETSI 319 411 certificate policies.
- Change the `extensions:certificatePolicies:policyQualifiers:qualifier:userNotice` field criteria to "MAY" in the certificate profile.
- Replace Telecommunications Act with eDIAS in requirement 9.6.1-pkio127.

Removals

- Remove the `subject:postalAddress` attribute from the certificate profile.
- Remove the `subject:organizationalUnitName` attribute from the certificate profile.
- Remove the `extensions:freshestCRL` field from the certificate profile.
- Remove requirement 9.6.1-pkio128.

Editorial

- Editorial changes in the description and explanation of the `extensions:certificatePolicies:policyQualifiers:qualifier:userNotice` field in the certificate profile resulting from combining change 450 with change 445.13.
- Expanded the description of the `extensions:basicConstraints` field in the certificate profile.
- Editorial changes to requirement 9.6.1-pkio127.
- Fix a regression error in the description field of the `subject:title` attribute in the certificate profile.

1.2.2 Relevant dates

Version	Date	Description
4.0	12-2014	Ratified by the Ministry of the Interior and Kingdom Relations December 2014
4.1	07-2015	Ratified by the Ministry of the Interior and Kingdom Relations July 2015
4.2	01-2016	Ratified by the Ministry of the Interior and Kingdom Relations January 2016
4.3	07-2016	Ratified by the Ministry of the Interior and Kingdom Relations July 2016
4.4	02-2017	Ratified by the Ministry of the Interior and Kingdom Relations February 2017

4.5	07-2017	Ratified by the Ministry of the Interior and Kingdom Relations July 2017
4.6	01-2018	Ratified by the Ministry of the Interior and Kingdom Relations January 2018
4.7	01-2019	Ratified by the Ministry of the Interior and Kingdom Relations January 2019
4.8	02-2020	Ratified by the Ministry of the Interior and Kingdom Relations February 2020
4.9	02-2021	Ratified by the Ministry of the Interior and Kingdom Relations February 2021

1.3 PKI participants

1.3.1 Certification authorities

In this document the distinction is made between the term Certification Authority (CA) and Trust Service Provider. In international usage, "CA" is an umbrella term that refers to all entities authorized to issue, manage, revoke, and renew certificates. This can apply to the actual CA certificate as well as the organization. In this CP, the organization which holds a CA is refered to as a TSP. The term CA is used to refer to the infrastructure and keymaterial from which a TSP issues and signs certificates. This CP covers all certificates issued and signed by the following CAs hereinafter referred to as TSPs.

Common Name	Not Before	Not After	Serial Number	SHA256 Fingerprint
MinIenW PKIoverheid Autonome Apparaten CA - G3	16 Apr 2019	12 Nov 2028	5330e0ecb867478f9b9ec61 199b09b7842266950	06436AC8D0C8E120A5B5F A8C2BCDCB2F1F80585E79 C77B7E0F8D0F6168D9C45 E

1.3.2 Registration authorities

Refer to Programme of Requirements part 3 Basic Requirements.

1.3.3 Subscribers

Refer to Programme of Requirements part 3 Basic Requirements.

1.3.4 Relying parties

Refer to Programme of Requirements part 3 Basic Requirements.

1.3.5 Other participants

Refer to Programme of Requirements part 3 Basic Requirements.

1.4 Certificate usage

1.4.1 Appropiate certificate uses

The use of certificates issued under this CP relates to communication from certificate holders who act in accordance with their certified operation.

[OID 2.16.528.1.1003.1.2.6.1]

Authenticity certificates, which are issued under this CP, can be used for electronically reliably identifying and authenticating the Autonomous Device and its certified operation.

Under this OID OCSP responder certificates may be issued for use within the domain Autonomous Devices. Said certificates can be used to sign OCSP responses for use in the verification of the validity of the end user certificate. More information can be obtained in appendix A of the base requirements.

[OID 2.16.528.1.1003.1.2.6.2]

Confidentiality certificates, issued under this CP, can be used to protect the confidentiality of data that is exchanged with the Autonomous Device and/or stored in that in its electronic form.

[OID 2.16.528.1.1003.1.2.6.3]

Combination certificates that are issued under this CP can be used to safeguard a connection between a specific client and an Autonomous Device.

1.4.2 Prohibited certificate uses

Refer to Programme of Requirements part 3 Basic Requirements.

1.5 Policy administration

1.5.1 Organization administering the document

The Ministry of Interior and Kingdom Relations (BZK) is responsible for this CPS. BZK has delegated this responsibility to Logius, including approval of changes of this document.

1.5.2 Contact person

Policy Authority PKIoverheid
Wilhelmina van Pruisenweg 52
Postbus 96810
2509 JE DEN HAAG
http://www.logius.nl/pkioverheid
servicecentrum@logius.nl[1]

1.5.3 Person determining CPS suitability for the policy

The Policy Authority PKIoverheid (PA) determines the suitability of CPSs published as a result of this CP.

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1 mailto:servicecentrum@logius.nl

1.5.4 CP approval procedures

The PA PKIoverheid reserves the right to amend this CP. Changes are applicable from the date that is listed in section *1.2.2. Relevant dates*. The management of Logius is responsible for following the procedures as listed in section *9.12 Amendments* and final approval of this CP.

1.6 Definitions and acronyms

1.6.1 Conventions

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD","SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in these Requirements MUST be interpreted in accordance with RFC 2119.

2. PUBLICATION AND REPOSITORY RESPONSIBILITIES

2.1 Repositories

Refer to Programme of Requirements part 3 Basic Requirements.

2.2 Publication of certification information

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

2.2-pkio191 —

Description	The CPS of the TSP MUST follow the layout according to RFC 3647. All sections and subsections as defined in RFC3647 MUST be included in the CPS. Empty passages are not allowed. If there is no further requirement or explanation from a TSP for that paragraph, the text "No stipulation" MUST be included. Additional sections may be included, as long as they come after the sections and subsections defined by RFC 3647 and therefore do not change the RFC numbering.
Comment	-

2.2-pkio3 —

Description	The CPS MUST be available in English. If a CPS is published in multiple languages there MUST be no substantial substantive difference between the different versions. In case of interpretation disputes related to CPS texts the English language version SHALL always be leading.
Comment	-

2.3 Time or frequency of publication

Refer to Programme of Requirements part 3 Basic Requirements.

2.4 Access controls on repositories

Refer to Programme of Requirements part 3 Basic Requirements.

3. IDENTIFICATION AND AUTHENTICATION

3.1 Naming

3.1.1 Types of names
Refer to Programme of Requirements part 3 Basic Requirements.

3.1.2 Need for names to be meaningful
Refer to Programme of Requirements part 3 Basic Requirements.

3.1.3 Anonymity or pseudonymity of subscribers
Refer to Programme of Requirements part 3 Basic Requirements.

3.1.4 Rules for interpreting various name forms
Refer to Programme of Requirements part 3 Basic Requirements.

3.1.5 Uniqueness of names
Refer to Programme of Requirements part 3 Basic Requirements.

3.1.6 Recognition, authentication, and role of trademarks
Refer to Programme of Requirements part 3 Basic Requirements.

3.2 Initial identity validation

3.2.1 Method to prove possession of private key
Refer to Programme of Requirements part 3 Basic Requirements.

3.2.2 Authentication of organization identity
Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

📄 3.2.2-pkio144 —

Description	The TSP has to verify that the name of the organization registered by the subscriber that is incorporated in the certificate is correct and complete
Comment	-

📄 3.2.2-pkio186 —

Description	If an organization changes its name but the underlying registration number (e.g. HRN) remains the same, then the subscriber DOES NOT have to go through the subscription registration again. If the organization name remains the same but the underlying registration number changes, then the TSP MUST perform the subscription registration again. In both cases, the existing certificate must be withdrawn because the data in the certificate no longer conforms to the originally validated data.

Comment	-

📄 3.2.2-pkio4 —

Description	The TSP has to verify that the subscriber is an existing organization.
Comment	-

3.2.3 Authentication of individual identity

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

📄 3.2.3-pkio22 —

Description	In accordance with Dutch legislation and regulations, the TSP has to check the identity and, if applicable, specific properties of the certificate manager. Proof of identity has to be verified based on the physical appearance of the person himself, either directly or indirectly, using means by which the same certainty can be obtained as with personal presence. The proof of identity can be supplied on paper or electronically.
Comment	-

📄 3.2.3-pkio24 —

Description	The identity of the certificate manager can only be established using the valid documents referred to in article 1 of the Compulsory Identification Act (Wet op de identificatieplicht). The TSP has to check the validity and authenticity of these documents.
Comment	If the personal identity of the certificate manager is verified when a certificate is requested in the Government, Companies and Organization Domains, then the identity verification of the certificate manager will be considered to have taken place under this CP.

📄 3.2.3-pkio26 —

Description	The certificate manager is a person whose identity has to be established in conjunction with an organizational entity. Proof has to be submitted of: • full name, including surname, first name, initials or other first (names) (if applicable) and surname prefixes (if applicable); • date of birth and place of birth, a nationally applicable registration number, or other characteristics of the certificate manager that can be used in order to, as far as possible, distinguish this person from other persons with the same name; • proof that the certificate manager is entitled to receive a certificate for a certificate holder on behalf of the legal personality or other organizational entity.
Comment	-

3.2.4 Non-verified subscriber information

Refer to Programme of Requirements part 3 Basic Requirements.

3.2.5 Validation of authority

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

📄 3.2.5-pkio31 —

Description	The TSP has to verify that: • the proof that the certificate holder is authorized to receive a certificate on behalf of the subscriber, is authentic; • the certificate manager has received the consent of the subscriber to perform the actions that he has been asked to perform (if the certificate manager performs the registration process). • the requested certificate in combination with the permanently stored data in the certificate holder (device) contain information to be able to trace the following unequivocally: - the device's identity (e.g. manufacturer and serial number); - the proof that the device and its production process conform to the framework of standards established by the party responsible for establishing the framework.
Comment	The "certificate manager" who takes over those actions from the certificate holder does not necessarily have to be the same person as the person who produces or uses the certificate holder (the device). Also the knowledge of the activation data of the key material (for example PIN) can be shared by various people if the organization of the certificate management requires that. However, it is recommended that as few people as possible have knowledge of the PIN. It would also be wise to take measures that restrict access to the PIN. An example of this is placing the PIN in a safe to which only authorized persons can gain access in certain situations.

📄 3.2.5-pkio34 —

Description	The agreement that the TSP enters into with the subscriber has to state that the subscriber is responsible for immediately informing the TSP of any relevant amendments to the relation between the subscriber and certificate manager and/or certificate holder (autonomous device). If the device fails, this has to be done using a revocation request.
Comment	-

3.2.6 Criteria for interoperation

Refer to Programme of Requirements part 3 Basic Requirements.

3.3 Identification and authentication for re-key requests

3.3.1 Identification and authentication for routine re-key

Refer to Programme of Requirements part 3 Basic Requirements.

3.3.2 Identification and authentication for re-key after revocation

Refer to Programme of Requirements part 3 Basic Requirements.

3.4 Identification and authentication for revocation request

Refer to Programme of Requirements part 3 Basic Requirements.

4. CERTIFICATE LIFE-CYCLE OPERATIONAL REQUIREMENTS

4.1 Certificate Application

4.1.1 Who can submit a certificate application
Refer to Programme of Requirements part 3 Basic Requirements.

4.1.2 Enrollment process and responsibilities
Refer to Programme of Requirements part 3 Basic Requirements.

4.2 Certificate application processing

4.2.1 Performing identification and authentication functions
Refer to Programme of Requirements part 3 Basic Requirements.

4.2.2 Approval or rejection of certificate applications
Refer to Programme of Requirements part 3 Basic Requirements.

4.2.3 Time to process certificate applications
Refer to Programme of Requirements part 3 Basic Requirements.

4.3 Certificate issuance

4.3.1 CA actions during certificate issuance
Refer to Programme of Requirements part 3 Basic Requirements.

4.3.2 Notification to subscriber by the CA of issuance of Certificate
Refer to Programme of Requirements part 3 Basic Requirements.

4.4 Certificate acceptance

4.4.1 Conduct constituting certificate acceptance
Refer to Programme of Requirements part 3 Basic Requirements.

4.4.2 Publication of the certificate by the CA
Refer to Programme of Requirements part 3 Basic Requirements.

4.4.3 Notification of certificate issuance by the CA to other Entities
Refer to Programme of Requirements part 3 Basic Requirements.

4.5 Key pair and certificate usage

4.5.1 Subscriber private key and certificate usage
Refer to Programme of Requirements part 3 Basic Requirements.

4.5.2 Relying party public key and certificate usage

Refer to Programme of Requirements part 3 Basic Requirements.

4.6 Certificate renewal

4.6.1 Circumstance for certificate renewal

Refer to Programme of Requirements part 3 Basic Requirements.

4.6.2 Who may request renewal

Refer to Programme of Requirements part 3 Basic Requirements.

4.6.3 Processing certificate renewal requests

Refer to Programme of Requirements part 3 Basic Requirements.

4.6.4 Notification of new certificate issuance to subscriber

Refer to Programme of Requirements part 3 Basic Requirements.

4.6.5 Conduct constituting acceptance of a renewal certificate

Refer to Programme of Requirements part 3 Basic Requirements.

4.6.6 Publication of the renewal certificate by the CA

Refer to Programme of Requirements part 3 Basic Requirements.

4.6.7 Notification of certificate issuance by the CA to other entities

Refer to Programme of Requirements part 3 Basic Requirements.

4.7 Certificate re-key

4.7.1 Circumstance for certificate re-key

Refer to Programme of Requirements part 3 Basic Requirements.

4.7.2 Who may request certification of a new public key

Refer to Programme of Requirements part 3 Basic Requirements.

4.7.3 Processing certificate re-keying requests

Refer to Programme of Requirements part 3 Basic Requirements.

4.7.4 Notification of new certificate issuance to subscriber

Refer to Programme of Requirements part 3 Basic Requirements.

4.7.5 Conduct constituting acceptance of a re-keyed certificate

Refer to Programme of Requirements part 3 Basic Requirements.

4.7.6 Publication of the re-keyed certificate by the CA
    Refer to Programme of Requirements part 3 Basic Requirements.

4.7.7 Notification of certificate issuance by the CA to other entities
    Refer to Programme of Requirements part 3 Basic Requirements.

4.8 Certificate modification

4.8.1 Circumstance for certificate modification
    Refer to Programme of Requirements part 3 Basic Requirements.

4.8.2 Who may request certificate modification
    Refer to Programme of Requirements part 3 Basic Requirements.

4.8.3 Processing certificate modification requests
    Refer to Programme of Requirements part 3 Basic Requirements.

4.8.4 Notification of new certificate issuance to subscriber
    Refer to Programme of Requirements part 3 Basic Requirements.

4.8.5 Conduct constituting acceptance of modified certificate
    Refer to Programme of Requirements part 3 Basic Requirements.

4.8.6 Publication of the modified certificate by the CA
    Refer to Programme of Requirements part 3 Basic Requirements.

4.8.7 Notification of certificate issuance by the CA to other entities
    Refer to Programme of Requirements part 3 Basic Requirements.

4.9 Certificate revocation and suspension

4.9.1 Circumstances for revocation
    Refer to Programme of Requirements part 3 Basic Requirements.
    Additional requirements:
📄 4.9.1-pkio192 —

Description	Certificates will be revoked when:
	• the subscriber indicates that the original request for a certificate was not allowed and the subscriber does not grant permission retroactively; • the TSP has sufficient evidence that the subscriber's private key (associated with the corresponding certificate) has been compromised or there is a suspicion of compromise, inherent security weakness, or that the certificate has been misused in another way . A key is considered compromised in the event of unauthorized access or suspected unauthorized access to the private key, lost or presumably lost private key, SSCD, SUD or QSCD, stolen or presumably stolen key, SSCD, SUD or QSCD or destroyed key, SSCD, SUD or QSCD if applicable; • a subscriber does not fulfill his obligations as set out in this CP or the corresponding CPS of the TSP or the agreement that the TSP has with the subscriber; • the TSP is informed or otherwise becomes aware of a material change in the information contained in the certificate. An example of this is: change of the name of the certificate holder (service); • the TSP determines that the certificate has not been issued in accordance with this CP or the associated CPS of the TSP or the agreement that the TSP has with the subscriber; • the TSP determines that information in the certificate is incorrect or misleading; • the TSP ceases its activities and the CRL and OCSP services are not continued by another TSP; • the PA of PKIoverheid determines that the technical content of the certificate entails an irresponsible risk for subscribers, relying parties and third parties (e.g. browser parties); • one of the events occurs, as described in chapter 6.2 of the Mozilla Root Store Policy[2].
Comment	-

4.9.2 Who can request revocation

Refer to Programme of Requirements part 3 Basic Requirements.

4.9.3 Procedure for revocation request

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

📄 4.9.3-pkio57 —

Description	In any case, the TSP has to use a CRL to make the certificate status information available.
Comment	-

4.9.4 Revocation request grace period

Refer to Programme of Requirements part 3 Basic Requirements.

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2 https://www.mozilla.org/en-US/about/governance/policies/security-group/certs/policy/

4.9.5 Time within which CA must process the revocation request

Refer to Programme of Requirements part 3 Basic Requirements.

4.9.6 Revocation checking requirement for relying parties

Refer to Programme of Requirements part 3 Basic Requirements.

4.9.7 CRL issuance frequency (if applicable)

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

4.9.7-pkio65 —

Description	The TSP has to update and reissue the CRL for end user certificates at least once every 7 calendar days and the date of the "Next update" field may not exceed the date of the "Effective date" field by 10 calendar days.
Comment	-

4.9.8 Maximum latency for CRLs (if applicable)

Refer to Programme of Requirements part 3 Basic Requirements.

4.9.9 On-line revocation/status checking availability

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

4.9.9-pkio66 —

Description	The revocation management services of the TSP can support the Online Certificate Status Protocol (OCSP) as an addition to the publication of CRL information. If this support is available, this has to be stated in the CPS.
Comment	If OCSP is offered the following requirements are applicable: • 1.1-pkio10 (basic requirement) • 9.5-pkio61 (basic requirement) • 9.9-pkio67 • 9.9-pkio68 • 9.5-pkio69 (basic requirement) • 9.9-pkio70 • 9.9-pkio71 • 10.2-pkio73 (basic requirement) NB: (EV) server certificates MUST use OCSP services as stipulated in ETSI EN 319 411-1 and the Baseline Requirements.

4.9.10 On-line revocation checking requirements

Refer to Programme of Requirements part 3 Basic Requirements.

4.9.11 Other forms of revocation advertisements available

Refer to Programme of Requirements part 3 Basic Requirements.

4.9.12 Special requirements related to key compromise

Refer to Programme of Requirements part 3 Basic Requirements.

4.9.13 Circumstances for suspension

Refer to Programme of Requirements part 3 Basic Requirements.

4.9.14 Who can request suspension

Refer to Programme of Requirements part 3 Basic Requirements.

4.9.15 Procedure for suspension request

Refer to Programme of Requirements part 3 Basic Requirements.

4.9.16 Limits on suspension period

Refer to Programme of Requirements part 3 Basic Requirements.

4.10 Certificate status services

4.10.1 Operational characteristics

Refer to Programme of Requirements part 3 Basic Requirements.

4.10.2 Service availability

Refer to Programme of Requirements part 3 Basic Requirements.

4.10.3 Optional features

Refer to Programme of Requirements part 3 Basic Requirements.

4.11 End of subscription

Refer to Programme of Requirements part 3 Basic Requirements.

4.12 Key escrow and recovery

4.12.1 Key escrow and recovery policy and practices

Refer to Programme of Requirements part 3 Basic Requirements.

4.12.2 Session key encapsulation and recovery policy and practices

Refer to Programme of Requirements part 3 Basic Requirements.

5. FACILITY, MANAGEMENT, AND OPERATIONAL CONTROLS

5.1 Physical controls

5.1.1 Site location and construction

Refer to Programme of Requirements part 3 Basic Requirements.

5.1.2 Physical access

Refer to Programme of Requirements part 3 Basic Requirements.

5.1.3 Power and air conditioning

Refer to Programme of Requirements part 3 Basic Requirements.

5.1.4 Water exposures

Refer to Programme of Requirements part 3 Basic Requirements.

5.1.5 Fire prevention and protection

Refer to Programme of Requirements part 3 Basic Requirements.

5.1.6 Media storage

Refer to Programme of Requirements part 3 Basic Requirements.

5.1.7 Waste disposal

Refer to Programme of Requirements part 3 Basic Requirements.

5.1.8 Off-site backup

Refer to Programme of Requirements part 3 Basic Requirements.

5.2 Procedural controls

5.2.1 Trusted roles

Refer to Programme of Requirements part 3 Basic Requirements.

5.2.2 Number of persons required per task

Refer to Programme of Requirements part 3 Basic Requirements.

5.2.3 Identification and authentication for each role

Refer to Programme of Requirements part 3 Basic Requirements.

5.2.4 Roles requiring separation of duties

Refer to Programme of Requirements part 3 Basic Requirements.

5.3 Personnel controls

5.3.1 Qualifications, experience, and clearance requirements

Refer to Programme of Requirements part 3 Basic Requirements.

5.3.2 Background check procedures

Refer to Programme of Requirements part 3 Basic Requirements.

5.3.3 Training requirements

Refer to Programme of Requirements part 3 Basic Requirements.

5.3.4 Retraining frequency and requirements

Refer to Programme of Requirements part 3 Basic Requirements.

5.3.5 Job rotation frequency and sequence

Refer to Programme of Requirements part 3 Basic Requirements.

5.3.6 Sanctions for unauthorized actions

Refer to Programme of Requirements part 3 Basic Requirements.

5.3.7 Independent contractor requirements

Refer to Programme of Requirements part 3 Basic Requirements.

5.3.8 Documentation supplied to personnel

Refer to Programme of Requirements part 3 Basic Requirements.

5.4 Audit logging procedures

5.4.1 Types of events recorded

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

📄 5.4.1-pkio80 —

Description	Logging has to take place on at least:
	- Routers, firewalls and network system components; - Database activities and events; - Transactions; - Operating systems; - Access control systems; - Mail servers. At the very least, the TSP has to log the following events: - CA key life cycle management; - Certificate life cycle management; - Threats and risks such as: - Successful and unsuccessful attacks on the PKI system; - Activities of staff on the PKI system; - Reading, writing and deleting data; - Profile changes (Access Management); - System failure, hardware failure and other abnormalities; - Firewall and router activities; - Entering and leaving the CA space. At the very least, the log files have to register the following: - Source addresses (IP addresses if available); - Destination addresses (IP addresses if available); - Time and date; - User IDs (if available); - Name of the incident; - Description of the incident.
Comment	Based on a risk analysis the TSP determines which data it should save.

5.4.2 Frequency of processing log

Refer to Programme of Requirements part 3 Basic Requirements.

5.4.3 Retention period for audit log

Refer to Programme of Requirements part 3 Basic Requirements.

5.4.4 Protection of audit log

Refer to Programme of Requirements part 3 Basic Requirements.

5.4.5 Audit log backup procedures

Refer to Programme of Requirements part 3 Basic Requirements.

5.4.6 Audit collection system (internal vs. external)

Refer to Programme of Requirements part 3 Basic Requirements.

5.4.7 Notification to event-causing subject

Refer to Programme of Requirements part 3 Basic Requirements.

5.4.8 Vulnerability assessments

Refer to Programme of Requirements part 3 Basic Requirements.

5.5 Records archival

5.5.1 Types of records archived

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

5.5.1-pkio82 —

Description	The TSP MUST archive all information used to verify the identity of the subscriber, certificate manager and applicants of revocation requests. This information includes reference numbers of the documentation used for verification, including limitations concerning the validity.
Comment	-

5.5.2 Retention period for archive

Refer to Programme of Requirements part 3 Basic Requirements.

5.5.3 Protection of archive

Refer to Programme of Requirements part 3 Basic Requirements.

5.5.4 Archive backup procedures

Refer to Programme of Requirements part 3 Basic Requirements.

5.5.5 Requirements for time-stamping of records

Refer to Programme of Requirements part 3 Basic Requirements.

5.5.6 Archive collection system (internal or external)

Refer to Programme of Requirements part 3 Basic Requirements.

5.5.7 Procedures to obtain and verify archive information

Refer to Programme of Requirements part 3 Basic Requirements.

5.6 Key changeover

Refer to Programme of Requirements part 3 Basic Requirements.

5.7 Compromise and disaster recovery

5.7.1 Incident and compromise handling procedures

Refer to Programme of Requirements part 3 Basic Requirements.

5.7.2 Computing resources, software, and_or data are corrupted

Refer to Programme of Requirements part 3 Basic Requirements.

5.7.3 Entity private key compromise procedures

Refer to Programme of Requirements part 3 Basic Requirements.

5.7.4 Business continuity capabilities after a disaster

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

5.7.4-pkio86 —

Description	The TSP has to draw up a business continuity plan (BCP) for, at the very least, the core services dissemination service, revocation management service and revocation status service, the aim being, in the event of a security breach or emergency, to inform, reasonably protect and to continue the TSP services for subscribers, relying parties and third parties (including browser parties). The TSP has to test, assess and update the BCP annually. At the very least, the BCP has to describe the following processes: • Requirements relating to entry into force; • Emergency procedure/fall-back procedure; • Requirements relating to restarting TSP services; • Maintenance schedule and test plan that cover the annual testing, assessment and update of the BCP; • Provisions in respect of highlighting the importance of business continuity; • Tasks, responsibilities and competences of the involved agents; • Intended Recovery Time or Recovery Time Objective (RTO); • Recording the frequency of back-ups of critical business information and software; • Recording the distance of the fall-back facility to the TSP's main site; and • Recording the procedures for securing the facility during the period following a security breach or emergency and for the organization of a secure environment at the main site or fall-back facility.
Comment	-

5.8 CA or RA termination

Refer to Programme of Requirements part 3 Basic Requirements.

6. TECHNICAL SECURITY CONTROLS

6.1 Key pair generation and installation

6.1.1 Key pair generation

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

6.1.1-pkio88 —

Description	The keys of certificate holders (or data for creating electronic signatures) have to be generated using a device that fulfils the requirements mentioned in EN 419 211 for QSCD's or CWA 14169 for SSCD's (transitional permission regime) "Secure signature-creation devices "EAL 4+"" or comparable security criteria.
Comment	-

6.1.1-pkio89 —

Description	The algorithm and length of the cryptographic keys that the TSP uses to generate the keys of certificate holders must meet the requirements set in the list of cryptographic algorithms and key lengths, as defined in ETSI TS 119 312. In addition, the TSP must also follow the requirements described in Chapters 5.1 and 5.1.1 of the most current Mozilla Root Store Policy. The use of RSA-PSS is permitted, but is not recommended.
Comment	Although ETSI TS 119 312 outlines the recommended algorithms and key lengths, these are compulsory within the PKI for the government. Requests relating to the use of other algorithms have to be submitted, along with the reasoning behind this, to the PA of the PKI for the government.

6.1.2 Private key delivery to subscriber

Refer to Programme of Requirements part 3 Basic Requirements.

6.1.3 Public key delivery to certificate issuer

Refer to Programme of Requirements part 3 Basic Requirements.

6.1.4 CA public key delivery to relying parties

Refer to Programme of Requirements part 3 Basic Requirements.

6.1.5 Key sizes

Refer to Programme of Requirements part 3 Basic Requirements.

6.1.6 Public key parameters generation and quality checking

Refer to Programme of Requirements part 3 Basic Requirements.

6.1.7 Key usage purposes (as per X.509 v3 key usage field)

Refer to Programme of Requirements part 3 Basic Requirements.

6.2 Private Key Protection and Cryptographic Module Engineering Controls

6.2.1 Cryptographic module standards and controls

Refer to Programme of Requirements part 3 Basic Requirements.

6.2.2 Private key (n out of m) multi-person control

Refer to Programme of Requirements part 3 Basic Requirements.

6.2.3 Private key escrow

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

▤ 6.2.3-pkio100 —

Description	The TSP has to describe in the CPS which parties can have access to the private key of the confidentiality certificate held in Escrow and under which conditions.
Comment	-

▤ 6.2.3-pkio99 —

Description	The authorized persons who can gain access to the private key of the confidentiality certificate held in Escrow by the TSP (if applicable), have to identify themselves using the valid documents listed in article 1 of the Compulsory Identification Act (Wet op de identificatieplicht), or a valid qualified certificate (limited to a PKIoverheid signature certificate or equivalent).
Comment	-

6.2.4 Private key backup

Refer to Programme of Requirements part 3 Basic Requirements.

6.2.5 Private key archival

Refer to Programme of Requirements part 3 Basic Requirements.

6.2.6 Private key transfer into or from a cryptographic module

Refer to Programme of Requirements part 3 Basic Requirements.

6.2.7 Private key storage on cryptographic module

Refer to Programme of Requirements part 3 Basic Requirements.

6.2.8 Method of activating private key

Refer to Programme of Requirements part 3 Basic Requirements.

6.2.9 Method of deactivating private key

Refer to Programme of Requirements part 3 Basic Requirements.

6.2.10 Method of destroying private key

Refer to Programme of Requirements part 3 Basic Requirements.

6.2.11 Cryptographic Module Rating

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

6.2.11-pkio105 —

Description	Instead of demonstrating compliance with CWA 14169 (for SSCD's or SUD's) or EN 419 211 (for QSCD's), TSPs can issue or recommend SSCDs, SUDs or QSCDs that are certified in line with a different protection profile against the Common Criteria (ISO/IEC 15408) at level EAL4+ or that have a comparable security level. This has to be established by a test laboratory that is accredited for performing Common Criteria evaluations.
Comment	-

6.2.11-pkio125 —

Description	Secure devices issued or recommended by the TSP for storage of keys (SUDs) have to fulfil the requirements laid down in document CWA 14169 "Secure signature-creation devices "EAL 4+""
Comment	-

6.3 Other aspects of key pair management

6.3.1 Public key archival

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

6.3.1-pkio108 —

Description	[OID 2.16.528.1.1003.1.2.2.2, 2.16.528.1.1003.1.2.5.2 and 2.16.528.1.1003.1.2.3.2] The signature certificate has to be saved during the term of validity and furthermore during a period of at least seven years after the date on which the validity of the certificate expired.
Comment	The Electronic Signature Regulation article 2, paragraph 1i stipulates a term of seven years. No further provisions apply to the authenticity certificate and the confidentiality certificate in relation to archiving public keys.

6.3.2 Certificate operational periods and key pair usage periods

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

6.3.2-pkio111 —

Description	Private keys that are used by a certificate holder and issued under the responsibility of this CP must not be used for more than ten years. The certificates, which are issued under the responsibility of this CP, must not be valid for more than ten years.
Comment	The TSPs within the Autonomous Devices domain of the PKI for the government cannot issue certificates with a maximum term of validity of ten years until the PA has provided explicit permission for this.

6.4 Activation data

6.4.1 Activation data generation and installation

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

6.4.1-pkio112 —

Description	The TSP attaches activation data to the use of a SUD, SSCD or QSCD, to protect the private keys of the certificate holders.
Comment	The requirements that the activation data (for example the PIN code) have to fulfil can be determined by the TSPs themselves based on, for example, a risk analysis. Requirements that could be considered are the length of the PIN code and use of special characters.

6.4.1-pkio113 —

Description	An unlocking code can only be used if the TSP can guarantee that, at the very least, the security requirements are fulfilled that are laid down in respect of the use of the activation data.
Comment	-

6.4.2 Activation data protection

Refer to Programme of Requirements part 3 Basic Requirements.

6.4.3 Other aspects of activation data

Refer to Programme of Requirements part 3 Basic Requirements.

6.5 Computer security controls

6.5.1 Specific computer security technical requirements

Refer to Programme of Requirements part 3 Basic Requirements.

6.5.2 Computer security rating

Refer to Programme of Requirements part 3 Basic Requirements.

6.6 Life cycle technical controls

6.6.1 System development controls

Refer to Programme of Requirements part 3 Basic Requirements.

6.6.2 Security management controls

Refer to Programme of Requirements part 3 Basic Requirements.

6.6.3 Life cycle security controls

Refer to Programme of Requirements part 3 Basic Requirements.

6.7 Network security controls

6.7.1 Network security controls (duplicate)

Refer to Programme of Requirements part 3 Basic Requirements.

6.8 Time-stamping

Refer to Programme of Requirements part 3 Basic Requirements.

7. CERTIFICATE, CRL, AND OCSP PROFILES

7.1 Certificate profile

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

7.1-pkio151 —

Description	The certificate extension Extended Key Usage MUST be present, MUST NOT be marked "critical", and MUST contain at least the following KeyPurposIds:
	For an Autonomous Devices – authenticity certificate:
	Client Authentication =1.3.6.1.5.5.7.3.2
	For an Autonomous Devices – confidentiality certificate:
	emailProtection =1.3.6.1.5.5.7.3.4
	Encrypting File System =1.3.6.1.4.1.311.10.3.4
	For an Autonomous Devices – combination certificate:
	client Authentication =1.3.6.1.5.5.7.3.2
	document Signing =1.3.6.1.4.1.311.10.3.12
	emailProtection =1.3.6.1.5.5.7.3.4
	Encrypting File System =1.3.6.1.4.1.311.10.3.4
	The KeyPurposeId id-kp-serverAuth MUST NOT be present, the KeyPurposeId id-kp-codeSigning MUST NOT be present, the KeyPurposeId AnyextendedKeyusage MUST NOT be present and any KeyPurposeId solely intended to identify a service based on its FQDN MUST NOT be present.
	Specifically for G2 certificates any other KeyPurposeId defined in an open or accepted standard corresponding to the key usage as indicated by the KeyUsage extension MAY be present. In the G3 and following generations this extension MAY NOT be present.
	The above should take into account the EKUs included in the issuing TSP CA. If the issuing TSP CA is not provided with the mandatory EKUs stated above, these MAY NOT be included in the end-user certificate.
Comment	-

7.1-pkio173 —

Description	The serial number of all end-user certificates must meet the following requirements: a. The value of the serial number MUST NOT be 0 (zero); b. The value of the serial number MUST NOT be negative; c. The value of the serial number MUST be unique within the population of end-user certificates issued under an issuing TSP CA; d. The serial number MUST have a minimum length of 96 bits (12 octets); e. The value of the serial number MUST contain at least 64 bits of unpredictable random data; f. Said random data MUST be generated by a Cryptographically Secure Pseudorandom Number Generator (CSPRNG); g. The serial number MUST NOT be longer than 160 bits (20 octets).
Comment	-

7.1.1 Version number(s)

Refer to Programme of Requirements part 3 Basic Requirements.

7.1.2 Certificate extensions

Refer to Programme of Requirements part 3 Basic Requirements.

7.1.3 Algorithm object identifiers

Refer to Programme of Requirements part 3 Basic Requirements.

7.1.4 Name forms

Refer to Programme of Requirements part 3 Basic Requirements.

7.1.5 Name constraints

Refer to Programme of Requirements part 3 Basic Requirements.

7.1.6 Certificate policy object identifier

Refer to Programme of Requirements part 3 Basic Requirements.

7.1.7 Usage of Policy Constraints extension

Refer to Programme of Requirements part 3 Basic Requirements.

7.1.8 Policy qualifiers syntax and semantics

Refer to Programme of Requirements part 3 Basic Requirements.

7.1.9 Processing semantics for the critical Certificate Policies extension

Refer to Programme of Requirements part 3 Basic Requirements.

7.2 CRL profile

7.2.1 Version number(s)

Refer to Programme of Requirements part 3 Basic Requirements.

7.2.2 CRL and CRL entry extensions

Refer to Programme of Requirements part 3 Basic Requirements.

7.3 OCSP profile

7.3.1 Version number(s)

Refer to Programme of Requirements part 3 Basic Requirements.

7.3.2 OCSP extensions

Refer to Programme of Requirements part 3 Basic Requirements.

8. COMPLIANCE AUDIT AND OTHER ASSESSMENTS

8.1 Frequency or circumstances of assessment

Refer to Programme of Requirements part 3 Basic Requirements.

8.2 Identity/qualifications of assessor

Refer to Programme of Requirements part 3 Basic Requirements.

8.3 Assessors relationship to assessed entity

Refer to Programme of Requirements part 3 Basic Requirements.

8.4 Topics covered by assessment

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

📄 8.4-pkio196 —

Description	In addition to this PoR, issuing certificates SHALL undergo an audit in accordance with the following schemes: a. ETSI EN 319 411-1 with policy NCP+ (ETSI CP OID 0.4.0.2042.1.2, mandating usage of SSCDs) for authenticity and confidentiality certificates, and b. CA/Browser Forum Network and Certificate System Security Requirements.
Comment	-

8.5 Actions taken as a result of deficiency

Refer to Programme of Requirements part 3 Basic Requirements.

8.6 Communication of results

Refer to Programme of Requirements part 3 Basic Requirements.

9. OTHER BUSINESS AND LEGAL MATTERS

9.1 Fees

9.1.1 Certificate issuance or renewal fees

Refer to Programme of Requirements part 3 Basic Requirements.

9.1.2 Certificate access fees

Refer to Programme of Requirements part 3 Basic Requirements.

9.1.3 Revocation or status information access fees

Refer to Programme of Requirements part 3 Basic Requirements.

9.1.4 Fees for other services

Refer to Programme of Requirements part 3 Basic Requirements.

9.1.5 Refund policy

Refer to Programme of Requirements part 3 Basic Requirements.

9.2 Financial responsibility

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

9.2-pkio124 —

Description	By means, for example, of insurance or its financial position, the TSP has to be able to cover third party recovery based on the types of liability mentioned in article 6:196b of the Civil Code (that relate to both direct and indirect damage) up to at least EUR 1,000,000 per annum.
Comment	The third party recovery described above is based on a maximum number of certificates to be issued of 100,000 for each TSP, which is in line with the current situation. When TSPs are going to issue more certificates, it will be determined whether a suitable, higher, recoverableness will be required.

9.2.1 Insurance coverage

Refer to Programme of Requirements part 3 Basic Requirements.

9.2.2 Other assets

Refer to Programme of Requirements part 3 Basic Requirements.

9.2.3 Insurance or warranty coverage for end-entities

Refer to Programme of Requirements part 3 Basic Requirements.

9.3 Confidentiality of business information

9.3.1 Scope of confidential information

Refer to Programme of Requirements part 3 Basic Requirements.

9.3.2 Information not within the scope of confidential information

Refer to Programme of Requirements part 3 Basic Requirements.

9.3.3 Responsibility to protect confidential information

Refer to Programme of Requirements part 3 Basic Requirements.

9.4 Privacy of personal information

9.4.1 Privacy plan

Refer to Programme of Requirements part 3 Basic Requirements.

9.4.2 Information treated as private

Refer to Programme of Requirements part 3 Basic Requirements.

9.4.3 Information not deemed private

Refer to Programme of Requirements part 3 Basic Requirements.

9.4.4 Responsibility to protect private information

Refer to Programme of Requirements part 3 Basic Requirements.

9.4.5 Notice and consent to use private information

Refer to Programme of Requirements part 3 Basic Requirements.

9.4.6 Disclosure pursuant to judicial or administrative process

Refer to Programme of Requirements part 3 Basic Requirements.

9.4.7 Other information disclosure circumstances

Refer to Programme of Requirements part 3 Basic Requirements.

9.5 Intellectual property rights

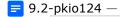Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

Refer to Programme of Requirements part 3 Basic Requirements.

9.6 Representations and warranties

9.6.1 CA representations and warranties

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

9.6.1-pkio132 —

Description	The TSP excludes all liability for damages if the certificate is not used in accordance with the certificate use described in paragraph 1.4.
Comment	-

9.6.1-pkio142 —

Description	In the agreement between the TSP and the subscriber, a clause (a clause as specified in article 6:253 of the Civil Code) will be included in which the TSP champions the interests of a third party relying on the certificate. This clause addresses a liability of the TSP in accordance with article 6:196b, first up to and including third paragraph, of the Civil Code, with the proviso that: a. for "a qualified certificate specified in article 1.1, division ss Telecommunications Act": "a confidentiality certificate from the PKIoverheid Autonomous Devices domain" is read; b. for "signatory": "certificate holder" is read; c. for "creation of electronic signatures": "creation of encrypted data" is read; d. For "verification of electronic signatures": "decoding of encrypted data" is read.
Comment	-

9.6.2 RA representations and warranties

Refer to Programme of Requirements part 3 Basic Requirements.

9.6.3 Subscriber representations and warranties

Refer to Programme of Requirements part 3 Basic Requirements.

9.6.4 Relying party representations and warranties

Refer to Programme of Requirements part 3 Basic Requirements.

9.6.5 Representations and warranties of other participants

Refer to Programme of Requirements part 3 Basic Requirements.

9.7 Disclaimers of warranties

Refer to Programme of Requirements part 3 Basic Requirements.

9.8 Limitations of liability

Refer to Programme of Requirements part 3 Basic Requirements.

Additional requirements:

9.8-pkio143 —

Description	The TSP is allowed to place restrictions on the use of certificates within the scope of certificates as mentioned in paragraph 1.4 of the applicable PoR part for that type of certificate.

| Comment | - |

9.9 Indemnities

Refer to Programme of Requirements part 3 Basic Requirements.

9.10 Term and termination

9.10.1 Term

Refer to Programme of Requirements part 3 Basic Requirements.

9.10.2 Termination

Refer to Programme of Requirements part 3 Basic Requirements.

9.10.3 Effect of termination and survival

Refer to Programme of Requirements part 3 Basic Requirements.

9.11 Individual notices and communications with participants

Refer to Programme of Requirements part 3 Basic Requirements.

9.12 Amendments

9.12.1 Procedure for amendment

Refer to Programme of Requirements part 3 Basic Requirements.

9.12.2 Notification mechanism and period

Refer to Programme of Requirements part 3 Basic Requirements.

9.12.3 Circumstances under which OID must be changed

Refer to Programme of Requirements part 3 Basic Requirements.

9.13 Dispute resolution provisions

Refer to Programme of Requirements part 3 Basic Requirements.

9.14 Governing law

Refer to Programme of Requirements part 3 Basic Requirements.

9.15 Compliance with applicable law

Refer to Programme of Requirements part 3 Basic Requirements.

9.16 Miscellaneous provisions

9.16.1 Entire agreement

Refer to Programme of Requirements part 3 Basic Requirements.

9.16.2 Assignment

Refer to Programme of Requirements part 3 Basic Requirements.

9.16.3 Severability

Refer to Programme of Requirements part 3 Basic Requirements.

9.16.4 Enforcement (attorneys' fees and waiver of rights)

Refer to Programme of Requirements part 3 Basic Requirements.

9.16.5 Force Majeure

Refer to Programme of Requirements part 3 Basic Requirements.

9.17 Other provisions

Refer to Programme of Requirements part 3 Basic Requirements.

Appendix A: Certificate Attributes

Profile of device-linked certificates for the Autonomous Devices domain

Criteria

When defining the fields and attributes within a certificate, the following codes are used:

- V : Compulsory; indicates that the attribute is compulsory and MUST be used in the certificate.
- O : Optional; indicates that the attribute is optional and MAY be used in the certificate.
- A : Advised against; indicates that the attribute is advised against and SHOULD NOT be used in the certificate.
- N: Is NOT ALLOWED.

It is not allowed to use fields that are not specified in the certificate profiles.

For the extensions, fields/attributes are used that, in accordance with international standards, are critical, are marked in the 'Critical' column with 'yes' to show that the relevant attribute MUST be checked using a process by means of which a certificate is evaluated. Other fields/attributes are shown with 'no'.

Device-linked certificates

Basic attributes

Field / Attribute	Criteria	Description	Standard reference	Type	Explanation
Version	V	MUST be set at 2 (X.509v3).	RFC 5280	Integer	Describes the version of the certificate, the value 2 stands for X.509 version 3.
SerialNumber	V	A serial number that MUST uniquely identify the certificate within the publishing CA domain.	RFC 5280	Integer	All end user certificates have to contain at least 8 bytes of unpredictable random data in the certificates serial number (SerialNumber).
Signature	V	MUST be created on the algorithm, as stipulated by the PA.	RFC 5280, ETSI TS 102176	OID	MUST be the same as the field signatureAlgorithm. For certificates under the G2 and G3 root certificate, only sha-256WithRSAEncryption is allowed.
Issuer	V	MUST contain a Distinguished Name (DN). The field has the attributes listed below:	PKIo, RFC3739, ETSI TS 102280		Attributes other than those mentioned below MUST NOT be used.
Issuer.countryName	V	See requirement 7.1-pkio174	ETSI TS101862, X520, ISO 3166	Printable String	
Issuer.OrganizationName	V	See requirement 7.1-pkio174	ETSI TS 102280	UTF8String	
Issuer.organizationalUnitName	O	See requirement 7.1-pkio174	ETSI TS 102280	UTF8String	
Issuer.serialNumber	O	See requirement 7.1-pkio174	RFC 3739	Printable String	

Field / Attribute	Criteria	Description	Standard reference	Type	Explanation
Issuer.commonName	V	MUST include the name of the CA in accordance with the accepted document or basic registry, MAY include the Domain label and/or the types of certificates that are supported	PKIo, RFC 5280, RFC 3739	UTF8String	The commonName attribute MUST NOT be necessary to identify the issuing government body (no part of the Distinguished Name, requirement from RFC 3739)
Issuer.organizationIdentifier	V/N	The organizationIdentifier field contains an identification of the issuing CA. This field MUST be present when the subject.organizationIdentifier field is present in the TSP certificate and MUST NOT be present when this field is not part of the corresponding TSP certificate.	EN 319 412-1	String	The syntax of the identification string is specified in paragraph 5.1.4 van ETSI EN 319 412-1 and contains: • 3 character legal person identity type reference; • 2 character ISO 3166 [2] country code; • hyphen-minus "-" (0x2D (ASCII), U+002D (UTF-8)); and • identifier (according to country and identity type reference).
Validity	V	MUST define the period of validity (validity) of the certificate.	RFC 5280	UTCTime	MUST include the start and end date for validity of the certificate in accordance with the applicable policy laid down in the CPS.
subject	V	The attributes that are used to describe the subject (device) MUST mention the subject in a unique way and include information about the subscriber organization. The field has the following attributes:	PKIo, RFC3739, ETSI TS 102 280		MUST contain a Distinguished Name (DN). Attributes other than those mentioned below MUST NOT be used.
Subject.countryName	V	Fixed value: C=NL, conform ISO 3166.	RFC 3739, X520, ISO 3166, PKIo	PrintableString	Country name specifies that the certificate is issued within the *context* of the (Dutch) PKI for the government.

Field / Attribute	Criteria	Description	Standard reference	Type	Explanation
Subject.commonName	V	MUST identify the framework of standards that the device conforms to OR MUST identify the framework of standards in accordance with the model/type of the device.	RFC 3739, ETSI TS 102 280, PKIo	UTF8String	The subscriber MUST prove that the organization can assign this name. Wildcards cannot be used in this attribute. Examples of a correct entry are: The type approval number of the relevant device; The (short) description of the specific type of Autonomous Devices
Subject.organizationName	V	The full name of the subscribers organization in accordance with the accepted document or Basic Registry.	PKIo	UTF8String	The subscriber organization is the organization with which the TSP has entered into an agreement for the linkage/award of certificates to devices within the framework of standards drawn up by the party responsible for establishing the framework.
Subject.stateOrProvinceName	A	The use is advised against. If present, this field MUST contain the province in which the subscriber is established in accordance with an accepted document or Basic registry.	PKIo, RFC 3739	UTF8String	Name of the province MUST correspond with the address of the subscriber in accordance with the accepted document or registry.
Subject.localityName	A	The use is advised against. If present, this field MUST contain the location of the subscriber in accordance with an accepted document or Basic registry.	PKIo, RFC 3739	UTF8String	Name of the location MUST correspond with the address of the subscriber in accordance with the accepted document or registry.
Subject.serialNumber	O	The TSP is responsible for safeguarding the uniqueness of the subject (device). The Subject.serialNumber MUST be used to identify the subject uniquely.	RFC 3739, X 520, PKIo	Printable String	The number is determined by the TSP and/or the government. The number can differ for each domain and can be used for several applications. In addition to the definition in RFC 3739, the number MAY be added to, in order to identify as well as the subject, for example, the SUD.

Field / Attribute	Criteria	Description	Standard reference	Type	Explanation
Subject.title	O	SHALL be an attribute describing the authorization of the (autonomous) device according to a framework of standards, as verified by means which SHALL be described in the TSP CPS.	ETSI TS 102 280, RFC 3739, RFC 5280		
subjectPublicKeyInfo	V	Contains, among other things, the public key.	ETSI TS 102 280, RFC 3279		Contains the public key, identifies the algorithm with which the key can be used.

Standard extensions

Field / Attribute	Criteria	Critical?	Description	Standard reference	Type	Explanation
authorityKeyIdentifier	V	No	The algorithm to generate the AuthorityKey MUST be created on an algorithm determined by the PA.	ETSI TS 102 280, RFC 5280	BitString	The value MUST contain the SHA-1 hash from the authorityKey (public key of the TSP/CA).
SubjectKeyIdentifier	V	No	The algorithm to generate the subjectKey MUST be created on an algorithm determined by the PA.	RFC 5280	BitString	The value MUST contain the SHA-1 hash from the subjectKey (public key of the certificate holder).
KeyUsage	V	Yes	The attribute extension specifies the intended purpose of the key incorporated in the certificate. In the PKI for the government, for each certificate type various bits are incorporated in the keyUsage extension. The digitalSignature bit MUST be included in authenticity certificates. Another keyUsage MAY NOT be combined with this. In confidentiality certificates, the keyEncipherment and dataEncipherment bits MUST be included. Another keyUsage MAY NOT be combined with this. In combination certificates the digitalSignature, keyEncipherment and keyAgreement bits MUST be incorporated and marked as critical. Another keyUsage MAY NOT be combined with this.	RFC 3739, RFC 5280, ETSI TS 102 280	BitString	

Field / Attribute	Criteria	Critical?	Description	Standard reference	Type	Explanation
CertificatePolicies	V	No	MUST contain the OID of the Certificate Policy (CP) and the URI of the Certification Practice Statement (CPS), and MAY contain a user notice. The TSP SHOULD use UTF8String in the userNotice field, but MAY use IA5String. ALL certificates issued with their private key residing on an SSCD (qualified or not) SHOULD contain the ETSI NCP+ OID [0.4.0.2042.1.2]; those issued with their private key NOT residing on an SSCD (qualified or not) SHOULD contain the ETSI NCP OID [0.4.0.2042.1.1]. Certificates issued as EU qualified certificates to natural persons with their private key residing in a QSCD, SHOULD contain an additional ETSI QCP-l-qscd OID [0.4.0.194112.1.3], or an additional ETSI QCP-l OID of [0.4.0.194112.1.1] when their private key does not reside on a QSCD.	RFC 3739	OID, String, UTF8String or IA5String	An overview of all Certificate Policy OIDs can be found in the document "PKIoverheid registered OIDs". For the Autonomous Devices domain the OIDs are: • Authenticity: 2.16.528.1.1003.1.2.6.1 • Confidentiality: 2.16.528.1.1003.1.2.6.2 • Combination: 2.16.528.1.1003.1.2.5.5 Reference to the paragraph numbers of the PoR in the user notice is advised against because the persistency of this cannot be guaranteed (unlike the OID number of the CP).
SubjectAltName	V	No	Contains one or more alternative names/identification numbers of the certificate holder	RFC 5280, PKIo, ETSI 102 280		Attributes other than those mentioned below MUST NOT be used.

Field / Attribute	Criteria	Critical?	Description	Standard reference	Type	Explanation
SubjectAltName.otherName	O		MAY contain an `extensions:subjectAltName` extension with one or more `otherName` attributes in its `extValue` field. An `otherName` attribute is an object consisting out of a sequence of a `type-id` field and a `value` field. Each `otherName` attribute SHALL contain a `value` to uniquely identify the subject for which the other permitted subject attributes do not qualify. The `type-id` field of an `otherName` attribute SHALL contain one of the following OIDs: • *Microsoft User Principal Name* (MSUPN) [1.3.6.1.4.1.311.20.2.3], or • *IA5String* [1.3.6.1.4.1.1466.115.121.1.26] but MAY also be [2.5.5.5], or • *Permanent Identifier* [1.3.6.1.5.5.7.8.3] (described in RFC 4043), or • *PKIo-arc OID* which can be specifically assigned by the PKIo PA for this purpose (should be described in the PKIo-arc OID document). The `value` field related to `otherName` attribute type *Microsoft User Principal Name* (MSUPN): 1. SHALL be encoded in UTF8, and 2. SHALL use syntax '`<Subscriber number>@<TSP OID>`'. The `value` field related to `otherName` attribute *IA5String*: 1. SHALL be encoded in ISO 646 (IA5), and	PKIo	See description.	Normally, `otherName` attribute type *Microsoft User Principal Name* (MSUPN) is used for *Single Sign-On* (SSO) purposes.

Field / Attribute	Criteria	Critical?	Description	Standard reference	Type	Explanation
			2. SHALL use syntax '`<TSP OID>-` `<Subscriber number>`'. The `value` field related to `otherName` attribute *Permanent Identifier* contains a `PermanentIdentifier` object, consisting out of a sequence of an `identifierValue` and an `assigner` field. The `PermanentIdentifier:identifierValue` field: 1. SHALL be encoded in UTF8, and 2. SHALL use syntax '`<Subscriber number>`'. The `PermanentIdentifier:assigner` field SHALL contain OID '`<TSP OID>`'. The `value` field related to `otherName` attribute *PKIo-arc OID* is described in the PKIo-arc OID document. The `<TSP OID>` consists out of an OID arc number which: • has been assigned to the TSP by the PKIo PA specifically for this usage, expanded by a number chosen by the TSP to specify its identification mechanism, and • is documented in the TSP CPS, and • is persistent. The `<Subscriber number>` consists out of a number which: • uniquely and permanently identifies the subject within the namespace of the corresponding OID, and • numbering and/or validation mechanism is described in the TSP CPS.			

Field / Attribute	Criteria	Critical?	Description	Standard reference	Type	Explanation
SubjectAltName.rfc822Name	A		MAY be used for the services e-mail address, for applications that need the e-mail address in order to be able to function properly.	RFC 5280	IA5String	For PKIoverheid certificates, the use of e-mail addresses is advised against, because e-mail addresses of certificate holders often change and are susceptible to spam.
BasicConstraints	O	Yes	This field SHALL have its `cA` sub-field set to its DEFAULT value (FALSE) resulting in an encoded certificate NOT including the `cA` sub-field. The optional `pathLenConstraint` sub-field SHALL NOT be included.	RFC 5280		ITU-T Recommendation X.690 (07/2002) on ASN.1 encoding rules states in Section 5.8: "The encoding of a set value or sequence value shall not include an encoding for any component value which is equal to its default value". Stating in the description that "encoded certificates do NOT include the `cA` sub-field" therefore is redundant. However, in the past some TSPs employed CA-issuing software which did not do proper ASN.1 encoding resulting in a wrongfully included `cA` sub-field in encoded certificates. This encoding error resulted in some PKIX software rejecting these certificates. This redundant information therefore has to be regarded as a cautionary hint for TSPs to check their actual certificate encoding for these errors. Chances of this encoding bug still existing in ASN.1 encoding software are however slim since the last mention of such a bug on BugZilla is from 2016.
CRLDistributionPoints	V	No	MUST include the URI of a CRL distribution point.	RFC 5280, ETSI TS 102 280		The reference MUST be accessible through the http or LDAP protocol. The attribute Reason MUST NOT be used, reference MUST be made to 1 CRL for all types of reasons for revocation. In addition to CRL, other types of certificate status information service MAY be supported.
ExtKeyUsage	V	Yes / No		RFC 5280	KeyPurposeIds	See requirement 7.1-pkio151.

Private extensions

Field / Attribute	Criteria	Critical?	Description	Standard reference	Type	Explanation
authorityInfoAccess accessMethod (id-ad-caIssuers)	O		An AccessDescription item with accessMethod id-ad-caIssuers references the online location where the certificate of the TSP CA that signed the current certificate (issue) is located.	RFC 5280	URI	This attribute MUST include the URI of the relevant certificate file/object. If this is an HTTP-URI, the file that is referenced: is preferably a DER-coded CA certificate file, that is seen by the relevant HTTP server as the type MIME "application/pkix-cert".