První certifikační autorita, a.s.



Certificate Policy

for Issuing Qualified Certificates

for TSA2 System Electronic Seal

(RSA Algorithm)

Certificate Policy for Issuing Qualified Certificates for TSA2 System Electronic Seal (RSA Algorithm) is a public document, which is the property of První certifikační autorita, a.s., and has been prepared as integral part of comprehensive security documentation. No part of this document may be reproduced without the written consent of the copyright holder.

Version 2.045

Copyright © První certifikační autorita, a.s.

TABLE OF CONTENTS

1 Introduction 11
1.1 Overview 11
1.2 Document name and identification 12
1.3 PKI participants 12
1.3.1 Certification authorities (also as 'CA') 12
1.3.2 Registration authorities (also as 'RA') 12
1.3.3 Subscribers 12
1.3.4 Relying parties 13
1.3.5 Other participants 13
1.4 Certificate usage 13
1.4.1 Appropriate certificate uses 13
1.4.2 Prohibited certificate uses 13
1.5 Policy administration 13
1.5.1 Organization administering the document 13
1.5.2 Contact person 13
1.5.3 Person determining CPS suitability for the policy 13
1.5.4 CPS approval procedures 14
1.6 Definitions and acronyms 14
2 Publication and repository responsibilities 21
2.1 Repositories 21
2.2 Publication of certification information 21
2.3 Time or frequency of publication 22
2.4 Access controls on repositories 22
3 Identification and authentication 23
3.1 Naming 23
3.1.1 Types of names 23
3.1.2 Need for names to be meaningful 23
3.1.3 Anonymity or pseudonymity of subscribers 23
3.1.4 Rules for interpreting various name forms 23
3.1.5 Uniqueness of names 23
3.1.6 Recognition, authentication, and role of trademarks 23
3.2 Initial identity validation 23
3.2.1 Method to prove possession of private key 23
3.2.2 Authentication of organization identity 23

3.2.3 Authentication of individual identity 24
3.2.4 Non-verified subscriber information 24
3.2.5 Validation of authority 24
3.2.6 Criteria for interoperation 24
3.3 Identification and authentication for re-key requests 25
3.3.1 Identification and authentication for routine re-key 25
3.3.2 Identification and authentication for re-key after revocation 25
3.4 Identification and authentication for revocation request 25
4 Certificate life-cycle operational requirements 26
4.1 Certificate application 26
4.1.1 Who can submit a certificate application 26
4.1.2 Enrolment process and responsibilities 26
4.2 Certificate application processing 26
4.2.1 Performing identification and authentication functions 26
4.2.2 Approval or rejection of certificate applications 27
4.2.3 Time to process certificate applications 27
4.3 Certificate issuance 27
4.3.1 CA actions during certificate issuance 27
4.3.2 Notification to subscriber by the CA of issuance of certificate 27
4.4 Certificate acceptance 27
4.4.1 Conduct constituting certificate acceptance 27
4.4.2 Publication of the certificate by the CA 28
4.4.3 Notification of certificate issuance by the CA to other entities 28
4.5 Key pair and certificate usage 28
4.5.1 Subscriber private key and certificate usage 28
4.5.2 Relying party public key and certificate usage 28
4.6 Certificate renewal 29
4.6.1 Circumstance for certificate renewal 29
4.6.2 Who may request renewal 29
4.6.3 Processing certificate renewal requests 29
4.6.4 Notification of new certificate issuance to subscriber 29
4.6.5 Conduct constituting acceptance of a renewal certificate 29
4.6.6 Publication of the renewal certificate by the CA 29
4.6.7 Notification of certificate issuance by the CA to other entities 29
4.7 Certificate re-key 29
4.7.1 Circumstance for certificate re-key 30

4.7.2 Who may request certification of a new public key....30
4.7.3 Processing certificate re-keying requests....30
4.7.4 Notification of new certificate issuance to subscriber....30
4.7.5 Conduct constituting acceptance of a re-keyed certificate....30
4.7.6 Publication of the re-keyed certificate by the CA....30
4.7.7 Notification of certificate issuance by the CA to other entities....30
4.8 Certificate modification....30
4.8.1 Circumstance for certificate modification....30
4.8.2 Who may request certificate modification....30
4.8.3 Processing certificate modification requests....31
4.8.4 Notification of new certificate issuance to subscriber....31
4.8.5 Conduct constituting acceptance of modified certificate....31
4.8.6 Publication of the modified certificate by the CA....31
4.8.7 Notification of certificate issuance by the CA to other entities....31
4.9 Certificate revocation and suspension....31
4.9.1 Circumstances for revocation....31
4.9.2 Who can request revocation....31
4.9.3 Procedure for revocation request....32
4.9.4 Revocation request grace period....32
4.9.5 Time within which CA must process the revocation request....32
4.9.6 Revocation checking requirement for relying parties....33
4.9.7 CRL issuance frequency....33
4.9.8 Maximum latency for CRLs....33
4.9.9 On-line revocation/status checking availability....33
4.9.10 On-line revocation checking requirements....33
4.9.11 Other forms of revocation advertisements available....34
4.9.12 Special requirements for key compromise....34
4.9.13 Circumstances for suspension....34
4.9.14 Who can request suspension....34
4.9.15 Procedure for suspension request....34
4.9.16 Limits on suspension period....34
4.10 Certificate status services....34
4.10.1 Operational characteristics....34
4.10.2 Service availability....34
4.10.3 Optional features....35
4.11 End of subscription....35

4.12 Key escrow and recovery 35
4.12.1 Key escrow and recovery policy and practices 35
4.12.2 Session key encapsulation and recovery policy and practices 35
5 Facility, management, and operational controls 36
5.1 Physical controls 36
5.1.1 Site location and construction 36
5.1.2 Physical access 36
5.1.3 Power and air-conditioning 36
5.1.4 Water exposures 37
5.1.5 Fire prevention and protection 37
5.1.6 Media storage 37
5.1.7 Waste disposal 37
5.1.8 Off-site backup 37
5.2 Procedural controls 37
5.2.1 Trusted roles 37
5.2.2 Number of persons required per task 37
5.2.3 Identification and authentication for each role 38
5.2.4 Roles requiring separation of duties 38
5.3 Personnel controls 38
5.3.1 Qualification, experience, and clearance requirements 38
5.3.2 Background check procedures 39
5.3.3 Training requirements 39
5.3.4 Retraining frequency and requirements 39
5.3.5 Job rotation frequency and sequence 39
5.3.6 Sanctions for unauthorized actions 39
5.3.7 Independent contractor requirements 39
5.3.8 Documentation supplied to personnel 40
5.4 Audit logging procedures 40
5.4.1 Types of events recorded 40
5.4.2 Frequency of processing log 40
5.4.3 Retention period for audit log 40
5.4.4 Protection of audit log 40
5.4.5 Audit log backup procedures 41
5.4.6 Audit collection system (internal or external) 41
5.4.7 Notification to event-causing subject 41
5.4.8 Vulnerability assessments 41

5.5 Records archival 41
5.5.1 Types of records archived 41
5.5.2 Retention period for archive 41
5.5.3 Protection of archive 42
5.5.4 Archive backup procedures 42
5.5.5 Requirements for time-stamping of records 42
5.5.6 Archive collection system (internal or external) 42
5.5.7 Procedures to obtain and verify archive information 42
5.6 Key changeover 42
5.7 Compromise and disaster recovery 43
5.7.1 Incident and compromise handling procedures 43
5.7.2 Computing resources, software, and/or data are corrupted 43
5.7.3 Entity private key compromise procedures 43
5.7.4 Business continuity capabilities after a disaster 43
5.8 CA or RA termination 43
6 Technical security controls 45
6.1 Key pair generation and installation 45
6.1.1 Key pair generation 45
6.1.2 Private key delivery to subscriber 45
6.1.3 Public key delivery to certificate issuer 45
6.1.4 CA public key delivery to relying parties 45
6.1.5 Key sizes 46
6.1.6 Public key parameters generation and quality checking 46
6.1.7 Key usage purposes (as per X.509 v3 key usage field) 46
6.2 Private key protection and cryptographic module engineering controls 46
6.2.1 Cryptographic module standards and controls 46
6.2.2 Private key (n out of m) multi-person control 46
6.2.3 Private key escrow 46
6.2.4 Private key backup 47
6.2.5 Private key archival 47
6.2.6 Private key transfer into or from a cryptographic module 47
6.2.7 Private key storage on cryptographic module 47
6.2.8 Method of activating private key 47
6.2.9 Method of deactivating private key 48
6.2.10 Method of destroying private key 48
6.2.11 Cryptographic module rating 48

6.3 Other aspects of key pair management 48
6.3.1 Public key archival 48
6.3.2 Certificate operational periods and key pair usage periods 48
6.4 Activation data 49
6.4.1 Activation data generation and installation 49
6.4.2 Activation data protection 49
6.4.3 Other aspects of activation data 49
6.5 Computer security controls 49
6.5.1 Specific computer security technical requirements 49
6.5.2 Computer security rating 49
6.6 Life cycle technical controls 51
6.6.1 System development controls 51
6.6.2 Security management controls 52
6.6.3 Life cycle security controls 52
6.7 Network security controls 52
6.8 Time-stamping 52
7 Certificate, CRL and OCSP profiles 53
7.1 Certificate profile 53
7.1.1 Version number(s) 53
7.1.2 Certificate extensions 54
7.1.3 Algorithm object identifiers 55
7.1.4 Name forms 55
7.1.5 Name constraints 55
7.1.6 Certificate policy object identifier 55
7.1.7 Usage of Policy Constraints extension 55
7.1.8 Policy qualifiers syntax and semantics 56
7.1.9 Processing semantics for the critical Certificate Policies extension 56
7.2 CRL profile 56
7.2.1 Version number(s) 56
7.2.2 CRL and CRL entry extensions 56
7.3 OCSP profile 57
7.3.1 Version number(s) 57
7.3.2 OCSP extensions 57
8 Compliance audit and other assesments 58
8.1 Frequency or circumstances of assessment 58

8.2 Identity/qualifications of assessor 58
8.3 Assessor's relationship to assessed entity 58
8.4 Topics covered by assessment 58
8.5 Actions taken as a result of deficiency 58
8.6 Communication of results 59
9 Other business and legal matters 60
9.1 Fees 60
9.1.1 Certificate issuance or renewal fees 60
9.1.2 Certificate access fees 60
9.1.3 Revocation or status information access fees 60
9.1.4 Fees for other services 60
9.1.5 Refund policy 60
9.2 Financial responsibility 60
9.2.1 Insurance coverage 60
9.2.2 Other assets 60
9.2.3 Insurance or warranty coverage for end-entities 61
9.3 Confidentiality of business information 61
9.3.1 Scope of confidential information 61
9.3.2 Information not within the scope of confidential information 61
9.3.3 Responsibility to protect confidential information 61
9.4 Privacy of personal information 61
9.4.1 Privacy plan 61
9.4.2 Information treated as private 61
9.4.3 Information not deemed private 61
9.4.4 Responsibility to protect private information 62
9.4.5 Notice and consent to use private information 62
9.4.6 Disclosure pursuant to judicial or administrative process 62
9.4.7 Other information disclosure circumstances 62
9.5 Intellectual property rights 62
9.6 Representations and warranties 62
9.6.1 CA representations and warranties 62
9.6.2 RA representations and warranties 62
9.6.3 Subscriber representations and warranties 63
9.6.4 Relying parties representations and warranties 63
9.6.5 Representations and warranties of other participants 63
9.7 Disclaimers of warranties 63

9.8 Limitations of liability 63
9.9 Indemnities....63
9.10 Term and termination 63
9.10.1 Term....63
9.10.2 Termination 63
9.10.3 Effect of termination and survival....63
9.11 Individual notices and communications with participants 64
9.12 Amendments....64
9.12.1 Procedure for amendment....64
9.12.2 Notification mechanism and period....64
9.12.3 Circumstances under which OID must be changed 64
9.13 Disputes resolution provisions....64
9.14 Governing law 64
9.15 Compliance with applicable law....64
9.16 Miscellaneous provisions 64
9.16.1 Entire agreement....64
9.16.2 Assignment....65
9.16.3 Severability....65
9.16.4 Enforcement (attorneys' fees and waiver of rights) 65
9.16.5 Force majeure 65
9.17 Other provisions....65
10 Final provisions 66

Table 1 – Document History

Version	Date of Release	Approved by	Comments
2.00	3 April 2015	CEO of První certifikační autorita, a.s.	First release.
2.01	7 August 2015	CEO of První certifikační autorita, a.s.	Certificate extension edited.
2.02	30 April 2019	CEO of První certifikační autorita, a.s.	Regular revision of the text, formal errors correction.
2.03	28 November 2020	CEO of První certifikační autorita, a.s.	Classification of document marked, revision and refinement of the text.
2.04	11 June 2022	CEO of První certifikační autorita, a.s.	Cryptographic module evaluation updated. Revision of the text.

2.041	9 November 2023	CEO of První certifikační autorita, a.s.	eSeL operating site added.
2.042	26 April 2024	CEO of První certifikační autorita, a.s.	Revision of the text.
2.043	5 October 2024	CEO of První certifikační autorita, a.s.	Modification and refinement of the certificate profile: • signatureAlgorithm, • commonName. List of referenced standards updated.
2.044	12 September 2025	CEO of První certifikační autorita, a.s.	Certificate extensions updated.
2.045	12 September 2026	CEO of První certifikační autorita, a.s.	Committing to CCADB policy requirements. New organizational chart taken into account. Revision of the text.

1 INTRODUCTION

This document determines the principles applied by První certifikační autorita, a.s. (also as the I.CA), a qualified provider of trust services, when issuing qualified certificates for TSA2 system electronic seal (also as the Service, the Certificate), intended for individual servers issuing qualified electronic time-stamps and forming the TSA2 system, operated by I.CA. The RSA cryptographic algorithm (also as the RSA) is used for the Service provided under this certificate policy (also as the CP).

The legal requirements in respect of the Service are defined in:

- Regulation (EU) no 910/2014 of the European Parliament and of the Council on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC, as amended;
- Act of the Czech Republic No. 297/2016 Coll., on trust services for electronic transactions;
- Act of the Slovak Republic No. 272/2016 Coll., on Trust Services for Electronic Transactions in the Internal Market and on Amendment and Supplementing of certain Acts (Trust Services Act);
- Legislation concerning personal data protection in compliance with Regulation (EU) no 2016/679 of the European Parliament and of the Council on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

I.CA imposes no restrictions on potential end users, and the provision of the Service is non-discriminatory, and the Service is also available to the disabled.

Note: Any reference to technical standard, norm or legislation is always the reference to that technical standard, norm or legislation or the replacing technical standard, norm or legislation. If this document is in conflict with any technical standard, norm or legislation that replaces the current technical standard, norm or legislation, a new version will be released.

1.1 Overview

The document **Certificate Policy for Issuing Qualified Certificates for TSA2 System Electronic Seal (RSA Algorithm)**, also as CP, is prepared by I.CA and deals with the issues related to life cycle processes of the Certificates and strictly follows a structure matching the scheme of current RFC 3647 standard while taking account of current technical standards and norms of the European Union and the laws of the Czech Republic pertinent to this sphere (therefore, each chapter is preserved in this document even if it is irrelevant to this sphere). The document is divided into nine basic chapters, and these are briefly introduced in the following list:

- Chapter 1 identifies this document with the allocated unique identifier, generally describes the entities and individuals taking part in the provision of this Service, and defines the acceptable use of the Certificates available to be issued;
- Chapter 2 deals with the responsibility for the publication and information or documents;
- Chapter 3 describes the processes of identification and authentication of an applicant for the issuance or revocation of a Certificate, and defines the types and contents of the names used in Certificates;

- Chapter 4 defines life cycle processes of Certificates i.e., application, the issuance of the Certificate, certificate revocation request, the revocation of the Certificate, the services related to the check of Certificate status, termination of the provision of the Service, etc.;
- Chapter 5 covers physical, procedural and personal security, including the definition of the set of events subject to logging, the keeping of these records and responses to emergency and compromising situations;
- Chapter 6 focuses on the technical security of the type of generating public and private keys, protection of private keys, including the computer and network protection;
- Chapter 7 defines the profile of issued Certificates and CRL;
- Chapter 8 focuses on assessing the Service delivered;
- Chapter 9 deals with commercial and legal aspects.

More detail on the fulfilment of the attributes and extensions of the certificates issued under this policy and the administration thereof can be provided in the relevant certification practice statement (also as the CPS).

Note: This is English translation of CP; Czech version always takes precedence. I.CA attests that the translation is not materially different to the original.

1.2 Document name and identification

Document's title:	Certificate Policy for Issuing Qualified Certificates for TSA2 System Electronic Seal (RSA Algorithm), version 2.045
Policy OID:	1.3.6.1.4.1.23624.10.1.32.2.0

1.3 PKI participants

1.3.1 Certification authorities (also as 'CA')

I.CA root certification authority issued in a two-tier certification authorities structure certificate for her subordinate certification authority (also as Authority), in accordance with current legislation and technical and other standards. This Authority issues certificates for servers issuing qualified electronic time-stamps and for its OCSP responder.

1.3.2 Registration authorities (also as 'RA')

The registration authority owned by I.CA participates in the life cycle processes of the Authority-issued Certificates.

1.3.3 Subscribers

The subscriber of the Certificate is První certifikační autorita, a.s., which applied for the Certificate for itself and is identified in the Certificate as subject (holder of the private key connected with the public key specified in this Certificate).

1.3.4 Relying parties

Relying parties in case of this CP are entities relying when validating electronic seal of qualified electronic time-stamps issued by TSA2 system on Certificates issued under this CP.

1.3.5 Other participants

Other participating parties are investigative, prosecuting and judging bodies, supervisory bodies and other bodies recognised as such by current legislation.

1.4 Certificate usage

1.4.1 Appropriate certificate uses

Any Certificate issued under this CP may solely be used for validation of advanced electronic seal of qualified time-stamps issued by I.CA.

1.4.2 Prohibited certificate uses

Certificates issued under this CP may not be used contrary to the acceptable use described in 1.4.1 or contrary to law.

1.5 Policy administration

1.5.1 Organization administering the document

This CP and its CPS are administered by První certifikační autorita, a.s.

1.5.2 Contact person

The contact person of První certifikační autorita, a.s., in respect of this CP and its CPS is CEO of I.CA. The contact information given in chapter 2.2 applies.

The e-mail address certproblem@ica.cz is monitored continuously 24x7 and is intended to report problems with the Certificate, i.e. suspicion of key compromise or misuse of the Certificate.

1.5.3 Person determining CPS suitability for the policy

CEO of První certifikační autorita, a.s., is the sole person responsible for making decisions about compliance of the procedures of První certifikační autorita, a.s., as set out in CPS with this CP.

1.5.4 CPS approval procedures

If it is necessary to make changes to a CPS to create a new version thereof, CEO of První certifikační autorita, a.s., appoints a person authorized to perform such changes. No new CPS version may take force unless it has been approved by CEO of První certifikační autorita, a.s.

1.6 Definitions and acronyms

Table 2 – Definitions

Term	Explanation
CA/Browser Forum	organization, consensual association of certification authorities
Classified Information Protection Act	the Czech Republic's Act No. 412/2005 Coll., regulating classified information protection and security competence, as amended
contracting partner	provider of services contracted by I.CA for certification services or parts thereof – usually, it is a contracted RA
domain name	node name in domain name system
domain name registrant/ registrant	sometimes referred to as a domain name owner, but more accurately a person or entity registered by a domain registrar as having the right to oversee the use of a domain name, a natural or legal person listed as a "Registrant" by WHOIS or a domain registrar
domain name registrar/ registrar	person or entity that registers domain names by mandate or with consent: • Internet Corporation for Assigning Names and Numbers (ICANN) - Administrator of DNS Root Space; • TLD administrator (e.g. .com) or ccTLD (e.g. .CZ, national administrator)
domain name space	a set of all possible domain names that are subordinate to one node in the domain name system
electronic seal	advanced electronic seal or recognized electronic seal or qualified electronic seal under trust services legislation
electronic signature	advanced electronic signature or recognized electronic signature or qualified electronic signature under trust services legislation
eSeL	System of electronic collection and legislation operated by Asseco Central Europe for Ministry of Interior of the Czech republic
GET method	standard preferred method for sending http requests to OCSP responder via http, the method allows caching (the second method is POST)
hash function	transformation which receives, as an input, a string of characters of arbitrary length, and the result is a string of characters of fixed length (hash)
key pair	private key and corresponding public key

Labour Code	the Czech Republic's Act No. 262/2006 Coll., Labour Code, as amended
OCSP responder	server using the OCSP protocol to provide data on public key certificate status
OCSP stapling	way of minimizing queries for OCSP Responder, RFC 4366 - TLS Extensions; allows the TLS server to return the once-received answer to the question about certificate status from the OCSP (during its validity) to all end users accessing the TLS server
phishing	in an electronic communication attempt to obtain sensitive information (usernames, passwords, and credit card details) for malicious reasons
private key	unique data to create electronic signature / seal
public key	unique data to verify electronic signature / seal
PSP registrar	authority responsible for approving or rejecting authorization of payment services providers in their state, usually National Bank, in ETSI TS 119 495 called NCA (National Competent Authority)
qualified certificate for electronic signature or for electronic seal or for website authentication	certificate defined by trust services legislation
qualified signature / seal creation device	device meeting the requirements of eIDAS, annex II, intended for electronic signature / seal creation
relying party	party relying on a certificate in its operations
root CA	certification authority which issues certificates to subordinate certification authorities
secure cryptographic device	device on which the private key is stored
softcard	software emulation of smartcard for access to private key stored in HSM
SSL certificate	certificate for identification and encryption within SSL/TLS protocol communication
subordinate CA	CA issuing certificates to end users
supervisory body	the body supervising qualified trust services providers
trust service / qualified trust service	trust service / qualified trust service defined by eIDAS
trust services legislation	current legislation on trust services
TWINS	commercial product of I.CA consisting of: • qualified certificate for electronic signature; • non-qualified certificate which issuance is based only on contractual relationship between I.CA and end-user

two-factor authentication	authentication employing two of three factors – I know something (the password), I have something (a smartcard or a hardware token) or I am something (fingerprint, retina or iris reading)
written contract	text of the contract in electronic or paper form

Table 3 – Acronyms

Acronym	Explanation
ARC	Alarm Receiving Centre
ASCII	American Standard Code for Information Interchange, table containing binary codes of English alphabets, numbers and other common symbols
BIH	Bureau International de l'Heure – The International Time Bureau
bit	from English *binary digit* – a binary system digit – the fundamental and the smallest unit of information in digital technologies
BRG	document "Baseline Requirements for the Issuance and Management of Publicly-Trusted TLS Server Certificates" published by CA/Browser Forum
CA	certification authority
CAA	DNS Resource Record - see RFC 6844
CCADB	The Common CA Database (CCADB), a repository of information about CAs whose root and intermediate certificates are included within the products and services of several Root Store Operators.
ccTLD	country code TLD, national top-level domain, usually user for countries, sovereign states or dependent territories, ASCII ccTLD identifiers are two letters long
CEN	European Committee for Standardization, an association of national standardization bodies
CEO	Chief Executive Officer
COO	Chief Operating Officer
CP	certificate policy
CPS	certification practice statement
CR	Czech Republic
CRL	Certificate Revocation List – the list of revoked certificates, which are not held as valid any longer
CT	Certificate Transparency, the system to mitigate misissuance of certificate based on adding new certificate (or rather precertificate) to public logs making possible to detect the misissuance (especially fraudulent getting the certificate by other than authorized applicant)
ČSN	Czech Technical Norm
DER, PEM	methods of certificate encoding (certificate formats)

DV	Domain Validation, SSL certificate type
DNS	Domain Name System, a hierarchical decentralized naming system implemented by DNS servers which are exchanging information via DNS protocol to translate domain names to the numerical IP addresses
EBA	European Banking Association
EC	Elliptic Curve
ECC	Elliptic Curve Cryptography
eIDAS	REGULATION (EU) no 910/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC, as amended
EN	European Standard, a type of ETSI standard
ESI	Electronic Signatures and Infrastructures
ETSI	European Telecommunications Standards Institute, a European standardization institute for information and communication technologies
EU	European Union
EV	Extended Validation, type of SSL certificate or certificate intended for websites authentication
EVCG	document "Guidelines For The Issuance And Management Of Extended Validation Certificates" published by CA/Browser Forum
EVCP	Extended Validation Certificate Policy, type of certificate policy
FAS	Fire Alarm System
FIPS	Federal Information Processing Standard, standards for information technologies for U.S. non-military state organizations
FQDN	Fully Qualified Domain Name, domain name that specifies all domain levels in Internet domain name system
GDPR	General Data Protection Regulation, REGULATION (EU) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)
gTLD	generic TLD, top level domain (e.g. .org for non-profit organizations)
html	Hypertext Markup Language, markup language for creating hypertext documents
http	Hypertext Transfer Protocol, protocol for exchanging html documents
https	Hypertext Transfer Protocol, protocol for secure exchanging of html documents
I.CA	První certifikační autorita, a.s.
IAS	Intrusion Alarm System
ICA_OID	OID belonging to OID space allocated to I.CA

ICANN	Internet Corporation for Assigned Names and Numbers, organization which among others assigns and administrates domain names and IP addresses
IEC	International Electrotechnical Commission, the global organization publishing standards for electrical and electronic engineering, communication technologies and related industries
IP	Internet Protocol, principal communications protocol in the Internet protocol suite for relaying packets across network and routing used in the Internet
IPS	Intrusion Prevention System
ISMS	Information Security Management System
ISO	International Organization for Standardization, an international organization of national standardization organizations; designation of standards
IT	Information Technology
ITU	International Telecommunication Union
ITU-T	Telecommunication Standardization Sector of ITU
MPSV	Ministry of Labor and Social Affairs of the Czech Republic
NCA	National Competent Authority - authority responsible for approving or rejecting authorization of payment services providers and assigning PSP numbers to them in particular state; see also PSP registrar above
NCP	Normalized Certificate Policy, non-qualified certificates certificate policy, qualitatively the same as certificate policy for issuing qualified certificates
NCP+	Extended Normalized Certificate Policy, NCP certificate policy requiring a secure cryptographic device
OCSP	Online Certificate Status Protocol, the protocol to identify public key certificate status
OID	Object Identifier
OSVČ	self-employed person
OV	Organization Validation, SSL certificate type
PDCA	Plan-Do-Check-Act, Deming cycle, management method for control and continuous improvement
PDS	PKI Disclosure Statement
PKCS	Public Key Cryptography Standards, designation for a group of standards for public key cryptography
PKI	Public Key Infrastructure
PSD	Payment Services Directive, DIRECTIVE 2007/64/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on payment services in the internal market

PSD2	DIRECTIVE (EU) 2015/2366 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, superseding PSD and coming into effect January 13th 2018
PSP	Payment Service Provider
PSS	Probabilistic Signature Scheme, electronic signature schema developed by M. Bellar and P. Rogaway and standardized as part of PKCS#1 v2.1
PTC	Publicly-Trusted Certificate
PUB	Publication, FIPS standard designation
QSCD	Qualified Electronic Signature/Seal Creation Device (defined by eIDAS)
QWAC	Qualified Website Authentication Certificate
RA	registration authority
RFC	Request for Comments, designation for a range of standards and other documents describing web protocols, systems, etc.
RSA	signing and encrypting public key cipher (acronym from the names of the original authors - Rivest, Shamir and Adleman)
RTS	COMMISSION DELEGATED REGULATION (EU) 2018/389 of 27 November 2017 supplementing Directive (EU) 2015/2366 of the European Parliament and of the Council with regard to regulatory technical standards for strong customer authentication and common and secure open standards of communication
SCT	Signed Certificate Timestamp, signed timestamp from relevant CT log which confirms adding the precertificate
sha, SHA	type of hash function
SSL	Secure Sockets Layer, communication protocol, layer inserted between transport layer and application layer, providing securing of communication via encryption and authentication of communicating parties
TLD	Top Level Domain, top-level Internet domain, in domain name the top-level domain is placed at the end
TLS	Transport Layer Security, communication protocol superseding SSL
TS	Technical Specification, type of ETSI standard
TSA	Time-Stamping Authority
TSS	Time-Stamp Server
TSU	Time-Stamp Unit
UPN	User Principal Name, username based on RFC 822
UPS	Uninterruptible Power Supply/Source
URI	Uniform Resource Identifier, defined-structure text string for accurate specification of a source of information

UTC	Coordinated Universal Time, the standard adopted on 1 January 1972 for the global coordinated time – Bureau International de l'Heure (BIH) plays the role of the 'official keeper' of the atomic time for the whole world
WHOIS	database including domain name registrant technical, billing and administrative contact information
ZOOÚ	current personal data protection legislation

2 PUBLICATION AND REPOSITORY RESPONSIBILITIES

2.1 Repositories

První certifikační autorita, a.s., sets up and operates repositories of both public and non-public information.

2.2 Publication of certification information

The basic addresses (also as the Information Addresses) for obtaining information about První certifikační autorita, a.s., and the links to find out more information are as follows:

- Registered office:

  První certifikační autorita, a.s.

  Podvinný mlýn 2178/6

  190 00 Praha 9

  Czech Republic
- Website: http://www.ica.cz;
- Registered offices of the registration authorities.

Electronic address for contact between general public and I.CA: info@ica.cz, data box of I.CA ID is a69fvfb.

The aforesaid website provides information about:

- Certificates of certification authorities and time-stamping authorities;
- Public certificates of end users – the following information is published (and more information can be obtained from the certificate):
  - Certificate number;
  - Content of commonName;
  - Valid from date (specifying the hour, minute and second);
  - Link to where the certificate can be obtained in the specified format (DER, PEM, TXT);
- Certificate revocation list (CRL) – the following information is published (and more information can be obtained from the CRL):
  - Date of CRL release;
  - CRL number;
  - Link to where the CRL can be obtained in the specified format (DER, PEM, TXT);
- Certification and other policies, practice statements and other public information.

Http and https are the permitted protocols for access to public information. I.CA may terminate or suspend access to some information without cause.

Any revocation of the Certificate because of suspected or actual compromise of a given private key will be announced by I.CA on its web Information Address and in Hospodářské noviny or

Mladá fronta Dnes and Hospodárske noviny or Sme, daily newspapers with national distribution.

The Certification Authority issuing the Certificates complies with the requirements of the current version of the CCADB policy available at https://www.ccadb.org/policy.

2.3 Time or frequency of publication

I.CA publishes information as follows:

- Certificate policy – after a new version is approved and issued, update depends on changes in normative requirements for issued Certificates;
- Certification practice statement – immediately;
- List of the certificates issued – updated every time a new certificate subject to publication is issued;
- Certificate revocation list (CRL) – see 4.9.7;
- Information about certification authority's certificate revocation with the reason of revocation – immediately;
- Other public information – no specific time limit, the general rule is that this information must correspond to the current state of the trust services provided.

2.4 Access controls on repositories

All public information is made available by I.CA free of charge without any restrictions.

Non-public information is available only to authorized employees of I.CA or the parties specified by the relevant legislation. Access to such information is governed by the rules defined in internal documentation.

3 IDENTIFICATION AND AUTHENTICATION

3.1 Naming

3.1.1 Types of names

All names are construed in accordance with current technical and other standards.

3.1.2 Need for names to be meaningful

For a Certificate to be issued, all names which can be validated given in attributes of subject field must carry a meaning. See chapter 7 for the attributes supported for this field.

3.1.3 Anonymity or pseudonymity of subscribers

The Certificates issued under this CP do not support neither anonymity nor pseudonymity.

3.1.4 Rules for interpreting various name forms

The data specified in a Certificate application (format PKCS#10) are transferred to subject field attributes of the Certificate in the form they are specified in the application.

3.1.5 Uniqueness of names

The Authority guarantees the uniqueness of subject field of Certificates.

3.1.6 Recognition, authentication, and role of trademarks

Any Certificate issued under this CP may only contain trademarks owned by I.CA.

3.2 Initial identity validation

The following chapters specify the rules for the authentication of I.CA when applying for the Certificate and the person representing I.CA when issuing the Certificate.

3.2.1 Method to prove possession of private key

The ownership of the private key matching the public key in the certificate application must be proved by submitting the application in the PKCS#10 format. The application is provided with electronic seal using this private key whereby the private key holder provides evidence that he is the holder of the private key when the electronic seal is created.

3.2.2 Authentication of organization identity

Certificates issued under this CP are issued only to legal entity I.CA, its identity is confirmed by an extract from Commercial Register.

3.2.3 Authentication of individual identity

This chapter describes the identity authentication procedure of the person representing I.CA when applying for a Certificate.

I.CA representing person's identity authentication procedure requires two documents, primary and secondary one, that show the data specified further in this chapter.

Valid personal identity card or passport must be used as the primary personal document for the citizens of the Czech Republic. Valid passport is the primary personal document for foreigners; citizens of EU member countries may use their valid personal identity card they use in their country as the proof of their identity.

The following data are authenticated in this document:

- Full civil name;
- Date and place of birth or the birth certification number if shown in the primary document;
- Number of the submitted primary personal document;
- Permanent address (if shown in the primary document).

The secondary document must contain a unique identification, such as birth certification number or personal identity card number, matching it to the primary document and must show at least one of these attributes:

- Date of birth (or birth certification number if specified);
- Permanent address;
- Photograph of the face.

The secondary personal document data must be identical to those in the primary personal document.

3.2.4 Non-verified subscriber information

All information must be duly verified.

3.2.5 Validation of authority

Not applicable for this document.

3.2.6 Criteria for interoperation

Any collaboration between První certifikační autorita, a.s., and other trust service providers is always based on a contract in writing.

Cross-certificates are not used.

3.3 Identification and authentication for re-key requests

3.3.1 Identification and authentication for routine re-key

A new Certificate with a new public key needs to be issued. The same requirements as those in the initial identity validation apply.

3.3.2 Identification and authentication for re-key after revocation

I.CA does not support re-keying of revoked Certificates. The only way is to obtain a new Certificate with a new public key. The same requirements as those in the initial identity validation apply.

3.4 Identification and authentication for revocation request

The entities authorized to request for Certificate revocation are listed in 4.9.2.

Every certificate revocation request must be made in writing and signed by CEO of I.CA or by the member of the board authorized by him. His identity must be duly authenticated with his primary personal documents.

The data required for certificate revocation request are listed in 4.9.3.

4 CERTIFICATE LIFE-CYCLE OPERATIONAL REQUIREMENTS

4.1 Certificate application

4.1.1 Who can submit a certificate application

Issuance of the Certificate may be applied by CEO of I.CA or by member of the board authorized by him.

4.1.2 Enrolment process and responsibilities

The written application for the Certificate is submitted to the management of První certifikační autorita, a.s., by applicant and must include the business name and OID of this certificate policy and the name of the Authority (commonName) which will issue the Certificate. The application must be signed by the applicant.

I.CA representative when issuing the Certificate is required to do the following, among others, things:

- Get acquainted with this CP and observe it;
- Provide true and complete information for the issuance of the Certificate;
- Check whether the data specified in the certificate application and the Certificate issued are correct and correspond to the required data;
- Choose a suitable Certificate revocation password (the minimum/maximum password length is 4/32 characters; permitted characters: 0..9, A..Z, a..z).

The Service provider is required to do the following, among other things:

- During the Certificate issuance process, check with RA all the data specified in the application against the documents submitted;
- Issue a Certificate that contains materially correct data on the basis of the information available to the Service provider as at the issuance of the Certificate;
- Publish public information in accordance with 2.2;
- Publish the Certificates issued;
- Provide any Service-related activity in accordance with trust service legislation, the relevant technical standards, this CP, the relevant CPS, the System Security Policy – Trustworthy Systems and the operational documentation.

4.2 Certificate application processing

4.2.1 Performing identification and authentication functions

Certificate issuance identification and authentication are performed pursuant to 3.2.2 and 3.2.3.

4.2.2 Approval or rejection of certificate applications

The management of První certifikační autorita, a.s., considers the application and approves or dismisses the issuance of the Certificate for TSU of TSA2 system. The result is documented.

4.2.3 Time to process certificate applications

The written certificate application must be handled within five business days after the date the application is submitted to the company management.

I.CA must issue the Certificate when Certificate issuance is granted. The Certificate is issued within units of minutes.

4.3 Certificate issuance

4.3.1 CA actions during certificate issuance

When issuing the Certificate:

- CA operators or software installed on their workstations can perform:
  - Visual check of the consistency of the data contained in the Certificate application (PKCS#10 structure) and the data entered by the RA employee;
  - Visual check of the formal correctness of the data;
  - Checking of the private key possession, supported hash functions in the Certificate request (minimum sha-256), and checking the formal correctness of the data;
- CA system core software always performs checking of private key possession, checks of supported hash functions in the Certificate request (minimum sha-256) and checks of formal data correctness.

If any check ends negatively, the Certificate issuance procedure is terminated.

4.3.2 Notification to subscriber by the CA of issuance of certificate

During the process of issuing Certificate, the subscriber or I.CA representative applying for the Certificate receives information from the RA employee and the Certificate is sent to the contact e-mail provided during enrolment as mandatory data.

4.4 Certificate acceptance

4.4.1 Conduct constituting certificate acceptance

If the Certificate issuance requirements are met, the representative of I.CA must accept the Certificate. The only way to refuse to take over the Certificate is to request for the Certificate's revocation in accordance with this CP.

4.4.2 Publication of the certificate by the CA

Certificates issued under this CP are published in the manner pursuant to 2.2 and are handed over to supervisory body.

4.4.3 Notification of certificate issuance by the CA to other entities

Chapter 4.4.2 applies.

4.5 Key pair and certificate usage

The validity of the Certificate for the TSU of the TSA2 system issued according to this CP is indicated in this Certificate. Validity of key pair (public and private key) for creating an electronic seal, or validation of the electronic seal of qualified electronic time stamps, is limited by the validity of this certificate (usually for a period of six years).

In the first year after generation of key pair and issuance of the Certificate, the private key is used to create an electronic seal of qualified electronic time-stamps. Before the end of this period, new key pair is generated, and the Certificate of the corresponding public key is issued. The latest private key is also used to create an electronic seal of qualified electronic time-stamps. Public keys, both old and recent, are used to verify electronic seals created by the corresponding private key.

In the case of non-standard situations (e.g. if there is such a development of cryptanalytic methods that could threaten the security of the process of creating electronic seals of qualified electronic time stamps and it is necessary to change cryptographic algorithms, key lengths, etc.) the generation of new key pair and the issuance of the relevant Certificate done exactly.

4.5.1 Subscriber private key and certificate usage

The Subscriber must, among other things:

- Observe all relevant provisions of the contract of the provision of the Services;
- Use the private key and the corresponding Certificate issued under this CP solely for the purposes defined in this CP;
- Handle the private key corresponding to the public key contained in the Certificate issued under this CP in a manner as to prevent any unauthorized use of the private key;
- Notify immediately the Service provider of everything that leads to the Certificate's revocation, in particular of:
  - Suspected abuse of the private key; and
  - Invalidity or inaccuracy of Certificate's attributes;

  in this case apply for the Certificate's revocation and stop using the pertinent private key.

4.5.2 Relying party public key and certificate usage

Relying parties must, among other things:

- Obtain from a secure source (eg., www.ica.cz, supervisory body web pages, RA workplace, relevant trust list) certification authority certificates linked with the Certificate issued under this CP, and verify those certificates' fingerprint values and validity;

- Carry out any operation necessary for them to verify that the Certificate is valid;
- Observe all and any provisions of this CP and trust services legislation which relate to the relying party's duties.

4.6 Certificate renewal

Certificate renewal under this CP means the issuance of a new Certificate for a still valid Certificate without changing the public key, or the issuance of other information in the Certificate, or for a revoked Certificate, or for an expired Certificate.

Certificate renewal is not provided.

4.6.1 Circumstance for certificate renewal

See 4.6.

4.6.2 Who may request renewal

See 4.6.

4.6.3 Processing certificate renewal requests

See 4.6.

4.6.4 Notification of new certificate issuance to subscriber

See 4.6.

4.6.5 Conduct constituting acceptance of a renewal certificate

See 4.6.

4.6.6 Publication of the renewal certificate by the CA

See 4.6.

4.6.7 Notification of certificate issuance by the CA to other entities

See 4.6.

4.7 Certificate re-key

Certificate re-key under this CP means the issuance of a new (subsequent) Certificate with a different public key but with identical content of the attributes under the subject field of the Certificate which is requested to be re-keyed.

Certificate re-key is not provided.

4.7.1 Circumstance for certificate re-key

See 4.7.

4.7.2 Who may request certification of a new public key

See 4.7.

4.7.3 Processing certificate re-keying requests

See 4.7.

4.7.4 Notification of new certificate issuance to subscriber

See 4.7.

4.7.5 Conduct constituting acceptance of a re-keyed certificate

See 4.7.

4.7.6 Publication of the re-keyed certificate by the CA

See 4.7.

4.7.7 Notification of certificate issuance by the CA to other entities

See 4.7.

4.8 Certificate modification

Certificate modification means the issuance of a subsequent Certificate with the same public key but with at least one change of attributes in subject field concerning the subscriber or with removed field or with added field content of which must be validated of the Certificate which is requested to be modified

Certificate modification is not provided. In respect of this CP, it is always the issuance of a new Certificate with a new public key, and all information must be duly validated in this issuance procedure. The same requirements as those in the initial identity validation apply – see 3.2.

4.8.1 Circumstance for certificate modification

See 4.8.

4.8.2 Who may request certificate modification

See 4.8.

4.8.3 Processing certificate modification requests

See 4.8.

4.8.4 Notification of new certificate issuance to subscriber

See 4.8.

4.8.5 Conduct constituting acceptance of modified certificate

See 4.8.

4.8.6 Publication of the modified certificate by the CA

See 4.8.

4.8.7 Notification of certificate issuance by the CA to other entities

See 4.8.

4.9 Certificate revocation and suspension

Revocation of the specific TSU of TSA2 system Certificate means that until the new Certificate is issued, the activity of this TSU is suspended.

The Certificate suspension is not provided.

4.9.1 Circumstances for revocation

A Certificate must be revoked as a result of the following, among other, things:

- If the private key corresponding to the Certificate's public key is compromised or reasonably suspected to have been compromised;
- A Certificate's technical content or format is a non-acceptable risk, such as the given cryptographic/signing algorithm or the key length;
- In any event specified in the trust service legislation, relevant technical and other standards, such as invalid Certificate data.

4.9.2 Who can request revocation

Certificate revocation request may be submitted by:

- The Subscriber (authorized requestor is the CEO of I.CA, or the member of the board authorized by him); or
- The supervisory body or other entities specified in trust services legislation, as may be the case.

In addition, third parties (e.g. supervisory bodies, law enforcement authorities, relying parties, suppliers of application SW) may send a report of a problem with the Certificate informing the Authority of the reasons for possible revocation of the Certificate.

4.9.3 Procedure for revocation request

The Certificate is revoked under personal participation of the CEO of I.CA or the member of the board authorized by him.

Any written certificate revocation request must include the Certificate's serial number in the decimal or hexadecimal format (introduced by the string '0x'), the name of the Authority which issued the Certificate, the full name of the person authorized to request the Certificate's revocation, and the Certificate revocation password. If the person authorized to request for revocation does not know the Certificate revocation password, s/he must explicitly state this in the written application, along with the number of the primary personal document submitted in the certificate application procedure or the number of the new primary personal document if the original document has been replaced. The person must use this primary personal document to prove their identity.

4.9.4 Revocation request grace period

Certificate revocation request must be made immediately.

4.9.4.1 Certificate revocation request

The revocation request is carried out without delay after receiving a legitimate revocation request. The CRL containing the serial number of the revoked Certificate is issued immediately after the revocation of this Certificate.

4.9.4.2 Certificate Problem Report

Upon receipt of a Certificate Problem Report, I.CA confirms its receipt, confirms the facts and circumstances of the reported problem, and provides a preliminary report to both the Certificate subscriber and the person who reported the problem.

I.CA, in cooperation with the Certificate subscriber and the person reporting the problem, decides whether it is necessary to revoke the Certificate and informs both the Certificate subscriber and the person who reported the problem about the decision.

If revocation is necessary, then I.CA determines the date of revocation considering following criteria:

- The nature of the problem;
- The consequences of revocation for both subscriber and relying parties;
- The number of Certificate Problem Reports received about a particular Certificate or subscriber;
- The entity making the complaint (for example, a complaint from a law enforcement official should be addressed with higher priority); and
- Relevant legislation.

4.9.5 Time within which CA must process the revocation request

If the request meets the requirements, the employee in charge immediately revokes the Certificate in the CA's system, and the date and time the request is processed are the date and time of the Certificate's revocation. The CRL containing the serial number of the revoked Certificate must be issued immediately after that Certificate's revocation.

4.9.6 Revocation checking requirement for relying parties

Relying parties must take the course of action pursuant to 4.5.2.

4.9.7 CRL issuance frequency

List of revoked certificates is issued after every revocation of Certificate. If there is no Certificate revocation, a new CRL is usually issued at an interval of 8 hours, but no more than 24 hours after the previous CRL was issued.

4.9.8 Maximum latency for CRLs

CRL is released immediately after the issuance, conditions described in chapters 4.9.5 and 4.9.7 are always observed.

4.9.9 On-line revocation/status checking availability

On-line revocation/status checking using the OCSP protocol is a service available to the general public. Every certificate issued under this CP includes a link to the pertinent OCSP responder.

OCSP responses comply with the RFC 6960 and RFC 5019 standards. The OCSP responder's certificate includes an id-pkix-ocsp-nocheck extension as defined in RFC 6960.

4.9.10 On-line revocation checking requirements

OCSP supports both GET and POST method. If the OCSP responder receives a request for the status of a certificate serial number that is "unused", then the response is not "good".

4.9.10.1 Status of Certificates

The validity of OCSP response is set to 24 hours.

When the Certificate is revoked, the OCSP response is updated immediately (Certificate suspension or renewal of revoked Certificate is not provided).

OCSP responses are automatically updated (i.e. an entry in the responder's internal OCSP cache expires) at the latest when the earlier of the following conditions is met:

- In the middle of the OCSP response validity (for responses with a validity of less than 16 hours);
- 8 hours before the response expires (for responses valid for 16 hours or longer).

4.9.10.2 CA issuing Certificates certificate status

I.CA updates OCSP responses:

- Within 24 hours after revoking the certificate of the CA issuing the Certificates; and
- At least every twelve months.

4.9.11 Other forms of revocation advertisements available

Not applicable for this document.

4.9.12 Special requirements for key compromise

The Certificate revocation procedure in the event of private key compromise is not different from the Certificate revocation procedure described above.

4.9.13 Circumstances for suspension

Not applicable for this document; Certificate suspension is not provided.

4.9.14 Who can request suspension

Not applicable for this document; Certificate suspension is not provided.

4.9.15 Procedure for suspension request

Not applicable for this document; Certificate suspension is not provided.

4.9.16 Limits on suspension period

Not applicable for this document; Certificate suspension is not provided.

4.10 Certificate status services

4.10.1 Operational characteristics

Lists of public Certificates are provided as published information; certificate revocation lists are provided as published information and by specifying the CRL distribution points in the Certificates issued by the Authority.

The fact that the Authority provides Certificate status information in the form of OCSP is specified in the Certificates issued by the Authority.

Revocation records on CRL or in OCSP response are kept at least to the end of certificate's validity period.

4.10.2 Service availability

The Authority guarantees round-the-clock (24/7) availability and integrity of the list of the certificates it has issued and the list of revoked certificates (valid CRLs), plus the availability of the OCSP service.

Response time to revocation request using CRL or OCSP is normally less than 10 seconds.

I.CA maintains continuous 24x7 availability through the e-mail address specified in chapter 1.5.2 in order to react internally to the Certificate Problem Report and, if necessary, to forward

the information about the received report to the competent authority and, if necessary, to revoke the Certificate that is the subject of the report.

4.10.3 Optional features

Not applicable for this document; no other Certificate status check characteristics are provided.

4.11 End of subscription

The certificate issuance contract expires when the last certificate issued under this contract expires.

4.12 Key escrow and recovery

Not applicable for this document; key escrow and recovery service is not provided.

4.12.1 Key escrow and recovery policy and practices

See 4.12.

4.12.2 Session key encapsulation and recovery policy and practices

See 4.12.

5 FACILITY, MANAGEMENT, AND OPERATIONAL CONTROLS

The management, control and operating procedures primarily deal with:

- Trustworthy systems supporting the trust services;
- All processes supporting the provision of the trust services.

The management, control and operating procedures are addressed in the fundamental documents Corporate Security Policy, System Security Policy – Trustworthy Systems, Certification Practice Statement, Business Continuity Plan and Recovery Plan as well as the more detailed internal documentation. These documents take account of the results of periodic risk analyses.

5.1 Physical controls

5.1.1 Site location and construction

The operating site buildings are situated in geographically different locations, which are also different from the site of the company headquarters, the business and development sites, the registration authority sites and the points of sale. The third operational workplace is a geographically different workplace of the eSeL system.

The trustworthy systems supporting the trust services are situated on reserved premises of operating sites. These premises are secured in a manner similar to that required by the Classified Information Protection Act for the 'Confidential' category secure areas.

5.1.2 Physical access

See the internal documentation for the respective requirements as to physical access to the reserved premises (protected with mechanical and electronic features) of operating sites. Buildings are protected with intrusion alarm system (IAS), alarm receiving centre (ARC) and as may be the case, a special system to monitor movement of persons and vehicles. Physical access to the eSeL workplace is solved by the approval of specific I.CA employees who are allowed access. The specific hardware of eSeL is located in a rack cabinet secured by additional locks with keys owned by I.CA, with the fact that there is an additional key in a closed and sealed envelope at the gatehouse for unexpected cases of need.

5.1.3 Power and air-conditioning

The premises housing the trustworthy systems supporting the trust services have active air-conditioning of adequate capacity, which keeps the temperature at 20°C ± 5°C all year round. The supply of electricity is backed up with a UPS (Uninterruptible Power Supply) and a diesel unit.

5.1.4 Water exposures

The trustworthy systems supporting the trust services are so located as to ensure they cannot be flooded by a 100-year flood. Where it is relevant operating sites have water ingress sensors to detect heating water leakage or rainfall leakage through the roof (as a result of heavy rains).

5.1.5 Fire prevention and protection

The buildings of the operating sites and the information storage sites have electronic fire alarm system (FAS). Fireproof insulation is installed in the entrance doors to the restricted areas in which the trustworthy systems supporting the trust services are situated, and fire extinguishers are fitted in these areas.

5.1.6 Media storage

Archive media containing operational backups and electronic records are stored in metal boxes or safes. Copies are kept at a site geographically different from the site of the operating office where the records originated.

Any paper media required to be kept are stored in a site geographically different from the site of the operating office where the records originated.

5.1.7 Waste disposal

Any paper office waste is shredded before it leaves I.CA operating sites.

5.1.8 Off-site backup

The copies of operating and working backups are stored in a place designated by COO of I.CA and described in internal documentation.

5.2 Procedural controls

5.2.1 Trusted roles

Trusted roles are defined for selected activities carried out at I.CA. The trusted role employee appointment procedure, the trusted roles operation and their responsibilities are defined in internal documentation.

I.CA employee appointed to a trusted role may not be in a conflict of interests that could compromise the impartiality of operations of I.CA.

5.2.2 Number of persons required per task

Jobs are defined for the processes related to the key pairs of certification authorities and these jobs must be performed with more than one single person attending. These jobs include:

- Initialization of cryptographic module;
- Generating key pairs of all certification authorities and their corresponding OCSP responders;

- Destroying private keys of all certification authorities and their corresponding OCSP responders, including backups;
- Backup and restore of private keys of all certification authorities and their corresponding OCSP responders;
- Activation and deactivation of private keys of all certification authorities and their corresponding OCSP responders.

The number of attending persons is not defined for other jobs, but all persons must be authorized persons.

Activities related to the TSU of the TSA2 system are described in the relevant policy for issuing qualified electronic time-stamps.

5.2.3 Identification and authentication for each role

Each role's employees are assigned identification (name and certificate) and authentication (password and private key) data for those components which are necessary for their jobs.

Selected jobs require two-factor authentication by trusted role employees.

5.2.4 Roles requiring separation of duties

The roles requiring separation of duties (and the roles' job descriptions) are described in internal documentation.

5.3 Personnel controls

5.3.1 Qualification, experience, and clearance requirements

I.CA's trusted role employees are selected accepted using the following criteria:

- Clean criminal record – statement of criminal conviction records or affirmation is required;
- Bachelor's or master's degree in an accredited university program and ICT job experience of three years or longer, or secondary education and ICT job experience of five years or longer, of which at least one-year job experience in the provision of trust services;
- Knowledge in public key infrastructure and information security.

Any other I.CA employee taking part in providing trust services is accepted using the following criteria:

- Bachelor's or master's degree in an accredited university program, or secondary education;
- Basic orientation in public key infrastructure and information security.

Managers must have job experience or technical training in respect of the trustworthiness of the Service, the knowledge of security procedures with security responsibility, and experience in information security and risk assessment.

5.3.2 Background check procedures

The sources of information about all employees of I.CA are:

- The employees themselves;
- Persons familiar with a particular employee;
- Public sources of information.

Initial information is provided by employees at job interviews, and this information is updated at periodic appraisal interviews with the manager during employment.

5.3.3 Training requirements

I.CA employees receive technical training in the use of specific software and specialised devices. The training takes the form of self-study combined with guidance from a trained employee. The training covers information security, personal protection data and other relevant topics.

5.3.4 Retraining frequency and requirements

I.CA employees are provided with the current developments in their spheres of interest two times every 12 months.

Training in the processes related to RA operations is held for RA employees at least once in every three years.

5.3.5 Job rotation frequency and sequence

I.CA employees are encouraged to acquire knowledge necessary for working in other roles at I.CA, in order to ensure substitutability for cases of emergency.

5.3.6 Sanctions for unauthorized actions

If an employee is detected to have been performing unauthorized activity, the employee is subject to the procedure described in internal documentation and governed by the Labour Code (this process does not prevent criminal prosecution if the unauthorized activity exhibits that degree of gravity).

5.3.7 Independent contractor requirements

I.CA may or must procure some activities from independent contractors but remains fully responsible for their operation. These business relations are regulated by bilateral business contracts with parties such as contracted registration authorities, application software developers, hardware suppliers, system software suppliers and other parties. These parties are required to observe the pertinent certificate policies, the relevant parts of internal documentation provided for them, and the required normative documents. Contractual penalties are applied for a breach of the obligations or duties specified in the said documents, or the contract with the contractor in breach is terminated immediately.

5.3.8 Documentation supplied to personnel

In addition to the certificate policy, the certification practice statement and the security and operational documentation, I.CA employees have available any other relevant standard, policy, manual and guidance they may need for their job.

5.4 Audit logging procedures

5.4.1 Types of events recorded

Subject to logging are all the events required by trust services legislation or the relevant technical and other standards to be logged, that is, for example, the life cycle events of Certificates.

The certification authorities' key pair generating is a special case of event logging. All this process complies with trust services legislation and the relevant technical and other standards. Generating is carried out according to a pre-determined scenario in a physically secure environment and under the control of more I.CA employees in trusted roles. Protocol on key pair generating with data required by technical standards is signed by present employees in trusted roles. When the key pair of subordinate certification authority issuing SSL type certificates for end users is generated then the process is also video recorded.

When the key pair of root certification authority is generated, an auditor qualified in accordance with current technical standards personally attends the process, signs also the created protocol to confirm that the generating followed the pre-determined scenario and the measures to ensure integrity and confidentiality were in place.

All audit records are made, kept and processed to the extent as necessary, while preserving the proof of origin and maintaining integrity, availability, confidentiality and time authenticity.

The auditing system is designed and run in a manner ensuring audit data integrity, sufficient space for audit data, automatic non-rewriting of the audit file, user-friendly presentation of audit records, and audit file access limited to the defined users only.

5.4.2 Frequency of processing log

Audit records are checked and assessed at the intervals defined in internal documentation, or immediately when a security incident occurs.

5.4.3 Retention period for audit log

Unless the relevant legislation provides otherwise, audit records are kept for a minimum of ten years of the day they are made.

5.4.4 Protection of audit log

Both electronic and printed audit records are stored in a manner ensuring they are protected against change, theft and destruction (wilful or accidental).

Electronic audit records are stored in two copies. Printed audit records are kept outside the operating premises of I.CA.

The protection of the previously mentioned types of audit records is described in internal documentation.

5.4.5 Audit log backup procedures

Electronic audit records are backed up similarly to how other electronic information is backed up. No backup of printed audit records takes place.

5.4.6 Audit collection system (internal or external)

The audit record collection system is an internal one relative to the CA information systems.

5.4.7 Notification to event-causing subject

Parties are not notified of that an event is registered in an audit record.

5.4.8 Vulnerability assessments

První certifikační autorita, a.s., carries out periodic vulnerability assessments as part of risk assessments. Vulnerability monitoring of the hardware and software related to trust services is described in internal documentation.

5.5 Records archival

The storage of records i.e., information and documentation, at I.CA, is regulated by internal documentation.

5.5.1 Types of records archived

I.CA archives the following electronic or printed records pertaining to the trust services provided, such as:

- Reports/protocols on the generating of the certification authorities' key pairs;
- For subordinate CAs issuing SSL type certificates to end users:
  - Video recording of the pair data generation process;
- Records related to the life cycle of certificates (especially the documents relating to validation of certificate issuance applications and certificate revocation requests);
- Information handling records, such as takeover, handover, saving, check, conversion from printed to electronic form, etc.;
- Operational and security documentation.

5.5.2 Retention period for archive

Records relating to the certificates of all I.CA certification authorities and corresponding OCSP responders, excluding appropriate private keys, are kept throughout the existence of I.CA. Other records are kept in accordance with chapter 5.4.3.

The record storage procedures are regulated by internal documentation.

5.5.3 Protection of archive

The premises where records are stored are secured in a manner based on risk analysis results and the Classified Information Protection Act.

The procedures to protect the archived records are regulated by internal documentation.

5.5.4 Archive backup procedures

The record backup procedures are regulated by internal documentation.

5.5.5 Requirements for time-stamping of records

If time-stamp tokens are used, they are qualified electronic time-stamp tokens issued by I.CA.

5.5.6 Archive collection system (internal or external)

Records are stored in a place designated by COO of I.CA.

Internal documentation regulates how both electronic and printed records are prepared for archival and stored. Records are kept of collecting the records subject to storage.

5.5.7 Procedures to obtain and verify archive information

Archived information and records are stored at sites designated therefore and are accessible to:

- I.CA employees if they need to have such access for their job;
- Authorized inspection entities, the investigative, prosecuting and adjudicating bodies and courts of justice if required by legislation.

A written record is made of any such permitted access.

5.6 Key changeover

In standard situations (expiration of a certification authority's certificate), the key pair is replaced by issuing a new certificate a good time in advance (no later than one year prior to the expiration).

In non-standard situations (for instance such progress in cryptanalytic methods that could compromise the security of certificate issuance e.g., changes to cryptographic algorithms or key lengths) the key pair is replaced as soon as possible.

In both standard and non-standard situations, the replacement of the public key in Certificates is suitably notified to the public a good time in advance (if practicable).

5.7 Compromise and disaster recovery

5.7.1 Incident and compromise handling procedures

In the event of incident or compromise, I.CA takes a course of action in accordance with its internal business continuity plan and recovery plan, plus any other relevant internal documentation.

5.7.2 Computing resources, software, and/or data are corrupted

See 5.7.1.

5.7.3 Entity private key compromise procedures

In the case of reasonable concern that a private key of certification authorities has been compromised, I.CA does the following:

- Stops using the private key;
- Revokes immediately and permanently the pertinent Certificate and destroys the corresponding private key;
- Revokes all valid certificates issued by specific certification authority;
- Notifies this and the reason immediately on its web Information Address, and also the list of revoked certificates is used for disclosing this information;
- Notifies the supervisory body of that the pertinent certificate has been revoked and why it has been revoked.

A similar course of action will be taken in the event of such developments in cryptanalytic methods, such as changes to cryptanalytic algorithms or key length that could immediately compromise the security of the Service.

5.7.4 Business continuity capabilities after a disaster

In the event of accident, I.CA takes a course of action in accordance with its internal business continuity plan and recovery plan, plus any other relevant internal documentation.

5.8 CA or RA termination

The following rules apply to the termination of the Authority's operations:

- The termination of the Authority's operations must be notified in writing to the supervisory body, all subscribers of valid Certificates, and the parties having a contract with I.CA that directly concerns the provision of trust services;
- The termination of the Authority's operations must be published on the web page pursuant to 2.2;
- If the Authority's certificate's expiration is part of the termination of operations, this information plus the reason for expiration must be included in that notice;

- The termination of operations is a controlled process following a pre-defined plan, which includes the description of the procedure to preserve and disclose information for judicial or administrative proceedings discovery and for arranging the continuity of services;
- The Authority or its successor must be able to revoke Certificates and publish CRLs as long as any Certificate issued by the Authority is valid;
- After that the Authority must demonstrably destroy its private key, make a record of this destruction and keep this record in accordance with this CP.

In the event of withdrawal of the qualified Service provider status:

- The information must be notified in writing or electronically to all subscribers of valid Certificates, and the parties having a contract with I.CA that directly concerns the provision of trust services;
- The information must be published in accordance with 2.2. at all offices of registration authorities and must also communicate that certification authorities' certificates cannot be used in accordance with the purpose of their issuance any longer;
- The subsequent course of action will be decided by CEO of I.CA while taking account of the decision of the supervisory body.

If a specific RA office closes down, this is published on http://www.ica.cz.

6 TECHNICAL SECURITY CONTROLS

6.1 Key pair generation and installation

6.1.1 Key pair generation

Generating of certification authorities and their corresponding OCSP responders' key pairs which is done in reserved areas of the operating site in compliance with the requirements of chapters 5.2 and 5.4.1 is carried out in cryptographic modules meeting the requirements of trust services legislation, which is ETSI and CEN standards.

Generating of key pairs related to the Certificates issued under this CP is done in cryptographic modules under sole control of I.CA. These modules also meet the requirements of trust services, which is ETSI and CEN standards.

All the requirements on the generating of these key pairs are described in internal and external documentation.

Key pairs of the employees taking part in the issuance of Certificates to end users are generated on smartcards that meet the QSCD requirements. The private keys of these key pair's data are stored on the smartcard in non-exportable form and PIN needs to be entered to use the keys.

6.1.2 Private key delivery to subscriber

Not applicable for the private keys of certification authorities and their corresponding OCSP responders, these are stored in the cryptographic modules which are under sole control of I.CA.

Not applicable for the TSA2 system TSUs' private keys, these are stored in the cryptographic modules which are under sole control of I.CA.

The service of generating key pairs to employees taking part in issuing Certificates is not provided.

6.1.3 Public key delivery to certificate issuer

The public key is delivered to Certificate issuer in the Certificate application (the PKCS#10 format).

6.1.4 CA public key delivery to relying parties

The following are the options guaranteed for obtaining certification authority's public key contained in its certificate:

- Receiving the key at RA;
- Receiving the key via the web information addresses of I.CA and the relevant supervisory body, or through the supervisory body's journal;
- Each certificate applicant receives Authority's certificate when obtaining the applicant's primary certificate.

6.1.5 Key sizes

The size of the key of I.CA root certification authority and subordinate certification authorities I.CA using RSA algorithm is 4096 bits, the size of the keys of OCSP responders is 2048 bits at minimum. The size of the keys in the Certificates is 2048 bits at minimum.

6.1.6 Public key parameters generation and quality checking

The parameters of the algorithms used in generating public keys of certification authorities and their corresponding OCSP responders meet the requirements listed in trust services legislation and the technical and other standards referred to therein. These keys are checked by relevant hardware and software.

The same rules apply to TSA2 system TSU's public keys.

Parameters of the algorithms used for creating public keys of employees taking part in the issuance of Certificates must also meet these requirements and are checked in the same way.

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

The key usage options are specified in the Certificate's extension.

6.2 Private key protection and cryptographic module engineering controls

6.2.1 Cryptographic module standards and controls

Key pairs of certification authorities and their corresponding OCSP responders are generated, and the corresponding private keys are stored on cryptographic modules which meet the requirements of trust services legislation, which is ETSI and CEN standards, and are used in accordance with relevant certification.

On cryptographic modules which meet the requirements of trust services legislation, which is ETSI and CEN standards and are used in compliance with relevant certification the generating and storage of the TSA2 system TSUs is also done.

Employees taking part in the issuance of Certificates use smartcards that meet the QSCD requirements.

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

If cryptographic module related operations require the presence of more persons, then each of them knows only some part of the code required for these operations.

6.2.3 Private key escrow

Not applicable for this document; private key escrow service is not provided.

6.2.4 Private key backup

Private keys of certification authorities and their corresponding OCSP responders protected by cryptographic modules are backed up in encrypted form, which provides the same level of protection as the cryptographic module.

The private keys of the TSA2 system TSUs are backed up in the same way.

Not applicable for private keys of employees taking part in the issuance of Certificates, these are generated on smartcards as non-exportable.

6.2.5 Private key archival

Private keys of certification authorities and their corresponding OCSP responders are not archived anywhere, they are destroyed after expiration.

The same procedure applies to private keys of the TSA2 system TSUs.

Archiving period of private keys of employees taking part in issuing certificates is limited by the memory capacity of the smartcard

6.2.6 Private key transfer into or from a cryptographic module

Private keys of certification authorities and their corresponding OCSP responders are generated in cryptographic modules (as not exportable) and cannot be exported out of these modules (operated in certified mode) in any form[1]. Import of the private key into the cryptographic module is not performed.

The same procedure applies to private keys of the TSA2 system TSUs.

Not applicable for private keys of employees taking part in issuing certificates, these private keys are generated on smartcards as non-exportable.

6.2.7 Private key storage on cryptographic module

Private keys of certification authorities and their corresponding OCSP responders are stored on cryptographic modules meeting the requirements of trust services legislation, which is ETSI and CEN standards. Cryptographic modules are operated in compliance with their certification.

The same procedure applies to private keys of the TSA2 system TSUs.

Private keys of employees taking part in issuing certificates are stored on smartcards meeting the QSCD requirements.

6.2.8 Method of activating private key

Activation of certification authorities' and their corresponding OCSP responders' private keys (allowing the use of these private keys) is done:

- In case of smartcard activation by inserting the smartcard and entering the password;
- In case of softcard activation by entering the softcard and password.

[1] There is one exception – encrypted backup, which can be used only in cryptographic module (or in HA/LB modules) where the key pair was generated.

The same procedure applies to private keys of the TSA2 system TSUs.

Private keys of employees taking part in issuing certificates are activated by inserting the smartcard into card reader and entering PIN.

6.2.9 Method of deactivating private key

Deactivation of certification authorities' and their corresponding OCSP responders' private keys is done by removing the smartcard or by terminating the specific application.

Deactivation of the original TSA2 system TSU private key is done by selecting a new profile.

Private keys of employees taking part in issuing certificates are deactivated by removing the smartcard from card reader.

6.2.10 Method of destroying private key

After expiration of specific certification authority's private key and based on subsequent decision of CEO of I.CA this private key is destroyed according to specific procedure including all backups of this key. Destroying is documented in a written record.

Private keys of OCSP responders are destroyed on the decision of I.CA representative when issuing OCSP responder's certificate. Destroying is documented in a written record.

Destroying private keys of the TSA2 system TSUs is carried out by order of the CEO of I.CA or a member of the board authorized by him.

Destroying private keys of employees taking part in issuing certificates is fully within the competence of these employees, it is not ordered. It is necessary only when the smartcard memory is full.

6.2.11 Cryptographic module rating

Used cryptographic modules meet the requirements of trust services legislation that is ETSI and CEN standards and are used in accordance with their certification.

The same procedure applies to private keys of the TSA2 system TSUs.

The smartcards used to generate key pairs and store the respective private keys of employees taking part in issuing certificates meet the requirements for QSCD.

6.3 Other aspects of key pair management

6.3.1 Public key archival

All public keys as part of Certificates are archived throughout the existence of I.CA.

6.3.2 Certificate operational periods and key pair usage periods

The maximum period of validity of each Certificate issued is specified in the body of that Certificate and is the same as key pair usage period.

6.4 Activation data

6.4.1 Activation data generation and installation

Activation data of certification authorities' and their corresponding OCSP responders' private keys (smartcards or softcards) are created before or during the generating of the corresponding key pair.

The same procedure applies to private keys of the TSA2 system TSUs.

Activation data of employees taking part in issuing certificates private keys is PIN, which is under sole control of these employees.

6.4.2 Activation data protection

Activation data of certification authorities' and their corresponding OCSP responders' private keys (smartcards or softcards) are protected by passwords.

Activation data of employees' taking part in issuing certificates private keys protection is fully within the competence of these employees.

6.4.3 Other aspects of activation data

Not applicable for this document.

6.5 Computer security controls

6.5.1 Specific computer security technical requirements

The level of security of the components used in providing trust services is, including the scope of necessary evaluations and assessments and also trustworthy systems configuration checks, and their periodicity, defined for qualified services in trust services legislation and the technical standards referred to therein, otherwise in the relevant technical standards.

6.5.2 Computer security rating

The assessment of I.CA computer security is based on the requirements set out in technical standards and norms, in particular:

- CEN/TS 419261 Security Requirements for Trustworthy Systems Managing Certificates and Time-stamps;
- ČSN ETSI EN 319 401 Electronic Signatures and Infrastructures (ESI) – General Policy Requirements for Trust Service Providers;
- ETSI EN 319 401 Electronic Signatures and Infrastructures (ESI); General Policy Requirements for Trust Service Providers;
- ČSN ETSI EN 319 403-1 Electronic Signatures and Infrastructures (ESI); Trust Service Provider Conformity Assessment; Part 1: Requirements for conformity assessment bodies assessing Trust Service Providers;

- ETSI EN 319 403-1 Electronic Signatures and Infrastructures (ESI); Trust Service Provider Conformity Assessment; Part 1: Requirements for conformity assessment bodies assessing Trust Service Providers;
- ČSN ETSI EN 319 411-1 Electronic Signatures and Infrastructures (ESI) – Policy and Security Requirements for Trust Service Providers Issuing Certificates – Part 1: General Requirements;
- ETSI EN 319 411-1 Electronic Signatures and Infrastructures (ESI); Policy and Security Requirements for Trust Service Providers Issuing Certificates; Part 1: General Requirements;
- ČSN ETSI EN 319 411-2 Electronic Signatures and Infrastructures (ESI) – Policy and Security Requirements for Trust Service Providers Issuing Certificates – Part 2: Requirements for Trust Service Providers Issuing EU Qualified Certificates;
- ETSI EN 319 411-2 Electronic Signatures and Infrastructures (ESI); Policy and Security Requirements for Trust Service Providers Issuing Certificates; Part 2: Requirements for Trust Service Providers Issuing EU Qualified Certificates;
- ČSN ETSI EN 319 412-1 Electronic Signatures and Infrastructures (ESI); Certificate Profiles; Part 1: Overview and Common Data Structures;
- ETSI EN 319 412-1 Electronic Signatures and Infrastructures (ESI); Certificate Profiles; Part 1: Overview and Common Data Structures;
- ČSN ETSI EN 319 412-2 Electronic Signatures and Infrastructures (ESI); Certificate Profiles; Part 2: Certificate Profile for Certificates Issued to Natural Persons;
- ETSI EN 319 412-2 Electronic Signatures and Infrastructures (ESI); Certificate Profiles; Part 2: Certificate Profile for Certificates Issued to Natural Persons;
- ČSN ETSI EN 319 412-3 Electronic Signatures and Infrastructures (ESI); Certificate Profiles; Part 3: Certificate Profile for Certificates Issued to Legal Persons;
- ETSI EN 319 412-3 Electronic Signatures and Infrastructures (ESI); Certificate Profiles; Part 3: Certificate Profile for Certificates Issued to Legal Persons;
- ČSN ETSI EN 319 412-4 Elektronické podpisy a infrastruktury (ESI) - Profily certifikátu – Část 4: Profil certifikátu pro certifikáty webových stránek;
- ETSI EN 319 412-4 Electronic Signatures and Infrastructures (ESI); Certificate Profiles; Part 4: Certificate profile for web site certificates;
- ČSN ETSI EN 319 412-5 Electronic Signatures and Infrastructures (ESI); Certificate Profiles; Part 5: QC Statements;
- ETSI EN 319 412-5 Electronic Signatures and Infrastructures (ESI); Certificate Profiles; Part 5: QCStatements;
- ČSN EN 419 221-5 Protection profiles for TSP Cryptographic modules - Part 5 Cryptographic Module for Trust Services;
- EN 419 221-5 Protection profiles for TSP Cryptographic modules - Part 5 Cryptographic Module for Trust Services;
- FIPS PUB 140-2 Requirements for Cryptographic Modules;
- ISO/IEC 15408-1:2009 Information technology — Security techniques — Evaluation criteria for IT security — Part 1: Introduction and general model;

- ČSN EN ISO/IEC 15408-2 Information technology — Security techniques — Evaluation criteria for IT security - Part 2: Security functional components;
- ISO/IEC 15408-2:2008 Information technology — Security techniques — Evaluation criteria for IT security — Part 2: Security functional components;
- ČSN EN ISO/IEC 15408-2 Information technology — Security techniques — Evaluation criteria for IT security — Part 3: Security assurance components;
- ISO/IEC 15408-3:2008 Information technology — Security techniques — Evaluation criteria for IT security — Part 3: Security assurance components;
- ETSI TS 119 312 Electronic Signatures and Infrastructures (ESI); Cryptographic Suites;
- European Cybersecurity Certification Group Sub-group on Cryptography - Agreed Cryptographic Mechanisms.
- ČSN EN ISO/IEC 27006 Information Technology – Security Techniques – Requirements for Bodies Providing Audit and Certification of Information Security Management Systems.
- ISO/IEC 17021 Conformity Assessment -- Requirements for Bodies Providing Audit and Certification of Management Systems;
- ISO/IEC 17065 Conformity Assessment -- Requirements for Bodies Certifying Products, Processes and Services.
- ISO 3166-1 Codes for the Representation of Names of Countries and Their Subdivisions – Part 1: Country Codes;
- ITU-T - X.501 Information Technology – Open Systems Interconnection – The Directory: Models;
- ITU-T - X.509 Information Technology – Open Systems Interconnection – The Directory: Public-key and Attribute Certificate Frameworks;
- ITU-T - X.520 Information Technology – Open Systems Interconnection – The Directory: Selected Attribute Types;
- RSA Laboratories - PKCS#10: Certification Request Syntax Standard;
- RFC 6960 X.509 Internet Public Key Infrastructure Online Certificate Status Protocol – OCSP;
- RFC 3647 Internet X.509 Public Key Infrastructure Certificate Policy and Certification Practices Framework;
- RFC 5019 The Lightweight Online Certificate Status Protocol (OCSP) Profile for High-Volume Environments;
- RFC 5280 Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile;
- EN 301 549 Accessibility requirements for ICT products and services.

6.6 Life cycle technical controls

6.6.1 System development controls

System development is carried out in accordance with internal documentation.

6.6.2 Security management controls

Information security management and compliance with technical standards are inspected as part of the periodic trust services audits and conformity assessments and also in information security management system (ISMS) audits.

Information security at I.CA is managed by the following standards:

- ČSN EN ISO/IEC 27000 Information Technology – Security Techniques – Information Security Management Systems – Overview and Vocabulary;
- ČSN EN ISO/IEC 27001 Information security, cybersecurity and privacy protection - Information security management systems – Requirements;
- ČSN EN ISO/IEC 27002 Information security, cybersecurity and privacy protection - Information security controls.

6.6.3 Life cycle security controls

I.CA takes the Plan-Do-Check-Act (PDCA) procedural approach to life cycle security management; the PDCA approach consists of the following consecutive processes:

- Establishing – defining the scope and the boundaries for information security management, determining a security policy and plans, and choosing security controls depending on the risks identified, all this in accordance with the corporate security policy;
- Implementing and operating – effective and systematic enforcement of the selected security controls;
- Monitoring and reviewing – providing feedback, regular monitoring and evaluation of the successful and the poor aspects of information security management, providing the knowledge gained for the company management for assessment;
- Maintenance and improvement – implementing corrective and improvement measures as decided by the company management.

6.7 Network security controls

Network infrastructure of the operating site is protected with a firewall-type commercial product with an integrated intrusion prevention system. The detailed network security management solution is described in internal documentation. All communication between RA and the operating sites is encrypted.

6.8 Time-stamping

See 5.5.5 for the time-stamping solution.

7 CERTIFICATE, CRL AND OCSP PROFILES

7.1 Certificate profile

Table 4 – Certificate basic fields

Field	Content
version	v3 (0x2)
serialNumber	unique serial number of the certificate to be issued
signatureAlgorithm	at minimum: • sha256withRSAEncryption (parameters = NULL, pkcs#1 1v5), or • rsa-pss with mgf1SHA-256Identifier
issuer	issuer of the Certificate
validity	
notBefore	start of the Certificate's validity (UTC)
notAfter	notBefore + 6 year at maximum (UTC)
subject[2]	
commonName	Certificate issued by 13 October 2024: I.CA Time Stamping Authority TSU *X MM/RRRR** Certificate issued from 14 October 2024: I.CA Time Stamping Authority TSU*X MM/RRRR**
organizationName	První certifikační autorita, a.s.
country	CZ
organizationIdentifier	NTRCZ-26439395
subjectPublicKeyInfo	
algorithm	rsaEncryption
subjectPublicKey	public key (2048 bits at minimum)
extensions	see Table 5
signature	advanced electronic seal of Certificate's issuer

* *X* – TSU number, *MM*/YYYY – month and year of certificate issuance.

7.1.1 Version number(s)

Any certificate issued complies with standard X.509, version 3.

[2] I.CA reserves the right to modify the set of items and the content of the subject field as may be required by updated ETSI standards or third parties (Microsoft, for example).

7.1.2 Certificate extensions

Table 5 – Certificate extensions[3]

Extension	Content	Comments
certificatePolicies		non-critical
.policyInformation(1)		
policyIdentifier	see chapter 1.2	
policyQualifiers		
cPSuri	http://www.ica.cz	
userNotice	Tento QC pro elektronickou pecet byl vydan v souladu s narizenim EU c. 910/2014, v platnem zneni.This QC for electronic seal was issued in accordance with Regulation (EU) No 910/2014, as amended.	
.policyInformation(2)		
policyIdentifier	1.3.158.36061701.0.0.0.1.2.2	
.policyInformation (3)		
policyIdentifier	OID (QCP-l): 0.4.0.194112.1.1	
QCStatements		non-critical
	0.4.0.1862.1.1	Id-etsi-qcs-QcCompliance
	0.4.0.1862.1.5	id-etsi-qcs-QcPDS link (URI, https) to PDS
	0.4.0.1862.1.6 = 0.4.0.1862.1.6.2	id-etsi-qcs-QcType = id-etsi-qct-eseal
CRLDistributionPoints*	Certificates issued until 30 April 2022: • http://qcrldp1.ica.cz/tsaca*YY*_rsa.crl • http://qcrldp2.ica.cz/tsaca*YY*_rsa.crl • http://qcrldp3.ica.cz/tsaca*YY*_rsa.crl Certificates issued after 30 April 2022: • http://qcrldp1.ica.cz/2tsaca*YY*_rsa.crl • http://qcrldp2.ica.cz/2tsaca*YY*_rsa.crl • http://qcrldp3.ica.cz/2tsaca*YY*_rsa.crl	non-critical
authorityInformationAccess		non-critical

[3] I.CA reserves the right to modify the set and the content of Certificate extensions as may be required by updated ETSI standards or third parties (Microsoft, for example).

id-ad-caIssuers*	Certificates issued until 30 April 2022: • http://q.ica.cz/tsaca*YY*_rsa.cer Certificates issued after 30 April 2022: • http://q.ica.cz/2tsaca*RYY*_rsa.cer	
id-ad-ocsp*	Certificates issued until 30 April 2022: • http://ocsp.ica.cz/tsaca*RR*_rsa Certificates issued after 30 April 2022: • http://ocsp.ica.cz/2tsaca*RR*_rsa	
basicConstraints		non-critical
cA	True	
keyUsage	digitalSignature, nonRepudiation	critical
extendedKeyUsage	id-kp-timeStamping	critical
subjectKeyIdentifier	hash of the public key in the Certificate	non-critical
authorityKeyIdentifier		non-critical
keyIdentifier	hash of the Authority's public key	

* *YY* – the last two digits of the year when the Authority's certificate is issued.

For extensions containing URLs (where relevant), an additional URL can be added to obtain the object.

7.1.3 Algorithm object identifiers

The algorithms used in providing trust services are in compliance with the relevant technical standards.

7.1.4 Name forms

Name forms in issued Certificates comply with RFC 5280 standard. The provisions of 3.1 also apply.

7.1.5 Name constraints

Not applicable for the certificates issued under this CP.

7.1.6 Certificate policy object identifier

See certificate extensions in chapter 7.1.2.

7.1.7 Usage of Policy Constraints extension

Not applicable for Certificates issued under this CP.

7.1.8 Policy qualifiers syntax and semantics

See Certificate extensions in 7.1.2 above.

7.1.9 Processing semantics for the critical Certificate Policies extension

Not applicable for this document – not classified as critical.

7.2 CRL profile

Table 6 – CRL profile[4]

Attribute	Content
version	v2(0x1)
signatureAlgorithm	sha256WithRSAEncryption at minimum
issuer	CRL issuer
thisUpdate	date and time of issuing CRL (UTC)
nextUpdate*	date and estimated time of issuing next CRL (UTS)
revokedCertificates	list of revoked certificates
crlEntries	
userCertificate	revoked certificate's serial number
revocationDate	certificate revocation date and time
crlEntryExtensions	list attribute extension – see Table 7
crlExtensions	CRL extensions – see Table 7
signature	advanced electronic seal of CRL's issuer

* In case of root CA thisUpdate + 365 days at maximum, in case of subordinate CA thisUpdate + 24 hours at maximum.

7.2.1 Version number(s)

Certificate revocation lists are issued pursuant to X509, version 2.

7.2.2 CRL and CRL entry extensions

Table 7 – CRL extension[5]

Attribute	Content	Comments

[4] I.CA reserves the right to modify the set and the content of the CRL fields as may be required by updated ETSI standards or third parties (Microsoft, for example).

[5] I.CA reserves the right to modify the set and the content of the CRL extensions as may be required by updated ETSI standards or third parties (Microsoft, for example).

crlEntryExtensions		
CRLReason	certificate's revocation reason the certificateHold reason is not admissible as it is out of use another reason than unspecified (0) is given when subordinate CA's certificate is revoked	non-critical, optional
crlExtensions		
authorityKeyIdentifier		
keyIdentifier	hash of the CRL issuer's (Authority's) public key	non-critical
CRLNumber	unique number of the CRL	non-critical

7.3 OCSP profile

Both the OCSP request profile and the OCSP response profile comply with RFC 6960 and RFC 5019.

OCSP responses are of the BasicOCSPResponse type and contain all mandatory fields. An optional revocationReason field is included for revoked certificates. When subordinate certification authority's certificate is revoked, another reason than unspecified (0) is given.

The unAuthorized response is given for any certificate not issued by the relevant CA. Http only is used as the transmission protocol.

See the relevant certification practice statement for more detail.

7.3.1 Version number(s)

Version 1 is specified in a certificate status request and response using the OCSP protocol.

7.3.2 OCSP extensions

The specific extensions for OCSP protocol certificate status requests and responses are given in the relevant certification practice statement.

8 COMPLIANCE AUDIT AND OTHER ASSESMENTS

8.1 Frequency or circumstances of assessment

The assessment interval and circumstances are defined in trust services legislation and the technical standards referred to therein regulating the assessment procedure.

The Microsoft Trusted Root Program assessment interval and circumstances are strictly defined by Microsoft, and the audit period is no longer than one year.

The intervals for other assessments are specified in the relevant technical standards.

8.2 Identity/qualifications of assessor

The identity (accredited conformity assessment entity) and the qualification of the assessor carrying out the assessment pursuant to trust services legislation are defined in this legislation and the technical standards referred to therein.

The identity (accredited conformity assessment entity) and the qualification of the assessor carrying out assessment defined by Microsoft Trusted Root Program are described in ETSI EN 319 403-1.

The qualification of the assessor carrying out other assessments is specified in the relevant technical standards.

8.3 Assessor's relationship to assessed entity

Internal assessor is not subordinate to the organizational unit which provides the operation of trust services.

External assessor is an assessor without any ties to I.CA both through property and person.

8.4 Topics covered by assessment

The areas to be assessed in an assessment required under trust services legislation are those as specified in that legislation.

The areas to be assessed in an assessment required for Microsoft Trusted Root Program are strictly given by requirements of Microsoft Company.

The areas to be assessed in any other assessment are specified in the technical standards under which the assessment is made.

8.5 Actions taken as a result of deficiency

The findings in any type of assessment are communicated to the I.CA security manager, who makes sure that any defect identified is remedied. If defects are identified that critically prevent the provision of a specific trust service, I.CA must suspend that service until the defects are remedied.

8.6 Communication of results

Assessment result notification is subject to the requirements of trust services legislation and the relevant technical standards; the notification of Microsoft Trusted Root Program assessment results is subject to Microsoft requirements.

Assessments results are notified as a written report handed over by the assessor to CEO and the security manager of I.CA.

The I.CA security manager calls a security committee meeting as soon as possible and communicates the final report at the meeting; company management members must attend the meeting.

9 OTHER BUSINESS AND LEGAL MATTERS

9.1 Fees

9.1.1 Certificate issuance or renewal fees

První certifikační autorita, a.s., is the operator of TSA2 system. No fee is charged for the issuance of certificates TSA2 system TSUs.

9.1.2 Certificate access fees

No fee is charged by I.CA for electronic access to the certificates issued under this CP.

9.1.3 Revocation or status information access fees

No fee is charged by I.CA for electronic access to revocation information (CRL) and status information (OCSP) about the certificates issued under this CP.

9.1.4 Fees for other services

Not applicable for this document.

9.1.5 Refund policy

Not applicable for this document.

9.2 Financial responsibility

9.2.1 Insurance coverage

První certifikační autorita, a.s., represents it holds the valid business risk insurance policy that covers financial damage.

První certifikační autorita, a.s., has drawn an employee liability insurance policy for each employee, with a scope of coverage as determined by the company's board of directors.

9.2.2 Other assets

První certifikační autorita, a.s., represents it has available financial resources and other financial assurances sufficient for providing trust services given the risk of a liability-for-damage claim.

See the Annual Report of První certifikační autorita, a.s., disclosed in Commercial Register for detailed information on the company's assets.

9.2.3 Insurance or warranty coverage for end-entities

Not applicable for this document.

9.3 Confidentiality of business information

9.3.1 Scope of confidential information

I.CA's confidential information covers any information other than public information and other than that published in the manner pursuant to 2.2, including:

- All private keys, which are employed in providing trust services;
- I.CA's business information;
- Any internal information and documentation;
- Any personal data.

9.3.2 Information not within the scope of confidential information

Public information is marked as public or published in the manner pursuant to 2.2.

9.3.3 Responsibility to protect confidential information

I.CA employee who comes in contact with confidential information may not disclose this information to a third party without consent of CEO of I.CA.

9.4 Privacy of personal information

9.4.1 Privacy plan

I.CA protects personal data and other non-public information in accordance with the relevant legislation, which means ZOOU and GDPR in particular. Information on the client's personal data protection policy is provided in the document "Principles for Clients' Personal Data Processing" displayed on the company's website - see chapter 2.2.

9.4.2 Information treated as private

Any personal data subject to protection under relevant legislation are treated as private.

I.CA employees or the entities defined by current legislation that come into contact with personal data must maintain confidentiality of these data and the security controls, the disclosure of which would put the security of these data at risk. The confidentiality duty survives the termination of employment or other similar relationship, or the completion of pertinent work.

9.4.3 Information not deemed private

Any information outside the scope of relevant legislation is not considered personal data.

9.4.4 Responsibility to protect private information

CEO of I.CA is responsible for the protection of personal data.

9.4.5 Notice and consent to use private information

I.CA deals with the notifying of personal data use and consents to personal data processing in accordance with the relevant legislation.

9.4.6 Disclosure pursuant to judicial or administrative process

I.CA discloses personal data for judicial or administrative purpose in accordance with the relevant legislation.

9.4.7 Other information disclosure circumstances

I.CA provides access to personal strictly as regulated by relevant legislation.

9.5 Intellectual property rights

This CP, all related documents, the website content and the procedures facilitating the operation of the trustworthy systems supporting the trust services are copyrighted by První certifikační autorita, a.s., and are important know-how thereof.

9.6 Representations and warranties

9.6.1 CA representations and warranties

I.CA warrants that:

- It will use the certification authorities' private keys solely for issuing certificates to end users (except I.CA root certification authority), issuing their certificate revocation lists and issuing their OCSP responder certificates;
- It will only use the private keys of OCSP responders when responding certificate status requests;
- Certificates meet the requirements of the relevant technical standards;
- It will revoke OCSP responders' Certificates if the revocation request is submitted in the manner defined in this CP;
- When issuing Certificates and during the period of their validity it will comply with its CP and CPS.

9.6.2 RA representations and warranties

The designated RA:

- Assumes the obligation that the services which the RA provides are correct;

- Does not accept the Certificate application unless it validates all the application items (except those not subject to validation), if the Certificate applicant refuses to provide the necessary data or if the Certificate applicant is not authorized to submit the application.

9.6.3 Subscriber representations and warranties

Not applicable for this document, see chapter 1.3.3.

9.6.4 Relying parties representations and warranties

Described in Policy for Issuing Qualified Electronic Time-Stamp Tokens by TSA2 System.

9.6.5 Representations and warranties of other participants

Not applicable for this document.

9.7 Disclaimers of warranties

První certifikační autorita, a.s., only provides those warranties as given in 9.6.

9.8 Limitations of liability

Described in Policy for Issuing Qualified Electronic Time-Stamp Tokens by TSA2 System.

9.9 Indemnities

Described in Policy for Issuing Qualified Electronic Time-Stamp Tokens by TSA2 System.

9.10 Term and termination

9.10.1 Term

This CP takes effect on the date specified in chapter 10 and remains in effect no shorter than the expiration of the last Certificate issued under this CP.

9.10.2 Termination

CEO of První certifikační autorita, a.s., is the sole person authorized to approve the termination of this CP.

9.10.3 Effect of termination and survival

The obligations of I.CA arising from this CP survive the expiration thereof until the expiration of the last Certificate issued under this CP.

9.11 Individual notices and communications with participants

All participating entities are organizational parts of the I.CA and the resolution of disputes between them is governed by the internal rules of the I.CA.

9.12 Amendments

9.12.1 Procedure for amendment

This procedure is a controlled process described in internal documentation.

9.12.2 Notification mechanism and period

The release of a new CP version is always notified as published information.

9.12.3 Circumstances under which OID must be changed

CP's OID must be changed when the changes of the CP will materially reduce the assurance that the Certificate is trusted and will have a significant effect on the acceptability of the Certificate in compliance with trust services legislation.

Any change to this CP results in a new version of the document.

9.13 Disputes resolution provisions

All participating entities are organizational parts of the I.CA and the resolution of disputes between them is governed by the internal rules of the I.CA.

9.14 Governing law

The business of První certifikační autorita, a.s., is governed by the legal order of the Czech Republic.

9.15 Compliance with applicable law

The system of providing trust services is in compliance with the statutory requirements of EU and the Czech Republic and with all relevant international standards.

9.16 Miscellaneous provisions

Described in Policy for Issuing Qualified Electronic Time-Stamp Tokens by TSA2 System.

9.16.1 Entire agreement

See chapter 9.16.

9.16.2 Assignment

See chapter 9.16.

9.16.3 Severability

See chapter 9.16.

9.16.4 Enforcement (attorneys' fees and waiver of rights)

See chapter 9.16.

9.16.5 Force majeure

See chapter 9.16.

9.17 Other provisions

Not applicable for this document.

10 FINAL PROVISIONS

This certificate policy issued by První certifikační autorita, a.s., takes force and effect on the date mentioned above in Table 1.