

### **CERTIFICATION PRACTICE STATEMENT**

for social welfare and health care professionals' certificate

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for social welfare and health care professionals' certificate

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#### 1 Introduction

The prerequisites of the PKI (Public Key Infrastructure) certification activities of the Population Register Centre (hereinafter 'the certification authority') and the application and scope are defined in the certificate policy. The practical implementation of the principles set out in the certificate policy is described in this certification practice statement.

All parties referred to in this certification practice statement (CPS) shall comply with this CPS, the act on the electronic processing of client data in social and health care (159/2007) and the act on electronic prescriptions (61/2007) and associated regulations and requirements.

The purpose of this CPS document is to describe the methods used to ensure the reliability of certificates issued by the Population Register Centre (PRC). This CPS defines the procedures of the certification authority and certificate users, and the general security requirements which are in place in order to minimise operational, financial and legal hazards and risks related to public key infrastructures.

A certificate connects a public key with a set of data which identify a subject such as a natural person, an organisation, a website or a device. The certificate is used by the regulated social and health care professional and the trusting party, who trusts the validity of the certificate and uses it, for example, to authenticate digital signatures.

The certification practice statement and its application are described in this chapter. In addition, it defines the organisation responsible for the management of the CPS, and its contact information.

#### 1.1 Background

PRC issues certificates to regulated healthcare professionals as defined in the Act on Health Care Professionals (559/1994). PRC issues social welfare professional's certificates to persons who meet the prerequisites set out in the Act on Qualification Requirements for Social Welfare Professionals (272/2005) for the positions specified in the Act.

PRC offers highly secure digital signature and authentication certificates and associated services for the public and private sectors. Certificates are used to verify the certificate holder's identity and the accuracy, integrity and authenticity of data contained in the certificate. Digital signing based on signature certificates and identification by strong electronic identification devices enable citizens to access public services online securely and flexibly anytime, anywhere. Signature certificate and strong electronic identification service providers are supervised by the Finnish Communications Regulatory Authority (FICORA).

This document specifies the procedure requirements that apply to certification authorities that grant signature certificates and to Population Register Centre, which is the provider of a strong electronic identification means. Procedure requirements are set for the activities and administration practice of certification authorities that grant certificates so that the subscribers, signers certified by the certification authority and the parties trusting the certificate can trust that the certificate can be used to verify electronic signatures.



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The provision of the strong electronic identification means offered by Population Register Centre takes place in the same production environment, with similar technical and functional solutions and subject to the same procedures as with the provision of the signature certificate granted by Population Register Centre.

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 shall apply with regard to signature certificates in trust services as of 1 July 2016. This document describes the procedural requirements concerning the activities and administrative practices of certification authorities that issue identification and signature certificates under the Regulation. The use of a secure signature creation device is described in the procedural requirements specified in this document.

As of 1 December 2010, Population Register Centre is a statutory certification authority in the healthcare sector under the act on the electronic processing of client data in social and health care and the act on electronic prescriptions and the Act on the Population Information System and the Certificate Services of the Population Register Centre. As of 1 April 2015, PRC is a statutory certification authority in the social welfare sector pursuant to the amendment of the act on the electronic processing of client data in social and health care.

The PRC's PKI has been formulated on the basis of statutes, standards and guidelines including:

- The act on electronic prescriptions
- The act on the electronic processing of client data in social and health care
- The Act on Health Care Professionals
- The Act on Qualification Requirements for Social Welfare Professionals (272/2005)
- The Act on Strong Electronic Identification and Trust Services
- The Act on Electronic Services and Communication in the Public Sector (13/2003)
- The Act on the Openness of Government Activities (621/1999)
- The Act on Background Checks (177/2002)
- IETF RFC 3647 Internet X.509 Public Key Infrastructure: Certificate Policy and Certification Practices Framework (11/2003)
- IETF RFC 3280 Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile (4/2002)
- ETSI TS 101 456, v 1.4.3: Policy requirements for certification authorities issuing qualified certificates (5/2007)



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- ISO/IEC 17090-3: Health informatics Digital Certificates in Healthcare Part 3: Policy management of certification authority
- FICORA Regulation M 72/2016
- Vahti 2/2013 Office Premises Information Security Instructions VAHTI 5/2004: Securing the state administration's key information systems

The following principles apply to the interpretation of this document:

- 1. The headings and subheading of the CPS are primarily recommendations of international standards [RFC 3647] which have been translated into Finnish. The body of the text takes precedence over the headings.
- 2. As a general condition, all requirements concerning the certification authority as set out in this CPS must be fulfilled.
- 3. The "—" character means that the topic in question is not subject to any additional terms and conditions not defined in the certificate policy.

#### 1.2 CPS identifiers

The title of this certification practice statement is the Certification Practice Statement for Social Welfare and Healthcare Professionals Certificate, OID 1.2.246.517.1.10.206.1.

This certification practice statement refers to the CA for Social Welfare and Healthcare Professionals Certificate, OID 1.2.246.517.1.10.206.

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 shall apply with regard to signature certificates in trust services as of 1 July 2016. The procedural requirements concerning the activities and administrative practices of certification authorities that issue signature certificates under the Regulation are described in this document. The use of a secure signature creation device is described in the procedural requirements specified in this document.

Population Register Centre adheres to a certificate policy concerning signature certificates issued to the public as per trust services under Regulation No. (EU) 910/2014. The document reference as per ETSI EN 319 411-1 [2], clause 4.3.5. 3) QSCD is: OID: 0.4.0.194112.1.2. Authentication and signature certificates issued in accordance with this certificate policy can be used to authenticate digital signatures that correspond to approved certificates and creation devices for digital signatures as referred to in the Regulation and provided for in Articles 28 and 29 of the Regulation. The level of the identification certificate meets the requirements of High level of assurance in accordance with the Regulation and the regulation on levels of assurance.

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#### 1.3 Parties and application

The parties that are involved in the provision or use of the certificates or as system suppliers are described in this chapter.

#### 1.3.1 Certification authority

The certification authority meets the following terms and conditions:

- The certification authority agrees to adhere to the terms and conditions set out in this CPS.
- The certification authority draws up a certificate policy and a certification practice statement and other supplementary instructions.
- The certification authority maintains adequate financial resources in order to secure the
  operations referred to in this CPS. The certification authority is responsible for the certificate activities and the associated risks and requires the certificate system suppliers to
  take appropriate risk management measures in order to safeguard against risks related
  to the activities.
- The certification authority maintains a register of its approved registration authorities.
- The certification authority makes decisions on cross-certification in cooperation with other certification authorities.
- The certification authority is responsible for the life cycle of key pairs created by it (generation, storage, backups, publishing and disposal).

The certification authority agrees to:

- 1. provide certificate and directory services defined in this CPS;
- 2. provide the management and monitoring functions described in sections 4–6 of this CPS;
- 3. require the registration point to perform the identification procedure in accordance with sections 3–4 of this CPS;
- 4. issue certificates in accordance with this CPS;
- 5. comply with valid acts and decrees and associated regulations and guidelines and support the rights of certificate users and trusting parties;
- 6. provide a revocation service in accordance with sections 3–4 of this CPS;
- 7. ensure that sufficient independent auditing is performed in accordance with the CPS;
- 8. ensure the functioning of the certification authority; and

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9. comply with the terms and conditions set out in this CPS and the certificate policy.

The certification authority may, at its discretion, offer additional functions or services related to the certificate system.

The certification authority is responsible for ensuring that information contained in the certificate is in accordance with this CPS.

The certification authority audits and approves registration authorities and their personnel.

#### 1.3.2 Registration authority

Registration authorities who operate under this CPS must meet the following terms and conditions:

- The registration authority agrees to comply with the requirements set out in this CPS.
- The registration authority must be approved and registered by the certification authority.
- The registration authority is responsible for the identification of certificate applicants.
- The registration authority is responsible for the trustworthiness of the registration point
  personnel. The registration authority obtains background checks on recruited personnel
  as required by the certification authority and ensures the trustworthiness of its personnel at all times. The certification authority approves the registration point personnel on
  the basis of background checks obtained by the registration authority.

A registration authority operating under this CPS must agree to:

- 1. comply with valid legislation and associated regulations and guidelines;
- 2. provide the management and monitoring functions specified in sections 4–6 of this CPS;
- perform the certificate applicant identification procedure in accordance with sections 3– 4 of this CPS;
- 4. perform the agreed assignments and support the rights of certificate users and trusting parties; and
- 5. comply with all terms and conditions on the registration service as set out in this CPS.

The registration authority may offer additional functions or services approved by the certification authority.

The registration authority is responsible for all registration services provided by it.



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#### 1.3.3 Certificate holder

A health care professionals qualified certificate holder is a regulated healthcare professional who is registered in the Terhikki register for health care professionals. A social welfare professionals certificate holder is a social welfare professional who meets the qualification requirements for social welfare professionals. The practice rights of social welfare professionals are verified according to the guidelines of the National Supervisory Authority for Welfare and Health (Valvira)<sup>1</sup>.

When applying for a certificate, the social welfare and healthcare professional must prove his/her identity as described in section 3.2.3, Identification and verification of professional practice rights.

By signing the certificate application, the social welfare and healthcare professional undertakes to observe the terms and conditions governing the use of the certificate. The social welfare and health care professional will receive the valid terms and conditions together with the certificate.

#### 1.3.4 The trusting party

The trusting party is an owner of an information system which features security mechanisms that are able to use social welfare and health care professionals' qualified certificates.

The trusting party is bound by the trusting party's obligations set out in this CPS.

The trusting party agrees to implement in its system all the required components as specified in the certificate policy and CPS (e.g. digital signature verification, certificate path validation, certificate validity verification via the OCSP service or the certificate revocation list) and modify its system in line with any updates made to the certificate policy or CPS.

#### 1.3.5 Other parties

The certification authority may, at its discretion, use subcontractors and partners who operate in Finland in the provision of the certificate services.

#### 1.4 Uses of the certificate

Typical uses of the certificate which are supported by this CPS are described in this chapter. This CPS applies to the certification authority, registration authorities, certificate holders, and trusting parties.

The main uses of the certificate are specified in the act on the electronic processing of client data in social and health care and the act on electronic prescriptions. In addition, the certificates can be used in other information systems of the health care sector and pharmacies.

<sup>&</sup>lt;sup>1</sup> Under a Government proposal (HE 354/2014 vp), the Act on Social Welfare Professionals should replace the Act on Qualification Requirements for Social Welfare Professionals (272/2005) from 1 January 2016. Under the Government proposal the practice rights of social welfare professionals would be checked at the register of social welfare professionals maintained by Valvira.





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#### 1.4.1 Permitted uses

The professional certificate consists of a certificate pair that has two different purposes. The authentication and encryption certificate meets the requirements for a strong electronic identification means. A signature certificate intended solely for implementing a signature meets the requirements of a signature certificate. The correctness of the certificate applicant's identity is guaranteed by Population Register Centre.

This certification practice statement describes the issuing and production of a signature certificate for digital signatures conformant to the Regulation and the Act on Strong Electronic Identification and Trust Services and detailed requirements pertaining to the division of responsibility.

This document also describes solutions and procedures pertaining to the granting, production and data storage of an identification certificate offered as a means referred to in the Act on Strong Electronic Identification and Trust Services, included in the professional certificate, conforming to the requirements of the production environment of the signature certificate.

#### 1.4.2 Prohibited uses

According to the Ministry of Social Affairs and Health decision on the use of email in health care, the transmission of sensitive and confidential patient and care data by email should be avoided. In principle, confidential information must not be transmitted by email even with the patient's express consent. The use of social welfare and health care professionals' qualified certificates in the encryption or signing of email messages that contain patient information is therefore prohibited.

#### 1.5 Contact details

#### 1.5.1 The organisation responsible for this CPS

This certification practice statement describing the issuance of social welfare and health care professionals' qualified certificates has been registered by Population Register Centre.

#### 1.5.2 Contact details

Certification authority's contact details

Population Register Centre (PRC)	<u>www.fineid.fi</u>
P.O. Box 123 (Lintulahdenkuja 4)	vaestorekisterikeskus@vrk.fi
Fl-00531 Helsinki	Tel. +358 (0)295 535 001
Business ID: 0245437-2	Fax. +358 9 876 4369

#### 1.5.3 Relationship between certification practice statements and the certificate policy

Certification practice statements (CPS) are maintained in line with the certificate policy (CP). The contents of the CP always take precedence over the CPS. The CP and CPS review processes are specified in chapter 8.





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#### 1.5.4 CPS approval process

CPS documents are formulated and approved by the PRC Certificate Service.

#### 1.6 Definitions and abbreviations

**Professional practice rights, right to practise:** In this CPS, 'professional practice rights' and 'right to practise' refer to the professional rights which, under section 2 of the Act on Health Care Professionals, are available to licensed and authorised professionals or professionals with a protected occupational title or persons studying for the profession in question. The right to practise may be unlimited, limited or cancelled. Individuals' practice rights are registered in Terhikki, a database maintained by the National Supervisory Authority for Welfare and Health (Valvira). In this CPS, 'social welfare professional's practice rights' refers to the professional practice rights of individuals holding any of the posts specified in the Act on Qualification Requirements for Social Welfare Professionals (272/2005).

**Key recovery:** Key recovery refers to the recovery of a private key if the ID card is damaged or lost. Private keys of social welfare and healthcare ID cards cannot be recovered in the event of card loss or damage.

**Key management:** Key management refers to the processes and solutions used to manage the CA's keys and the certificate holder's authentication and signature keys over the keys' life cycle. The stages of the key life cycle are: ordering, generation, distribution, storage, use, revocation, renewal, archiving, and disposal.

**Integrity:** 1) The authenticity, genuineness, inherent consistency, completeness, currency, accuracy and usability of data or a data system; 2) the notion that a data item or message has not be tampered with and that any changes can be verified from an audit trail.

**Public Key Infrastructure (PKI)** In a public key infrastructure, the named certification authority produces key pairs for users, verifies them with its digital signature, guarantees the certificate holder's identity, distributes certificates to users, maintains the certificate directory and revocation list, and, if applicable, provides other services related to the PKI. In a PKI, each users has two interconnected keys. One of the keys is public and one is a private key that is only in the user's possession. The authenticity of a data item that has been signed with a private key can only be verified by the corresponding public key, and, conversely, data encrypted with the recipient's public key can only be decoded by the recipient's private key.

**Non-repudiation:** Non-repudiation means that the parties' involvement in the transaction or activity can be proven afterwards. Non-repudiation ensures that neither party can deny the action, such as the signer having signed something, after the event. The purpose of non-repudiation is legal validity.

**Availability:** A characteristic that describes how reliably the system, device, software or service is available for use.



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**Confidentiality:** The notion that the information is only available to authorised persons, organisations or processes.

**Service provider person:** A non-regulated person who provides services in the social welfare and healthcare sector and is not a regulated healthcare professional or a non-regulated healthcare worker. This group includes other individuals and specialist groups who have access to the national information systems, such as data protection officers, IT system suppliers, consultants, etc.

**PIN** (*Personal identification number*): The code used to verify the right to use the key pair of the ID card. Social welfare and healthcare ID cards contain two PIN codes: one for authentication and one for digital signing.

**Process:** A series of transactions with a specific direction, purpose, effect or outcome, for example a certificate issuance process.

**PUK** (*Pin unblocking key*): A code used to unlock a blocked PIN code of an ID card when the PIN has been entered incorrectly too many times in a row.

**Registration authority (RA):** In a public key infrastructure, a trusted party who performs RA duties, authorised and audited by the certification authority. The registration authority operates one or several registration points on behalf of the certification authority.

**Registration number:** The registration number is a technical number sequence created for all health care professionals who are registered in the Terhikki central register of health care professionals. For example, the registration number can be used as the professional's ID in electronic prescriptions.

**Registration point:** A service desk which verifies the certificate applicant's identity and professional practice rights and distributes ID cards, certificates and PIN/PUK codes to users in accordance with the certificate policy and CPS.

National Supervisory Authority for Welfare and Health (Valvira): Valvira is the national supervisory authority for social welfare and health care. Valvira's task is to improve the management of health risks in the environment as well as legal protection and the quality of services in social welfare and health care. It is responsible for overseeing the conformity of medical equipment and supplies and promoting their safe use.

(Regulated) social welfare and health care professional: For the purposes of this CPS, a regulated social welfare and health care professional refers to a health care professional pursuant to the Act on Health Care Professionals (559/1994), a social welfare professional, a student referred to in section 2(3) of the Act, or a social care student.

**Regulated social welfare and health care professional's ID card:** An ID card issued to a social welfare and health care professional contains a qualified certificate.





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**Non-regulated social welfare and health care worker's ID card:** An ID card issued to a non-regulated social welfare and health care worker which contains a certificate.

**Non-regulated social welfare and health care worker:** Other, non-regulated personnel who work in a health and social care unit or perform its tasks.

**Health and social care service provider:** A health and social care unit or an independent health and social care professional.

**ID** card for non-clinical healthcare sector staff: An ID card issued to social welfare and healthcare staff which contains a certificate.

**Certificate revocation list (CRL):** The certificate revocation list is a list of certificates that have been revoked. A certificate can be revoked by the certificate holder's request, or if the certificate holder no longer has the practice rights recorded in the certificate, the ID card and PIN code have been lost or stolen, or the certificate holder has died.

**Revocation service:** The certification authority's service that revokes health care certificates on the basis of revocation requests.

**Terhikki register:** A national register of regulated healthcare professionals and their practice rights, maintained by Valvira on the basis of the Act on Health Care Professionals (559/1994).

**Authentication:** Verification of the authenticity of a system user (an individual, organisation, device or system) or a communication party. Common user authentication methods: 1) the user's knowledge of a unique piece of information such as a password, 2) the user's physical possession of a unique biometric characteristic such as a fingerprint, 3) the user's possession of a unique device such as a social welfare and health care professional's ID card.

**Identification:** A procedure for identifying, for example, a user of an information system. Identification is typically done by verifying whether the presented user ID or other identifier is an approved identifier; for example, whether the user is on a list of authorised system users.

**Security level:** Security level refers to the level of security measures which are in place to safeguard against security incidents and attempts. For example, typical subjects of security level monitoring include information security incidents.

**Key escrow:** In the key escrow method, the secure storage of authentication keys is compulsory and the securely stored key can in some cases be used without the certificate holder's consent. Private keys of health and social care ID cards are not held in escrow.

**Certificate:** In a service network that uses public key infrastructure, a dataset consisting of the public key and identification data of a party who operates in the network (e.g. a health and social care professional or service provider), created and signed by the certification authority via its private key. The authenticity of the certificate can be verified via the certification authority's public key (the CA certificate).





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**Certificate directory:** The certificate directory is a public database used by the certification authority to store CA certificates, health and social care professionals' authentication certificates, and certificate revocation lists.

**Certificate path:** A chain of certificates required to facilitate secure communication between two parties that belong to different certificate administrations. It is implemented by having a common certification authority in place for the two certification authorities or by their mutual acceptance of each other's certificates.

**Certificate information system (Vartti):** The order and management system for certificates and cards.

**Certification authority (CA):** In public key infrastructure, a trusted party that produces key pairs for the system's users and creates, signs, distributes and revokes certificates.

**Population Information System** (*PIS*): The Finnish Population Information System is a computerised national register that contains basic information about Finnish citizens and foreign citizens residing permanently in Finland. The system also contains information about buildings, construction projects, apartment blocks and properties. The Population Information System is maintained by the Population Register Centre and local register offices. Registration of information is based on statutory notifications made by private individuals and public authorities.



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#### 2 Publication of data

#### 2.1 Public directory

The certification authority is responsible for the maintenance of the certificate directory and the publication of information specified in section 2.2. The data content and structure of the directory are compliant with FINEID S<sub>5</sub> - Directory Specification.

The directory administration is responsible for services related to the directories in accordance with the agreement and this CPS.

#### 2.2 Data published by the certification authority

The certification authority ensures that certificate policies, certification practice statements, PKI disclosure statements and CA certificates are publicly available at <a href="www.fineid.fi">www.fineid.fi</a>. The directory service is a public Internet-based service which can be used to retrieve all certificates issued by the certification authority which are intended for publication in the public directory, and the certification authority's certificates and revocation list. The directory service is available at ldap://ldap.fineid.fi.

#### 2.3 Publication frequency

The certification authority publishes the certificate policy and the certification practice statement. The change management procedure is described in section 9.12, CPS change management.

Authentication certificates and certificate revocation lists are published in the certificate directory immediately after creation.

#### 2.4 Access privileges

The availability of information published by the certification authority is not restricted.

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#### 3 Identification and authentication

The practices and procedures which are in place to identify and authenticate persons in the certificate order process are described in this section.

#### 3.1 Naming of the certificate holder

#### 3.1.1 Naming

The naming of health care professionals in the authentication certificate and signature certificate is described in the specification: THPKI - T2 - Population Register Centre's CA model and the data content of certificates in health care.

The PRC's root certificate authority is:

CN (Common name) = VRK Gov. Root CA - G2

OU (Organizational unit) = Varmennepalvelut

OU (Organizational unit) = Certification Authority Services

O (Organization) = Vaestorekisterikeskus CA

C (Country) = FI

The PRC's certification authority for social welfare and healthcare professionals' certificate is:

CN (Common name) = VRK CA for Social Welfare and Healthcare Prof. Certs

OU (Organizational unit) = Sosiaali- ja terveydenhuollon ammattivarmenteet

O (Organization) = Vaestorekisterikeskus CA

C (Country) = FI

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Certificate holder naming policy:

TITLE (Title) = Title

O (Organization) = Organisation Name

SN (Surname) = Last Name

G (Given name) = First Name

SERIALNUMBER (Serial Number) = ID

C (Country) = FI

Optional

CN (Common Name) = Service Name

Pseudonym (Pseudonum) = ID

UPN (User Principal Name) = OID or value

#### 3.1.2 Naming specification

Certificate holders are named using the given names and surnames of natural persons recorded in the Terhikki register.

The set of attributes that forms the name record in the certificate is unique and identifies the health care professional in question. The registration number is issued by Valvira, the administrator of the Terhikki register. All health and social care professionals must use their own names.

#### 3.1.3 Anonymity and pseudonyms

Anonymous certificates or certificates using a pseudonym (including stage/pen names) or nicknames will not be issued.

#### 3.1.4 Contents of name fields

The contents of the name fields are specified in section 3.1.1.

#### 3.1.5 Uniqueness of a name record

The name record specified in section 3.1.1 identifies the health and social care professional. The personal identifier is unique to the health and social care professional in question.

#### 3.1.6 Right to use brand names

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#### 3.2 Authentication of identity

#### 3.2.1 Private key ownership authentication

The private keys of health and social care professionals are always created in the microchip of the ID card. The ID card containing the private keys is delivered to the health and social care professional once his/her identity has been reliably verified, as described in section 3.2.3, Identification and verification of professional practice rights, and the certificate has been registered and created.

#### 3.2.2 Verification of the certificate holder's organisation

Authentication of the organisation is not required for health and social care professionals. Health and social care professionals may work in several health and social care units simultaneously, and the ID certificate and card are therefore not specific to any one organisation.

#### 3.2.3 Identification and verification of professional practice rights

The applicant's identity is verified from a valid identity document issued by the police, which can be an identity card, a passport, or a driving licence issued after 1 October 1990. Other acceptable forms of identity are: a valid passport or identity card issued by an official government agency of an EEA member state, Switzerland or San Marino, a valid driving licence issued by an official government agency of an EEA member state after 1 October 1990, or a valid passport issued by an official government agency of another state. If the applicant does not hold any of these documents, the police will verify his/her identity by other methods.

The validity of a health and social care professional's practice rights is checked from the central register of health care professionals maintained by Valvira (Terhikki). If the applicant does not have valid professional practice rights according to the register, the certificate will not be issued. If the health and social care professional is not registered in Terhikki, he/she needs to contact Valvira in order to have his/her practice rights registered. With regard to the verification of social welfare professionals' details, Valvira's instructions apply until the launch of the national register for social welfare professionals. If the applicant has more than one valid practice right, only one of them (chosen by the applicant) will be stored in the health and social care certificate and ID card.

#### 3.2.4 Information of the certificate applicant not verified by the certification authority

All personal information needed for a health care professional's certificate application is available from the Terhikki register.

#### 3.2.5 Certification requirements

Only regulated health care professionals registered by Valvira can apply for a professional certificate. The same will apply to social welfare professionals after the introduction of the central register for social welfare professionals. The certificate applicant must have valid health and social care practice rights in order to be granted the certificate. Possible limitations of the practice rights do not have an effect on whether the certificate can be issued.





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#### 3.2.6 Prerequisites and requirements concerning cooperation between certification authorities

The prerequisites and requirements on cooperation between certification authorities are defined in the root CA policy.

#### 3.3 Identification and authentication for certificate renewal

#### 3.3.1 Identification and authentication for certificate renewal

The renewal of certificates adheres to the same procedures as when applying for the certificate for the first time.

#### 3.3.2 Identification and authentication after revocation

The issuance of a new certificate adheres to the same procedures as when applying for the certificate for the first time.

#### 3.4 Identification of a person requesting revocation

Certificate revocation requests can be made by phoning the revocation service or by contacting the certification authority in writing.

When a revocation request is made by phone or in writing, the details of the requester and the certificate holder are recorded in the certificate information system.

If the requester cannot be identified in a sufficiently reliable manner and there is a risk that the certificate could be misused, the certification authority will prioritise the revocation of the certificate.



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#### 4 FUNCTIONAL REQUIREMENTS FOR CERTIFICATE LIFE CYCLE MANAGEMENT

The requirements on the actions of the certification authority, registration authority and health care professional and the revocation of certificates are described in this section.

#### 4.1 Applying for a certificate

Applications for health and social care professional's certificates are primarily made in person with the organisation acting as the registration authority.

The application is filed in the certification authority's certificate information system.

An applicant for a health and social care professional's certificate must:

- prove his/her identity by a method specified in chapter 3
- present his/her personal information as described in section 3.2.3 of chapter 3
- sign the application form.

The registration authority will inform the applicant of the method used to deliver the ID card and PIN envelope.

#### 4.1.1 Who can apply for a certificate?

Certificate applications can be made by regulated health care professionals registered by Valvira. The registration requirement will also apply to social welfare professionals after the completion of Valvira's central register for social welfare professionals. Until then, social welfare professionals will be verified in accordance with Valvira's guidelines.

#### 4.1.2 Certificate issuance process and responsibilities

The information of the issued certificate and the associated ID card are registered using a system that ensures the integrity of the data.

Connections between the certification authority's information systems are encrypted. Persons using the certificate information system are identified with certificate cards issued by the certification authority. The data contents of the certificate are based on the information provided in the application form.

After the registration authority and the applicant have checked and signed the certificate application, the registration authority issues the certificate.

Based on the application information, the certification authority sends to the applicant:

- an ID card which contains the card holder's personal key pairs and certificates
- a PIN envelope which contains the personal PIN and PUK codes for the ID card.

In addition, the certification authority sends the instructions for the use of the card.



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The registration authority's responsibilities in connection with certificate issuance are described in section 1.3.2.

#### 4.2 Processing of the certificate application

The certificate application will be processed by the registration point without undue delay.

The registration authority files the certificate order information in the CA's certificate information system.

#### 4.2.1 Implementation of identification and authentication

The registration authority identifies the certificate holder in accordance with section 3 and checks that the person is registered and has valid practice rights in the Terhikki register. In the case of social welfare certificate applicants, the practice rights are verified in accordance with Valvira guidelines until the introduction of the central register for social welfare professionals.

The information for the application form is retrieved from the Terhikki register and the Population Information System. The preferred given name specified by the applicant and his/her practice rights registered in Terhikki are stated in the application. In addition, the registration authority completes the form with information needed to produce and deliver the certificate, and the type of document used to identify the applicant. With regard to social welfare, Valvira's quidelines apply until the introduction of the central register for social welfare professionals.

#### 4.2.2 Approval or rejection of the certificate application

The certificate application is approved by granting the certificate. If any of the prerequisites for issuing the certificate to the applicant are missing, the certificate is not issued and the application is rejected. The applicant is notified of the decision immediately, and he/she can appeal the decision in writing with the certification authority.

#### 4.2.3 Certificate application processing time

Certificate applications are processed without undue delay during the opening hours of the registration point.

#### 4.3 Granting of a certificate

#### 4.3.1 The certification authority's duties in granting certificates

The certificate issuance process is initiated by a registration point officer. Access to the certificate system requires strong identification of the officer. The officer's actions are recorded in the log files of the certification authority's information systems.

The tasks related to certificate issuance are described in sections 4.1 and 4.2 of this CPS.

#### 4.3.2 Notifying the applicant of certificate issuance

No separate notification is made when the health care certificate is issued.





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#### 4.4 Acceptance of the certificate

#### 4.4.1 Certificate acceptance procedure by the certificate applicant

The certificate holder must check the accuracy of the information stored in the card and certificate. The certificate is then approved without further action by the certificate holder. If there are any problems, the certificate holder should contact the registration point or the support help-line.

#### 4.4.2 Publication of the certificate by the certification authority

The certification authority publishes issued authentication certificates in a certificate directory located in a public network as described in section 2.1 Signature certificates are not published in a directory.

#### 4.4.3 Notification of other parties of issued certificates

No separate notification is made when the health and social care certificate is issued.

#### 4.5 Use of certificates and key pairs

#### 4.5.1 Use of certificates and key pairs by the certificate holder

Health and social care certificates and the associated key pairs are intended for use only in social and health care information systems and associated services in Finland.

Health and social care professionals are required to adhere to this certification practice statement when applying for and using certificates.

A health and social care professional is primarily responsible for damages caused by him/her:

- by acting in breach of current acts, decrees or associated regulations or guidelines;
- by acting in breach of the certificate policy or CPS;
- by acting in breach of the terms and conditions of use of a certificate accepted by him/her;
- by wilful or negligent misuse of the certificate.

Social welfare and healthcare professionals must keep and manage their certificates and key pairs and the associated codes and ID cards with due care. The certificate holder must take measures to prevent the loss of the ID card and protect PINs against unauthorised disclosure or misuse.

The ID card must not be left in a reader unattended or given to another person in any circumstances.



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Social welfare and healthcare professionals must notify the revocation service of the following:

of the loss or suspected misuse of his/her ID card.

If the ID card is damaged, the card holder must arrange for the certificates held on the card to be revoked and apply for a new card at the registration point. The card renewal procedure is the same as the procedure for applying for the card and the certificate for the first time.

PIN codes used to activate the keys must not be kept together with the ID card. The certificate holder must change his/her PIN codes if there is reason to believe that they may have been disclosed to unauthorised parties.

If the PIN code is locked and the associated PUK unlocking code has been lost, the card holder must visit the registration point in order to obtain the unlocking code. When requesting the PUK code, the card holder's identity will be verified from an official document issued by the police. The registration point officer prints a new PIN code envelope which contains the unlocking code. For security reasons, the unlocking code must not be given over telephone or by letter.

#### 4.5.2 Use of certificates and public keys by the trusting party

The trusting party is responsible for ensuring that the certificate is used only for the purpose specified in this CPS as regards its own information systems. The CPS reference contained in the certificate can be used to ascertain the appropriate use of the certificate.

The trusting party must ensure that its applications meet the requirements of this CPS.

The trusting party is responsible for duly verifying the certificate throughout the certificate path in accordance with the IETF RFC 3280 specification. If the certification authority and the trusting organisation have agreed on additional services related to the use of the certificate, the trusting party agrees to comply with the terms and conditions of said service.

The trusting party is responsible for verifying that the certificate is valid and it has not been revoked before accepting the certificate.

The trusting party is responsible for checking the validity of the certificate from a current revocation list or OCSP service. The certificate should not be trusted before the trusting party has carried out the following revocation checks:

- 1. The trusting party must check the revocation path and its authenticity from the certification authority's digital signature.
- 2. The trusting party must check the validity period of the revocation list to ensure that the list is valid.
- 3. Certificates (the public key) can be stored locally in the trusting party's system, but the validity of the certificate must be verified before it is accepted.



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If the current revocation list is not available due to a fault in the system or service, certificates under this CPS must not be accepted. If, however, the trusting party accepts the certificate, it does so at its own risk.

#### 4.6 Re-certification of a public key

Professional certificates will not be issued to previously certified public keys.

#### 4.7 Renewal of a certificate

#### 4.7.1 Reasons for renewal

A health and social care professional's certificate can be renewed when the previous certificate expires if the prerequisites for issuance specified in section 3.2.5 are still met.

In addition, a certificate can be renewed if the certificate holder's practice rights or other details change (insofar as it affects the data content of the certificate) or the card becomes damaged. In this case, the certificate holder must contact the registration point and apply for a new ID card as described in section 4.

#### 4.7.2 Certification renewal application

The certificate renewal application can be made by the certificate holder only.

#### 4.7.3 Processing of certificate renewal requests

The renewal of certificates adheres to the same procedures as when applying for the certificate for the first time.

#### 4.7.4 Notifying the applicant of card renewal

No separate notification is made when the health and social care certificate is renewed.

#### 4.7.5 Acceptance procedure for renewed certificates from the point of view of the certificate holder

The renewed certificate is accepted as described in section 4.4.1.

#### 4.7.6 Publication of a renewed certificate

Certificates are published as described in section 4.4.2.

#### 4.7.7 Notifying third parties of certificate renewal

No separate notification is made when the health and social care certificate is renewed.

#### 4.8 Amendment of a certificate

The data contents of a certificate cannot be altered after the certificate has been created. If the certificate holder's details change in a way that affects the data content of the certificate, he/she can apply for a new certificate and ID card as described in section 4.7.

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#### 4.9 Revocation and suspension of a certificate

The certification authority maintains a 24/7 certificate revocation service. Details of revoked certificates are published in a certificate revocation list, which is signed by the CA and published in a public directory. Certificates cannot be temporarily suspended.

The certification authority will notify the holder of a revoked health and social care professional's certificate if the certificate is revoked as a result of revoked practice rights.

Digital signatures made before the certificate is revoked will not be rendered invalid by revocation.

#### 4.9.1 Prerequisites for revoking a certificate

A certificate can be revoked:

- upon the certificate holder's request
- if the certificate holder's registered practice right is revoked
- if the ID card is lost, stolen or damaged
- if the PIN code and the ID card are lost or stolen
- upon death of the certificate holder.

The certification authority may revoke a health and social care professional's certificate, if the certificate is used in a way that violates this certification practice statement, the act on the electronic processing of client data in social and health care or the act on electronic prescriptions or associated regulations, requirements or guidelines.

No attempt must be made to use the certificate after the revocation request has been made.

#### 4.9.2 Who can request revocation of a certificate

A certificate revocation request can be made by:

- the health and social care professional whose certificate it is, or his/her legal representative;
- the certification authority, if the conditions specified in section 4.9.1 are met.

#### 4.9.3 The certificate revocation process

The certificate holder contacts the revocation service or the certification authority to make a revocation request. The request can be made:

- 1. by calling the free revocation service at +358800162622.
- 2. by contacting the certification authority in writing.



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The identity of the person making the request will be verified as described in section 3.4

The certification authority's duties include the revocation of certificates:

- upon the revocation of a certificate holder's practice rights, or
- upon the death of the certificate holder.

When revoking the certificate, the following information is recorded:

- the certificate holder's personal information, as available
  - o given names and surname
  - o registration number, personal ID
- details of the person requesting revocation (if other than certificate holder)
- method of identifying the requester
- the date and time of the request
- the reason for revocation is recorded if the request is made by another person; the certificate holder does not need to a give a reason
- details of the person receiving the revocation request
- other additional information provided by the certificate holder
  - o date of the loss of the ID card, the date of death of the certificate holder, etc.
- details of the person executing the revocation
- the date of revocation.

The certification authority will not notify the holder of a revoked certificate unless the certificate has been revoked due to the revocation of the certificate holder's practice rights. The certificate is revoked via the certificate system, and the revocation data are held for 5 years.

#### 4.9.4 The certificate holder's duty to request revocation

The certificate holder must request revocation of his/her certificate immediately by contacting the revocation service, if the conditions set out in section 4.9.1 are met.

#### 4.9.5 Revocation request processing time

The revocation service processes certificate revocation requests immediately.



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#### 4.9.6 The trusting party's duty to verify the validity of a certificate

The trusting party is responsible for verifying that the certificate is valid and it has not been revoked before accepting the certificate.

The trusting party is responsible for verifying the validity of the certificate and for checking either the OCSP service or the current revocation list. The certificate should not be trusted before the trusting party has checked the revocation list.

#### 4.9.7 Publishing frequency of the revocation list

The updated revocation list is published every hour.

It includes the scheduled publication time of the next revocation list. The next list may be published before the scheduled time.

#### 4.9.8 Maximum validity period of the revocation list

Each updated revocation list is valid for max. 72 hours. Each list specifies the end time of its validity.

#### 4.9.9 Real-time certificate status check

Real-time certificate status check is in use.

#### 4.9.10 Requirements for real-time certificate status check

Certificate status can be checked in real time from the OCSP service or the revocation list.

#### 4.9.11 Other certificate status checking procedures

Certificate status can be checked in real time from the OCSP service or the revocation list.

#### 4.9.12 Revocation due to a compromised private key

If a certificate needs to be revoked due to a compromised private key, the regular revocation process applies.

#### 4.9.13 Temporary suspension of a certificate

Certificates cannot be temporarily suspended.

#### 4.9.14 Who can request suspension of a certificate

4.9.15 Procedures for certificate suspension

4.9.16 Restrictions on certificate suspension

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#### 4.10 Certificate status check

Certificate validity status checks are done using the OCSP service or the revocation list. The trusting party must also verify that the validity period has not expired.

#### 4.11 Certificate expiration

A certificate is valid for the general validity period, a period specific to the certificate in question, or until its revocation when the conditions for revocation are met.

#### 4.12 Key escrow and key recovery

The encryption keys of regulated professionals are not held in escrow. Therefore certificates cannot be used without the certificate holder's consent, and private keys cannot be recovered if the card is lost or damaged.



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#### 5 Physical, operational and HR security management

Population Register Centre's information security is managed according to Population Register Centre's information security policy and the standard ISO 27001:2005.

#### 5.1 Physical security management

Population Register Centre uses technical vendors for carrying out the information technology tasks of the certificate service. PRC is responsible, as the certification authority, for the safety and operation of certificate production in an appropriate way in all of its sub-areas.

#### 5.1.1 Location and structure of facilities

The certification authority's systems are located in high-security data centres and meet the instructions and orders imposed on data centres regarding security.

Facility safety has been implemented in such a way that access to the facilities by unauthorised parties is prevented.

#### 5.1.2 Physical access control

Facilities where production duties for the certificate system are carried out have controlled physical access. The access control system detects authorised and unauthorised entry. Access to data centre facilities requires the identification of the person, whereby the person is identified and the access right is verified and the transactions are registered. Data centre facilities are guarded at all times of the day.

#### 5.1.3 Electricity supply and air-conditioning

The certificate production systems are located in ICT rooms with backed-up electricity supply and air-conditioning. A contract must be in place for fuel supply in emergencies.

#### 5.1.4 Water damage

Certificate production systems are located in ICT rooms with raised floors, raised underfloor cable trunks, and a monitoring system with capability to detect water damage.

#### 5.1.5 Fire

Certificate production systems are located in ICT rooms with automatic fire-extinguishing systems.

#### 5.1.6 Storage of data devices

Data devices such as hard disks, diskettes, flash memory devices and optical memory devices which are used to store confidential information in registration points and certificate production must be handled and stored according to the same requirements as those concerning confidential paper documents. The confidentiality of a data item or a document is determined by the Act on the Openness of Government Activities.

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# 5.1.7 Disposal of data devices

The disposal of data devices used in registration points and certificate production which contain confidential information is handled by an appropriate contractor. Disposal certificates for destroyed devices are archived.

#### 5.1.8 Backup over network

The certificate production system is backed up over an internal network of the certificate system.

### 5.2 Operational security management

The certification authority bears overall responsibility for the administrative and logistical functions related to the issuance of certificates and publication of revocation lists. Functions can be provided by another organisation contracted by the certification authority.

#### 5.2.1 Roles related to tasks

The tasks of the CA and its contractors are allocated in such a way as to minimise the risk of accidental or wilful misuse of data or services. The certificate production tasks are role-based, and each user is given only the privileges pertaining to his role.

The certificate production roles are:

- system administrator
- system user
- registration authority and
- auditor.

# 5.2.2 Number of persons required for certificate production tasks

Named organisations and persons acting on behalf of the certification authority.

At least two people are involved in the generation and administration of the CA's key pair. System-level changes in the certificate system require participation of at least two people. The identification and registration of a certificate holder requires one person.

# 5.2.3 Personal identification and authentication in different roles

The certification authority's employees who perform duties referred to in section 5.2.1 each have a personal PIN-protected management card. The management cards are used to verify the user's access privileges to the certificate system or other related systems.

# 5.2.4 Roles requiring separation of duties

The registration authority cannot be the system administrator.



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# 5.3 HR security management

#### 5.3.1 Background, merits, experience and checks

System users' tasks are security-critical since they create and manage certificate and key data. A person who performs system user duties must be suitable for the role in question and understand the importance of security in his/her everyday tasks. Organisations authorised by the CA must ensure the trustworthiness of their personnel at all times.

Persons who perform the CA's duties must undergo a background check.

# 5.3.2 Background check procedure

Organisations authorised by the CA are responsible for the background checks and trustworthiness of their employees.

### 5.3.3 Training frequency and requirements

The CA and organisations who perform its duties each ensure sufficient training of their personnel. The CA organises training for registration point personnel.

# 5.3.4 Additional training frequency and requirements

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#### 5.3.5 Frequency and order of job rotation

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## 5.3.6 Consequences for unauthorised activity

In addition to any legal consequences, if a person conducts unauthorised activity, his/her privileges to the CA's systems will be revoked permanently.

# 5.3.7 Requirements for subcontractor personnel

The personnel of organisations authorised by the CA must meet the requirements set out in section 5.3.1.

# 5.3.8 Documents given to personnel

Personnel who participate in certificate activity have access to this CPS, the certificate policy and task-specific instructions.

# 5.4 Certificate system security monitoring

The security monitoring procedures described in this section apply to all hardware and system set-ups that are linked to the certificate ordering and issuance process.

# 5.4.1 Archived events

The CA will store the following data for security monitoring purposes:

1. Creations of system-level privileges and attempts to gain unauthorised access.

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- 2. Procedure requests related to system updates and maintenance.
- 3. Installation of new software and software updates.
- 4. The time and date of each backup run and other descriptive data.
- 5. The certificate system's shutdowns, reboots and poweroffs.
- 6. The date and time of each hardware update.

With regard to certificates and the certificate system the CA keeps a record of:

- 1. All events related to the creation and revocation of certificates, including CA certificates.
- 2. All events related to the management of certificate signature keys.
- 3. All messages from the registration service, certificate distribution service and additional services (other than messages related to system management).
- 4. The log system reboots and shutdowns.
- Changes to the log system configuration.

## 5.4.2 Frequency of log data analysis

Log data are analyses on a needs basis.

# 5.4.3 Log data storage period

Log data are held in accordance with the valid provisions on archiving.

### 5.4.4 Protection of log data

Only specifically authorised personnel have access to log data.

Log data are protected against alteration, loss, corruption and unauthorised use.

### 5.4.5 Log backups

Log data are backed up daily.

# 5.4.6 The log data collection system (internal/external)

The certification authority is responsible for the log data collection system.

# 5.4.7 Notifications on log events

The system user is not notified when log data are created.

Persons who are responsible for monitoring log data are notified separately of the following:

attempts to gain unauthorised access;

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- system shutdowns, reboots and poweroffs;
- software installations and updates.

# 5.4.8 Vulnerability assessment

The CA assesses and monitors the vulnerability of the certificate system and production environment based on risk analyses, and endeavours to minimise risks.

# 5.5 Archived materials

# 5.5.1 Archived documents, files and media

The certification authority archives the following information:

- certificate applications;
- signed approvals of certificate/other applications;
- certificate service agreements;
- issued certificates;
- cross-certification documents, including the grounds and decisions and operations carried out;
- certificate revocation requests;
- current and previous versions of certificate policies and certification practice statements;
- agreements concluded between the CA and registration points; and
- agreements related to the administration, use and management of the certificate system.

#### 5.5.2 Archive retention period

The provisions of the Archive Act (831/1994) are applied as the general law for archiving. In addition, the provisions on archiving as set out in the Act on Electronic Services and Communication in the Public Sector will apply.

#### 5.5.3 Archive protection

Archive data can be accessed only by personnel who are specifically authorised to do so. Documents, files and other media are stored in a fireproof, access-controlled facility which can be accessed only by persons authorised by the CA.

Archive data are protected against alteration, loss, corruption and unauthorised use.





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#### 5.5.4 Archive backup procedures

Only digitally stored archive data are backed up.

# 5.5.5 Archive file timestamps

Archived documents are dated. Timestamp service is currently not in use.

# 5.5.6 Archive collection system (internal/external)

The CA does not have a centralised archive collection system.

### 5.5.7 Availability and integrity of archive data

Archive data can be accessed only by personnel who are specifically authorised to do so. Archive data are protected against alteration, loss, corruption and unauthorised use.

# 5.6 CA key pair change

The CA creates a new key pair and CA certificate no later than five years and three months before the expiry of the previous CA certificate. The CA certificate is submitted to a public directory as described in chapter 2. In addition, the CA certificate is stored in an ID card chip.

#### 5.7 Incident precautions

# 5.7.1 Contingency plan for operational continuity in case of incidents

The CA has set in place a contingency and recovery plan which facilitates uninterrupted operation and the recovery of the CA's systems in the event of an incident. Clear responsibilities, plans and procedural instructions are in place for incidents and exceptional situations.

# 5.7.2 Damage to the certificate system, software or data

The CA follows a continuity and recovery plan in exceptional circumstances.

# 5.7.3 Procedure if the private key of a certificate holder is compromised

Certificate holder's private keys are protected against physical breach and exposure of the keys. If the certificate holder's private key is compromised, the certificate in question will be revoked. The certificate holder will be issued with a new ID card and new private keys.

# 5.7.4 Operational continuity after an incident

After an incident, the CA will endeavour to reinstate core system functions without delay. The hardware solutions have been implemented according to good information administration practice in such a way that in the event of system failure, a backup system can be used without compromising the confidentiality, integrity or availability of the data contained in the system.

The supply and maintenance of spare parts for important devices has been ensured.



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#### 5.8 Termination

# 5.8.1 End of the certification authority's operations

Termination refers to a situation where the CA's operation is permanently closed down. A situation in which the CA's services are transferred to another organisation or the CA issues a new CA certificate is not considered termination.

Before the termination of the certification authority, at least the following measures will be taken:

- All certificates that are valid and have been granted are revoked on one or several revocation lists whose validity period does not expire until the validity of the last revoked certificate has expired.
- The certification authority will revoke all authorisations of its contractual partners to carry out tasks pertaining to certificate life cycle management on behalf of the certification authority.
- The certification authority ensures that access to the certification authority's archives as per section 5.5.7 will be maintained also after the termination of the certification authority.
- Certificate revocation lists continue to be available in the specified manner until the end
  of their validity period.

# 5.8.2 Termination of the registration authority's operation and associated rights

This refers to a situation where a health and social care organisation's right, granted by the certification authority, to register health and social care certificates is permanently revoked.

Termination of the registration authority's operations is implemented in accordance with the agreement concluded between the registration authority and the certification authority.



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### 6 Technical security management

This section describes the terms and conditions pertaining to the management of the public and private keys of the certification authority, registration authority and regulated health and social care professionals, and the associated technical specifications.

Regulated health and social care professionals' key pairs can be created by the certification authority or another organisation authorised by the CA. In any case, the CA will oversee compliance with the terms and conditions pertaining to the creation of key pairs and, for its part, ensure the functionality of key pairs.

# 6.1 Creation of key pairs and delivery to the certificate holder

#### 6.1.1 Creation of key pairs

The CA key pair is created and stored in a hardware security module that conforms to the commonly accepted standards adopted by the European Commission and published in the Official Journal of the European Union, such as FIPS 140-1 or 140-2 level 3 approval.

The certificate holder's key pairs are created in the ID card chip.

The secure key pair creation and storage process prevents the exposure of the keys beyond the key creation device.

#### 6.1.2 Delivery of private key to a health and social care professional

The ID card containing the private keys and the necessary PIN codes are delivered to the health and social care professional by a method that prevents interception by unauthorised parties.

# 6.1.3 Delivery of the certificate applicant's public key to the certification authority

The certificate applicant's public key is transmitted between the CA's systems via secure data connections.

# 6.1.4 Delivery of the CA public key to trusting parties

The CA certificate containing the CA public key can be retrieved from the public directory or service provided by the CA. In addition, the CA certificate is stored on each individual healthcare ID card.

# 6.1.5 Key length

CA keys are 4096-bit RSA keys.

The signature keys and authentication keys of health and social care professionals are 2048-bit RSA keys.

# 6.1.6 Creation and type of public keys

Key pairs are created using standardised, high-quality, commonly recognised and tested methods and hardware security modules.



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### 6.1.7 Intended use of keys

Key uses

Regulated health and social care professionals' key pairs are used for authenticating the certificate holder, data encryption, and advanced digital signing.

## 6.2 Protection of private keys and the management of the hardware security module

#### 6.2.1 Applicable standards

The CA's private keys are stored in a hardware security module (HSM) which meets FIPS 140-1 or 140-2 level 3 requirements. The certification authority's private keys are protected against disclosure and unauthorised use.

The CA ensures that regulated health and social care professionals' private keys which are stored on ID cards are delivered to the person in accordance with this CPS.

The health and social care professional's ID card is compliant with the current applicable standards, such as ISO/IEC 7816 and IAS ECC v 1.01.

The card chip and operating system are security-certified. Accepted security certifications are: FIPS 140-1 or 140-2 level 3 or higher, Common Criteria EAL4+ and ISO/IEC 15408.

#### 6.2.2 Private keys administered by multiple persons

CA's private keys require the presence of at least two people authorised to administer the keys.

The registration authority's and health and social care professional's private keys can only be administered and used by the key holder.

# 6.2.3 Private key escrow

Keys of health and social care ID cards are not held in escrow.

#### 6.2.4 Private key backup

A backup copy of the CA's private key exists.

The security features and storage of the backup copy conform to the security requirements pertaining to the original CA private key in all circumstances.

No copies of health and social care professionals' private keys are made or stored.

Health and social care professionals' private keys will not be disclosed to unauthorised parties at any stage of the card's life cycle, and they will not be stored anywhere outside the health and social care professional's ID card.

## 6.2.5 Private key archiving

The CA's private keys are destroyed after expiry.



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Health and social care professionals' private keys are not archived. The certification authority does not have access to the private keys of the certificate holders.

# 6.2.6 Processing of private keys in a hardware security module

The CA has the right to transfer its private keys to another HSM if the original HSM is replaced or decommissioned for service.

## 6.2.7 Private key storage

The CA's private keys are stored in a HSM in encrypted form.

The certificate holder's private keys are stored in the chip of the ID card in a way that prevents them from being read, altered, copied or moved.

### 6.2.8 Private key activation

The CA's private keys are activated by authorised personnel using HSM management cards.

The certificate holder's private keys are stored in the ID card chip and protected against disclosure and unauthorised use. Private keys stored in the chip can only be accessed by internal commands performed in the microchip.

In order for a microchip command to be executed on the private keys, the key must be activated using the correct PIN.

The PIN of the ID card will be locked after five unsuccessful entries.

The ID card has PIN unlocking capability. Unlocking requires input of the correct PUK code.

# 6.2.9 Preventing the use of private keys

The use of the CA's private keys is prevented by authorised personnel using management cards or by disconnecting power from the HSM where the CA's private keys are stored.

The use of private keys held on an ID card is prevented by removing the card from the card reader.

#### 6.2.10 Private key destruction

The CA's private keys can only be destroyed by the CA.

If the CA's operations are terminated, the CA's private keys and their copies are destroyed.

If a health and social care professional wishes to destroy his/her private key, he/she must contact the revocation service and ensure that data stored in the ID card microchip are destroyed, for example, by cutting the card and chip in half.

# 6.2.11 Security level classification for ID cards and HSMs

ID cards and HSMs must meet the standards referred to in section 6.2.1 and the associated classes.



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### 6.3 Other matters of key pair management

Data is collected on each individual process related to key creation. The data include the ID card order details and the card numbers and certificates of manufactured ID cards.

#### 6.3.1 Public key archiving

The CA archives its certified public keys in accordance with section 5.5.

# 6.3.2 Validity period of certificates and keys

Health and social care professionals' certificates and key pairs are valid for max. 60 months. The validity period is calculated from the certificate's date of issuance. If necessary, certificates can be issued for a fixed term.

The CA's certificate and key pair are valid for 13 years from the date of key creation. The keys will not be used for any purpose outside of the validity period.

# 6.4 Activation data

#### 6.4.1 Creation of activation data

Activation data i.e. the PIN code and PUK unlocking code are created in conjunction with ID card management. PIN codes are based on random numbers. The PIN code protects the private keys of an ID card. The certificate holder can change the PIN to another number (min. 4 characters).

The PUK code which is needed to unlock a locked PIN is 8 characters long. The PUK code is stored in the CA's information system.

# 6.4.2 Protection of activation data

PIN codes are delivered to the certificate holder in a sealed PIN code envelope, and they are not known to anybody else. The certificate holder can change the PIN codes of his/her ID card (min. 4 characters). PUK codes cannot be changed.

#### 6.4.3 Other matters regarding activation data

#### 6.5 Hardware security management

The CA's system security management includes, among others, strong identification, the traceability of actions and tasks related to the CA's private keys (down to the individual user) and the collection of log data. Hardware is located in protected facilities.

The security of the registration authority's system hardware is ensured by preventing unauthorised access.

#### 6.5.1 Special requirements

VAHTI 5/2004 guidelines apply with regard to security requirements concerning system hardware.





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# 6.5.2 Classification of hardware security

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#### 6.6 Life cycle security management

## 6.6.1 Management of systems development

The CA's systems are developed in a test environment which is separate from the production system.

All updates of the CA's information systems require a functionality check carried out in the test environment before the update is installed. Updates are planned on a case-by-case basis and scheduled and communicated in advance. The plan includes a testing plan and the acceptance criteria.

In version upgrades, the functionality of the whole data processing chain of the system will be ascertained first. The implementation stage is designed in such a way as to facilitate fast recovery of the old version within a specified time.

#### 6.6.2 Security management

In the security management of the information systems, the VAHTI 5/2004 recommendations apply. Security management is placed on:

- task allocation between persons in accordance with section 5.2;
- security monitoring;
- regular security audits;
- technical security solutions and methods; and
- an authorisation and acceptance procedure for application modifications.

#### 6.6.3 Life cycle security classification

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# 6.7 Network security management

The connections and networks of the CA's systems are strongly encrypted, protected and dedicated. The CA is responsible for network monitoring.

VAHTI 5/2004 guidelines apply with regard to security requirements for data connections.

# 6.8 Time stamp

Timestamp service is currently not in use.



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# 7 Certificate and revocation list profiles

# 7.1 Certificate profile

The profile of the health and social care professional's certificate is described in the specification: THPKI - T2: The Population Register Centre's CA model and the data contents of certificates in health and social care.

# 7.2 Revocation list profile

The profile of the health and social care certificate revocation list is described in the specification: FINEID S2 - VRK (PRC) CA-model and certificate contents.

# 7.3 Real-time revocation list check (OCSP)

An OCSP protocol is available.



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### 8 Acceptance audit

The CA ensures that its certification activity conforms to this CPS and the certificate policy.

#### 8.1 Implementation of acceptance audits

The certification authority's operation is audited at least once a year. The purpose of the audit is to ascertain the CA's compliance with the certificate policy and CPS. The CA is responsible for the implementation of the audit.

#### 8.2 Auditor

The audit is carried out by a commonly recognised independent and reputable audit body that specialises in information systems and is located in Finland or another EEA member state.

### 8.3 The auditor's relationship with the audited party

The auditor and the audited party are unrelated and independent of each other.

# 8.4 Scope of the audit

In the audit, the certificate policy and the CPS are compared with the CA's activities across the board. The audit also includes the data security of the information systems used in connection with authentication and registration.

The CA's contractors and other suppliers are also included.

The audit results are presented in a statement.

### 8.5 Measures in the event of non-conformities

If non-conformities are found, the CA will take immediate action to rectify them.

# 8.6 Communicating the audit results

The audit findings regarding documents and operations are presented in the public statement which is part of the audit report. The complete audit report is available upon request to the CA's parties as applicable on the basis on agreements.



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#### 9 General terms and conditions

This section describes the duties and responsibilities of the CA, registration authority, health and social care professional and other parties involved in the operation of the certificate system, and matters related to dispute resolution.

# 9.1 Fees and other compensations

Fees and other compensations are determined on the basis of section 22 of the act on the electronic processing of client data in social and health care and the Decree of the Ministry of Finance on the payment of Population Register Centre fees.

#### 9.1.1 Certificate issuance fee

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#### 9.1.2 Certificate usage fee

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# 9.1.3 Certificate revocation fee or status query fee

Reporting a certificate to a revocation list is free of charge. Retrieving revocation lists from the directory and checking the validity of certificates against the revocation list are also free of charge.

#### 9.1.4 Fees for other services such as a helpdesk service

The use of advisory services is subject to a separate fee according to the then-valid price list.

### 9.1.5 Refunds

Refunds are determined on the basis of agreements concluded between the parties of the certificate system.

#### 9.2 Financial duties

According to the Act on Strong Electronic Identification and Trust Services, the certification authority shall ensure that it has adequate financial resources for proper operation and for covering possible liabilities.

#### 9.3 Confidentiality and data protection

The provisions of acts and decrees and good data management practices and principles must be adhered to with regard to confidentiality and data protection.

### 9.3.1 Private information

Private information can only be disclosed on the basis of the law or regulations issued under the law or with the certificate holder's consent.

All private keys used or handled by the CA in activities under this CPS are kept secret.



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Collected registers and log data will only be published if required under an act, decree or an associated regulation.

#### 9.3.2 Public data

The public keys and revocation list of authentication certificates are public information and available in a public directory.

Identifiable information and other information related to a person or enterprise held in an issued certificate is public unless otherwise provided for in agreements, acts, decrees or associated regulations.

## 9.3.3 Protection of private information

All parties of the certificate system must comply with acts, decrees and regulations on the protection of private information.

# 9.4 Privacy protection

The provisions of applicable law on privacy protection shall apply.

# 9.4.1 Private information protection plan

The parties of the certificate system must ensure that a plan for the protection of private information is drawn up and implemented.

# 9.4.2 Private information handled in the CA's systems

The handling of private information in the CA's systems is subject to the provisions of the law on the handling of private information and the protection of privacy.

# 9.4.3 Public information handled in the CA's systems

The handling of public information in the CA's systems is subject to the provisions of the Act on the Openness of Government Activities.

# 9.4.4 Responsibility for the protection of private information

The CA ensures that private information handled in its systems is protected against unauthorised access.

# 9.4.5 Use or publication of private information with the certificate holder's consent

Confidentiality and data protection are described in section 9.3.

# 9.4.6 Disclosure of information to authorities

Information can be disclosed to authorities on the basis of acts, decrees and associated regulations.

# 9.4.7 Other circumstances in which information can be published

The CA will not disclose information in any other circumstances than those described above.



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# 9.5 Intellectual property rights

Population Register Centre owns all data pertaining to the certificates and documentation in accordance with the technical terms of delivery. Population Register Centre has full ownership and utilisation rights to this certificate policy.

# 9.6 Parties' commitments

#### 9.6.1 CA's commitments

The CA agrees to produce, maintain and develop health and social care certificate services in accordance with this CPS and the certificate policy.

### 9.6.2 Registration authority's commitments

The registration authority must, for its part, agree to produce, maintain and develop health and social care registration services in accordance with this CPS and the certificate policy.

# 9.6.3 The certificate holder's commitments

The certificate holder agrees to use the health and social care professional's certificate and ID card in accordance with this CPS, the certificate policy and the instructions issued to him/her.

#### 9.6.4 Trusting parties' commitments

Trusting parties agree to ensure the compatibility of their health and social care systems with the health and social care professional's certificates.

#### 9.6.5 Other parties' commitments

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### 9.7 Non-liability clause

The non-liability clauses included in the agreements concluded between the CA and its contract partner or in the CA's specific requirements concerning certificate holders and parties using the certificate system apply to the CA's partner, certificate holder and the party using the certificate system in the same way as non-liability clauses and limitations of liability set out in this CPS.

#### 9.8 Limitations of liability

Population Register Centre's liability for damages related to the production of certificate services is determined according to the service agreement concluded with the certificate applicant. Population Register Centre is bound by the certification authority's liability for damages conformant to the Act on Strong Electronic Identification and Trust Services and the Act on Electronic Services and Communication in the Public Sector. Where applicable, the Tort Liability Act (412/1974) also applies.

The certification authority is not liable for damage caused by the disclosure of PIN codes, a PUK code and a certificate holder's private keys unless said disclosure is the direct result of Population Register Centre's direct actions.



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The maximum extent of the certification authority's liability to the certificate holder and a party trusting the certificate is for direct damage incurred, if the damage is the result of the certification authority's direct actions.

The certification authority is not liable for indirect or consequential damage caused to the certificate holder. Neither is the certification authority liable for the indirect or consequential damage incurred by a party trusting a certificate or by another contractual partner of the certificate holder.

The certification authority is not responsible for the operation of public telecommunication connections, such as the Internet, or for the inability to execute a legal transaction because of the non-functionality of a device or card reader software used by the certificate holder or for the use of a certificate in contradiction to its intended use.

The certification authority has the right to interrupt the service for changes or maintenance. Changes to or maintenance of the revocation list will be announced in advance.

The certification authority has the right to further develop the certificate service. A certificate holder or a party trusting a certificate must bear their own expenses thus incurred, and the certification authority is not liable to compensate the certificate holder or a party trusting the certificate for any expenses caused by the certification authority's development work.

The certification authority is not liable for errors in the online service or applications intended for end users and based on a certificate or any resulting expenses. The responsibility of a certificate holder ends when they have reported the necessary data to the revocation service for revoking the certificate and when they have received a revocation notice from the official receiving the call. In order to terminate liability, the revocation request must be made immediately upon noticing the reason for the request.

# 9.9 Compensation for damages

Population Register Centre's liability for damages related to the production of certificate services is determined according to the service agreement concluded with the certificate applicant. Population Register Centre is bound by the certification authority's liability for damages conformant to the Act on Strong Electronic Identification and Trust Services and the Act on Electronic Services and Communication in the Public Sector. Where applicable, the Tort Liability Act (412/1974) also applies.

### 9.10 Validity and expiry

### 9.10.1 Validity of the CPS

This CPS will be valid until superseded by a new version of the certificate policy in question.

# 9.10.2 Expiry of the CPS

This CPS does not have a predefined period of validity.





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# 9.10.3 Effects of the expiry of the CPS

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# 9.11 Communication between the parties of the certificate service

The CA and the parties involved in the certificate activity must notify each other of any changes concerning their activities. Changes are communicated in writing to all cooperation parties.

# 9.12 CPS change management

Changes to the CPS are at the discretion of the CA.

### 9.12.1 Amendment of the CPS

Population Register Centre approves the certificate policy and certification practice statement pertaining to professional certificates. The documents may be amended according to Population Register Centre's internal change policy. Population Register Centre will communicate the changes to FICORA and on its own website well in advance of their entry into force. Population Register Centre maintains version management of the documents and archives all certificate policy and certification practice statement documents. Typographic corrections and changes of contact details are possible with immediate effect.

# 9.12.2 Change notice

- 1. All items of the certificate policy and certification practice statement can be amended by communicating the main upcoming changes 30 days before their entry into force.
- 2. Items that Population Register Centre does not deem to have significant effect on certificate holders and trusting parties may be amended with communication 14 days in advance.

# 9.12.3 Changes to the CPS identifier

The identifier will not change if the contents of the CPS are changed.

#### 9.13 Settling of disputes

The parties shall attempt to resolve any disputes arising from the health care certificate service or this CPS through negotiations. If no settlement is reached, the disputes between the parties will be brought before the district court of the certification authority's domicile in Finland.

#### 9.14 Governing law

The health and social care certificate service and this CPS are governed by Finnish law.

#### 9.15 Jurisdiction

The provision of the health and social care certificate services shall be governed exclusively by Finnish law.

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#### 9.16 Other arrangements

# 9.16.1 Agreements

The rights, responsibilities and duties of the certification authority and the certificate holder are specified in the certificate policy and CPS. By signing the certificate application, the social welfare and healthcare professional undertakes to observe the terms and conditions governing the use of the certificate. The social welfare and health care professional will receive the valid terms and conditions together with the certificate.

Further, upon signing, the health and social care professional agrees to immediately notify the revocation service if his/her ID card is lost or if there is a suspicion or possibility of its misuse.

The certification authority and its authorised registration authorities conclude an agreement which states each party's rights, responsibilities and duties.

The certification authority may conclude agreements with trusting parties and other parties. Each agreement must clearly state each party's rights, responsibilities and duties.

The certification authority concludes agreements with the certificate service supplier and component suppliers as necessary.

# 9.16.2 Transfer of rights

The parties of the healthcare certificate service shall not transfer any rights defined in the agreements to other parties without the certification authority's prior consent.

#### 9.16.3 Invalidity

Any invalidity, illegality or unenforceability of an individual provision of this CPS will not affect the rest of the CPS.

#### 9.16.4 Enforcement

In the event that the certification authority waives its entitlement to damages or other compensation in respect of a breach of contract, it shall not be construed as waiver of any other similar or future breach of contract.

#### 9.16.5 Force majeure

The certification authority is not liable for any damages caused by natural disasters or other force majeure events. Additional impediments

# 9.17 Other terms and conditions

When interpreting and applying documents concerning the health and social care certificate services, this CPS, and the commitments agreed to between the parties of the certificate system, the Finnish-language versions of documents take precedence.