REPUBLIC OF ALBANIA

Production & Distribution of Identity Cards & Biometric Passports

ALBANIA E-ID PKI: ALBANIAN PROOF CA CERTIFICATION PRACTICE STATEMENT

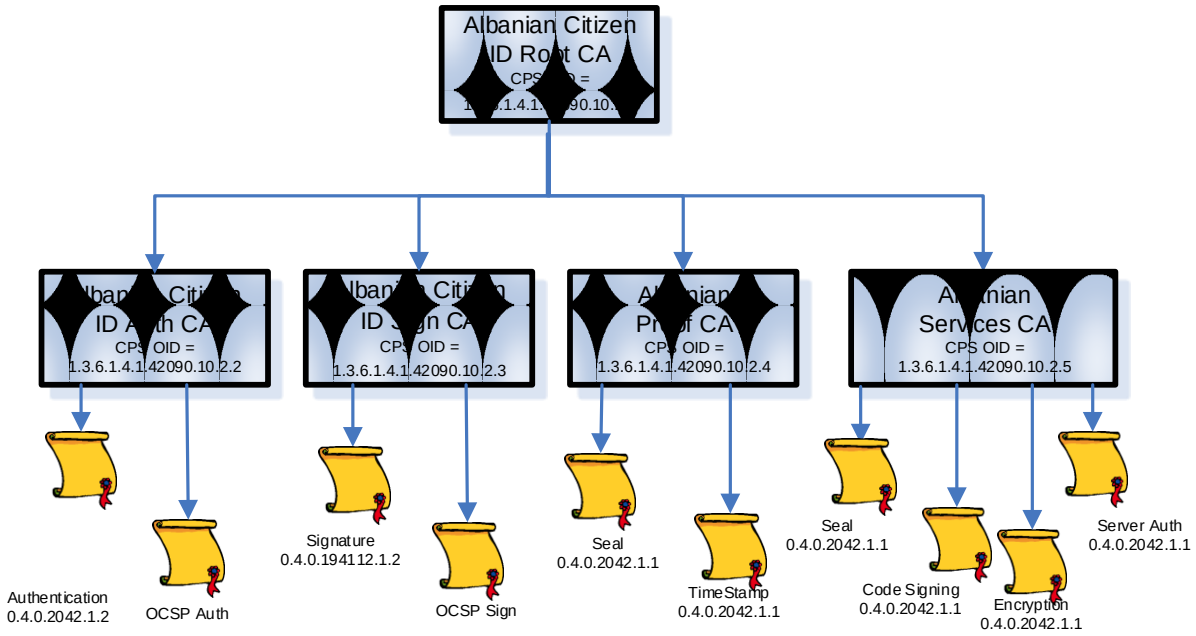
Aleat
an IDEMIA company

TABLE OF CONTENTS

1. INTRODUCTION

1.1. Overview

Albania operates E-ID Public Key Infrastructure (PKI) to deliver certificates used in the electronic citizen identity card and Aleat eServices system. The certificates delivered are signed by a Certificate Authority (CA).
CA are signed by a Root Certification Authority (RCA or also named “Albanian Citizen ID Root CA”).
CA are “on-line” (means CA use a network) and RCA are “Off-line” (means RCA is not used with network).
The certificates for seal and timestamp are delivered by a CA named “Albanian Proof CA”.



This Certificate Practice Statement (CPS) defines the procedures applicable to the Albanian Proof CA implements to certify Certification Authority (CA).

The present CPS is consistent with:

- The Internet Engineering Task Force (IETF) Public Key Infrastructure X.509 (IETF PKIX) RFC 3647, Internet X.509 Public Key Infrastructure Certificate Policy and Certification Practise Statement Framework;
- The Certification Practice Statement (CPS) of the Albanian Citizen ID Root CA.

1.2. Document name and Identification

This CPS is the OA property. The corresponding CP is a normalized certificate policy OID is 0.4.0.2042.1.2. This CPS document has its own OID (1.3.6.1.4.1.42090.10.2.4).

1.3. PKI Participants

On behalf of Albanian Ministry of Internal Affairs Operational Authority (OA) operates the CA in a dedicated trust center. For this purpose Aleat has established a PMA to manage the CA. To host, operate the CA and certify systems, Aleat deploys a PKI (E-ID PKI). For the proof certificate issuance activity delivered by the CA, this PKI is composed of the components described below and supports the following services:

- Generation of CA key: OA on behalf of Albanian Ministry of Internal Affairs operates the CA and generates the CA keys in the OA trust center during an operation called “Key ceremony”;

- Generation of proof certificate: the CA receives the certificate request from LRA and generates a digital certificate according to this CPS. This operation is performed by the CA in the OA trust center;

- Revocation of proof certificate: when the link between the system and public key defined within the certificate delivered by the proof certificate is considered no longer valid then the CA revokes the proof certificate. This operation is performed by the CA in the OA trust center;

- Renewal of a proof certificate: action of delivering a new certificate to the system with the same procedure used for the first proof certificate;

- Publication services: the RCA certificate, all the CA certificates, corresponding CRL and ARL are published by the Publication Service (PS).

The CA CPS gives the security requirements for all the described services, the CA CPS gives more details on the practices enforced by each entity participating to the CA activities. As the CA is hosted and operated in the Operational Authority (OA) trust center, the security policy of the OA is referenced in this CPS for the CPS requirements covered by the operational procedures of the OA.

1.3.1. Aleat Policy Management Authority (PMA)

Aleat is the PMA.

The PMA defines and approves the RCA CPS. The PMA proceeds to the mapping of:

- The RCA CPS: the result of the mapping guarantees that the RCA operates in compliance with its CPS. The result of the compliance review is validated by the PMA;

- The CA CPS: the result of the mapping guarantees that the CA operates in compliance with the present CPS. The result of the compliance review is validated by the PMA;

- The Information Security Management System of the OA with ISO 27001 criteria: the result of the audit guarantee that the security policy of the OA is compliant with the security objective control of the ISO 27002 and the E-ID PKI is securely hosted and operated in compliance with the CPS and the security policy of the OA. The OA ISMS policy document (ISO-QA-014) describes the management of the security and the Information System Security Policy (ISO-SC-023) which is accessible by all OA employees.

1.3.2. Root Certificate Authority (RCA)

Aleat on behalf of Albanian Ministry of Internal Affairs is RCA.

The RCA signs and revokes certificates for CA. In this CPS, when the term 'RCA' is used without reference to any component (RA, Publication Service…) it covers the overall deployed PKI, dealing with legal and business matters. The RCA supports the PKI services as described above. The RCA uses the publication service to publish the certificates and the ARL that it generates. The RCA operates its services according to the Root CA CPS. The RCA cannot start operation without prior approval of the PMA.

All the RCA operations are performed in the OA trust center. The RCA's key pair are also managed and protected in the OA trust center. The E-ID PKI platform (for RCA) is a dedicated computer using Keyseed® and Luna G5 software.

1.3.3. Certification Authorities (CA)

CA is managed by Aleat.

Albanian Proof CA generates certificates for system or for technical needs of the OA. CA uses SP to publish its proof certificates and the CRL it issues.

All the CA operations are performed in the OA trust center. The CA's key pair are also managed and protected in the OA trust center. E-ID PKI platform (for CA) is a set of servers using ID-CA ID-NOMIC PKI application software and Luna Network HSM.

1.3.4. Registration Authority (RA)

RA is managed by the OA for organisational works (nominates the LRA). OA manage technical aspect of the RA (component communication with LRA and management of technical certificate used by LRA).

RA is an entity that nominates, authenticates and verifies the LRA. RA receives all certificates requests from LRA. RA is authenticated and recognized by CA. RA transmits certificate request to CA.

All the RA operations are performed in the OA trust center. E-ID PKI platform (for RA) is a set of server using ID-CA of ID-NOMIC PKI application software.

1.3.5. Operational (OA)

Aleat is the OA for the E-ID PKI of the Albanian Ministry of Internal Affairs.

The Operational Authority (OA) is the entity which sets up and realizes all technical operations of E-ID PKI certificates life cycle management on behalf of the Albanian Ministry of Internal Affairs. This entity is responsible for the security of the cryptographic material (hardware security modules, key pair, activation data…) and the PKI application of the E-ID PKI and of the physical and logical infrastructure set up for the E-ID PKI.

Aleat elaborates its own security policy and emergency and recovery plan for the OA.

1.3.6. Local Registration Authority (LRA)

An LRA is an entity that realizes the authentication and identification of the proof needs of the systems. LRA transmits certificate request and revocation request to RA (ID-CA of ID-NOMIC software).

An LRA is authenticated and recognized by RA (ID-CA of ID-NOMIC software).
Aleat is the LRA.

1.3.7. Publication Service (PS)

The PS is an entity that makes available information such as CA CPS and CRL.

The PS is hosted and managed by the OA.

1.3.8. System

A system is a software component the identity of which is contained in the proof certificates and certified by the Albanian Proof CA. System holds the proof certificate and uses the corresponding private key it to sign, time-stamp, or authenticate documents.

1.3.9. Other Participants

1.3.9.1. Relying Party (RP)

A Relying Party is an entity that relies on the validity of the binding of the system's identity to a public key. A Relying Party is responsible for deciding how to check the validity of a proof certificate, at least by checking the appropriate certificate status information for proof certificate, CA certificate and Root CA certificate. A Relying Party may use information in the certificate (such as Certificate Policy identifiers) to determine the suitability of the certificate for a particular use.

1.4. Certificate Usage

1.4.1. Appropriate Certificate Uses

1.4.1.1. CA certificate

The Albanian Proof CA certificate is used to sign X.509 certificates (proof certificates) and CRL according to this CPS.

The CA certificate is used to authenticate proof certificates and CRL delivered by the CA.

1.4.1.2. Proof certificate

The proof certificate is used by a system to seal or time-stamp.

The proof certificate is used by a relying party to check and verify the identity of a system.

1.4.2. Prohibited Certificate Uses

No other application (means different certificate format or different CA function) than the one stated in § 1.4.1.1 and § 1.4.1.2 above are covered by the CA CPS. Albanian Ministry of Internal Affairs is not responsible for any other use that these stated in the CA CPS.

Certificates shall only be used in line with the applicable law, and in particular shall only be used to the extent permitted by applicable export or import laws. Proof certificates and CA certificate shall not be used for any functions except theses stated in § 1.4.1.1 and § 1.4.1.2 above.

1.5. Policy Administration

1.5.1. Organization Administering the Document

The PMA is responsible for all aspects of this CPS.

1.5.2. Contact Person

The Certificate Policy Manager is responsible for the PMA

Aleat
Contact: Chief Operation Officer
Address: Rruga Xhanfize Keko, Tirana, Albania
Phone: +355 69 4050 500
Mail: security@aleat.com

1.5.3. Person Determining CPS Suitability for the Policy

The PMA approves the RCA and CA CPS and determines compliance of RCA and CA CPS. Entities will be required to attest to such compliance periodically as established by the PMA. Further, the PMA reserves the right to audit entity compliance as set in section 8 of the RCA CPS and in the contract between Albanian Ministry of Internal Affairs.

In each case, the determination of suitability shall be based on an independent compliance audit report and recommendations and/or by the PMA expert. See section 8 for definition of independent compliance auditor.

1.5.4. CPS Approval Procedure

The term CPS is defined in the Internet RFC 3647, X.509 Public Key Infrastructure Certificate Practices Framework as: "A statement of the practices, which a Certification Authority employs in issuing certificates". It is a comprehensive description of such details as the precise implementation of service offerings and detailed procedures of certificate life-cycle management. It shall be more detailed than the corresponding CPS described above.

The PMA approves and maintains the RCA and CA CPS.

The RCA and CA CPS, which are separate documents, are published where necessary by the PMA. The PMA approves the results of the review made by PMA experts or independent auditors on the RCA and CA CPS compliance with the RCA CPS.

Amendments shall either be in the form of a new CPS (with a sum up of the modifications). The new version of CPS replaces automatically the previous one and becomes operational as soon as the PMA has established its agreement on the mapping result. A new version of CPS has to be still compliant with the present CPS to permit the RCA and CA to refer to this CPS and deliver certificates.

1.6. Definitions and Acronyms

1.6.1. Definitions

Activation data: Data values, other than keys, that are required to operate cryptographic modules and that need to be protected (e.g., a PIN, a pass phrase, or a manually-held key share).

Administrative contact: the CA Entity representative that is authorized to act on behalf of the CA Entity for all interaction with the RCA (transmission of requests to the RA…).

Audit: Independent review and examination of system records and activities to assess the adequacy and effectiveness of system controls, to ensure compliance with established policies and operational procedures, and to recommend necessary changes in controls, policies, or procedures. [ISO/IEC POSIX Security]

Authority Revocation List (ARL): A list digitally signed by a CA, and contains certificates identities that are no longer valid. The list contains the issuing CA identity, the date of issue and the revoked certificates serial numbers.

Availability: The property of being accessible and upon demand by an authorized entity [ISO/IEC 13335-1:2004].

Certificate: The public key of a citizen or system, together with some other information, rendered unforgeable by encipherment with the private key of the certification authority which issued it [ISO/IEC 9594-8; ITU-T X.509].

CA-certificate: A certificate for one CA issued by another CA. [ISO/IEC 9594-8; ITU-T X.509]. In this context, the CA-certificates are RCA-certificate (self-signed certificate) and CA-certificate (sign by the RCA).

Certificate Policies (CP): A named set of rules that indicates the applicability of a certificate to a particular community and/or class of application with common security requirements. [ISO/IEC 9594-8; ITU-T X.509].

Certificate Request: A message transmitted to the CA to have a certificate delivered by the CA.

Certification Practice Statement (CPS)

A statement of the practices that Albanian Ministry Of Internal Affairs (acting as a Certification Authority) employs in approving or rejecting Certificate Applications (issuance, management, renewal and revocation of certificates). [RFC 3647]

Certificate validity period: The certificate validity period is the time interval during which the CA warrants that it will maintain information about the status of the certificate. [RFC 3280].

Citizen: Albanian person who is authorized to have a citizen identity card.

Certification Path: A chain of multiple certificates needed to validate a certificate containing the required public key. A certificate chain consists of a RCA-certificate, CA-certificate and the end certificates signed by the CA.

Compromise: A violation (or suspected violation) of a security policy, in which an unauthorized disclosure of, or loss of control over, sensitive information may have occurred. With respect to private keys, a Compromise is a loss, theft, disclosure, modification, unauthorized use, or other compromise of the security of such private key.

Confidentiality: The property that information is not made available or disclosed to unauthorized individuals, entities, or processes [ISO/IEC 13335-1:2004].

CRL distribution point: A directory entry or other distribution source for CRLs (ARL); a CRL or ARL distributed through a CRL distribution point may contain revocation entries for only a subset of the full set of certificates issued by one CA or may contain revocation entries for multiple CAs. [ISO/IEC 9594-8; ITU-T X.509].

Cryptographic modules: a set of software and hardware components that are used to operate private cryptographic key to enable cryptographic operations (signature, encryption, authentication, key generation …). When a cryptographic module stores private key it needs an activation data to activate the private key stored inside. For a CA, a cryptographic module is a Hardware Secure Module evaluated (FIPS or EAL) that is used to store and operate the CA private key.

Disaster Recovery Plan: A plan defined by a CA to recover its all or part of PKI services, after they've been destroyed following a disaster, in a delay define in the CPS.

Hash function: A function which maps string of bits to fixed-length strings of bits, satisfying the following two properties:

- It is computationally infeasible to find for a given output an input which maps to this output;
- It is computationally infeasible to find for a given input a second input which maps to the same output [ISO/IEC 10118-1].

Integrity: Refers to the correctness of information, of originator of the information, and the functioning of the system which processes it.

Interoperability: Implies that equipment and procedures in use by two or more entities are compatible, and hence that it is possible to undertake common or related activities.

Key Ceremony A procedure whereby a CA's or component's key pair is generated, its private key is transferred into a cryptographic module, its private key is backed up, and/or its public key is certified.

Online Certificate Status Protocol (OCSP): A protocol for providing Relying Parties with real-time Certificate status information.

PKCS #10 Public-Key Cryptography Standard #10, developed by RSA Security Inc., which defines a structure for a Certificate Signing Request.

Policy qualifier: Policy-dependent information that accompanies a certificate policy identifier in an X.509 certificate. [RFC 3647]

Private key: That key of an entity's asymmetric key pair which should only be used by that entity [ISO/IEC 9798-1].

Public key: That key of an entity's asymmetric key pair which can be made public. [ISO/IEC 9798-1]

Public Key Infrastructure (PKI): The infrastructure needed to generate, distribute, manage and archive keys, certificates and certificate-revocation lists and the repository to which certificates and CRLs are to be posted. [2nd DIS ISO/IEC 11770-3 (08/1997)]

Publication Services: Cf. § 1.3.7.

Relying Party: Cf. § 1.3.9.1.

RSA: A public key cryptographic system invented by Rivest, Shamir, and Adelman.

Root Certificate Authority (RCA): Cf. § 1.3.2.

Secure Socket Layer (SSL): The industry-standard method for protecting Web communications developed by Netscape Communications Corporation. The SSL security protocol provides data encryption, server authentication, message integrity, and optional client authentication for a Transmission Control Protocol/Internet Protocol connection.

Security policy: The set of rules laid down by the security authority governing the use and provision of security services and facilities. In this context, the security policy will be set up by the OA which host and operate E-ID PKI.

Self-signed certificate: A certificate for one CA signed by that CA.

Token: The hardware device used to transport keys to an entity and which can protect those keys in operation [ISO/IEC 9798-1 (2nd edition): 1997].

Trustworthy System: Computer hardware, software, and procedures that are reasonably secure from intrusion and misuse; provide a reasonable level of availability, reliability, and correct operation; are reasonably suited to performing their intended functions; and enforce the applicable security policy. A trustworthy system is not necessarily a "trusted system" as recognized in classified government nomenclature.

Time stamping services: A service that provides a digitally signed assertion (a Digital Receipt) that a particular document or set of data existed at a particular point in time. Time Stamping

Service: A service that provides a trusted association between a datum and a particular point in time, in order to establish reliable evidence indicating the time at which the datum existed.

1.6.2. Acronyms

ANSI: The American National Standards Institute;
ARL: Authority Revocation List;
CC: Common Criteria (ISO 15408 standard)
CPS: Certification Practice Statement;
CRL: Certificate Revocation List;
DN: Distinguished Name;
EAL: Evaluation assurance level (pursuant to the Common Criteria);
FIPS: United State Federal Information Processing Standards;
HTTP: Hypertext Transport Protocol;
IP: Internet Protocol;
ISO: International Organisation for Standardization;
PMA: Aleat Management Authority;
KTS: Aleat Trust Center;
LDAP: Lightweight Directory Access Protocol;
LRA: Local Registration Authority
OA: Operational Authority
OCSP: Online Certificate Status Protocol;
OID: Object Identifier;
PIN: Personal identification number;
PKCS: Public-Key Cryptography Standard;
PKI: Public Key Infrastructure;
PS: Publication Service;
RA: Registration Authority;
RCA: Root Certification Authority;
RFC: Request for comment;
RP: Relying Party
RSA: Rivest, Shamir, Adleman (Public-Key Cryptosystem);
SHA: Secure Hash Algorithm (US Standard);
CA: Certificate Authority that delivers end user certificate to citizen and to system;
SSL: Secure Socket Layer;
URL: Uniform Resource Locator.

2. PUBLICATION AND REPOSITORY RESPONSIBILITIES

2.1. Repositories

The OA operates a repository (PS) to make available the information defined below to relying parties.

2.2. Publication of Certificate Information

The OA ensure that the terms and conditions of the CPS as necessary (for instance on a need to know basis), and certificates are made available to system and relying parties by their PS. OA makes available the following information through its PS:

- Root CA CPS; https://www.aleat.al/pdf/cps-citizen-root-ca.pdf
- CA CPS: https://www.aleat.al/pdf/cps-proof-ca.pdf
- RCA certificate: https://www.aleat.al/csp/albanian-citizen-id-root-ca-04.cer
- CA certificate: https://www.aleat.al/csp/albanian-proof-ca-04.cer
- Certificate status (CRL): https://www.aleat.al/csp/albanian-proof-ca-04.crl
- CA Certificate status (ARL): https://www.aleat.al/csp/albanian-citizen-id-root-ca-04.crl

These information are available through a durable means of communication and in readily understandable language.

2.3. Time or Frequency of Publication

The information identified above at § 2.2 are available:

- Before service starts for initial RCA CPS, no later than 48 hours after Root CA CPS update is approved by the PMA for any RCA CPS update;
- Before service starts for initial CA CPS, no later than 48 hours after CA CPS update is approved by the PMA for any CA CPS update;
- Before service starts for Root CA certificate and CA certificates;
- No later than 24 hours after generation for CA Certificate status (ARL);
- Before service starts for initial CA certificates, no later than 48 hours after generation for CA certificate renewal or re-key;
- No later than 24 hours after generation for Certificate status (CRL …) of the certificates issued by CA.

2.4. Access Controls on Repositories

The PS ensures that the information is made available and protected in integrity and authenticity from unauthorised modification. Information is publicly and internationally available through the Internet.

OA ensure that the PS is accessible for:

- Writing only for internal authorized trusted roles;
- Reading and downloading for external users.

The mechanisms and procedures are described in the OA's security policy.

3. IDENTIFICATION AND AUTHENTICATION

3.1. Naming

3.1.1. Type of Names

RCA and CA have a clearly distinguishable and unique X.501 Distinguished Name (DN) in the certificate subject name field and in accordance with RFC3280. The CPS gives all the details for the identity given to the CA and for a system name

3.1.1.1. CA

The DN of the CA certificate is:

Base certificate	Value
Issuer DN	C = AL OI = NTRAL-K82018015V O = Aleat CN=Albanian Citizen ID Root CA
Subject DN	C = AL OI = NTRAL-K82018015V O = Aleat CN=Albanian Proof CA

3.1.1.2. Seal Certificate

The DN of the Seal certificate is:

Base certificate	Value
Issuer DN	C = AL OI = NTRAL-K82018015V O = Aleat CN=Albanian Proof CA
Subject DN	C = AL OI = NTRAL-K82018015V O = Aleat CN = <System Name>

3.1.1.3. Timestamp Certificate

The DN of the Timestamp certificate is:

Base certificate	Value
Issuer DN	C = AL OI = NTRAL-K82018015V O = Aleat CN=Albanian Proof CA
Subject DN	C = AL OI = NTRAL-K82018015V O = Aleat CN = <System Name>

3.1.2. Need for Names to be Meaningful

The certificates issued pursuant to this CPS are meaningful only if the names that appear in the certificates can be understood and used by Relying Parties. Names used in the certificates must identify the system or object to which they are assigned in a meaningful way.

3.1.3. Anonymity or pseudonym of Subscribers

The identity used for the proof certificates (seal and timestamp) and CA certificates is not a pseudonym or an anonymous name.

3.1.4. Rules for Interpreting Various Name Forms

Rules for interpreting name forms are self contained in the applicable certificate profile as defined in § 3.1.1 and 7.2.

3.1.5. Uniqueness of Names

The system and CA identity (refer to § 3.1.1) is unique for all certificates generated by the CA. The PMA ensures this uniqueness through its registration process (refer to § 3.2.2).

3.1.6. Recognition, Authentication, and Role of Trademarks

No stipulation.

3.2. Initial Identity Validation

3.2.1. Method to Prove Possession of Private Key

The system's key pairs are generated and stored in a hardware security module. The LRA ensures that the system owns the private key corresponding to the public key to be certified by CA, using certification request in Pkcs#10, and the signature of the certificate request using the LRA's private key (Cf. § 6.1.3).

3.2.2. Authentication of Organization identity

Organizations acting on behalf of PMA are appointed by the Albanian Ministry of Internal Affairs. The PMA is the primary organization to be appointed, the PMA then assigns all other entities acting on behalf of RCA and CA.

Organization acting on behalf of RCA an CA are the following:

- RCA: Aleat on behalf of Albanian Ministry of Internal Affairs;
- CA: Aleat;
- PMA: Aleat on behalf of Albanian Ministry of Internal Affairs;
- OA: Aleat;
- LRA: Aleat

3.2.3. Authentication of Individual identity

CA

Evidence of the Individual identity, for persons who work in PMA is checked against a physical person. Each person has to sign a form (refer to § 10.1 below) regarding the trusted roles that individual person may own within the PMA.

OA

Evidence of the Individual identity, for persons who work in OA is checked against a physical person. Each person has to sign a form (refer to § 10.1 below) regarding the trusted roles that individual person may own within the OA.

Authentication and trusted roles assignment is performed following rules that are:

- Security Officer: the chief executive officer of the OA authenticates and authorizes a person to own the trusted role Security Officer. Each Security Officer signs a form (refer to § 10.1 below). This form is also signed by the chief executive officer of the OA. Security Officer belongs to the OA;

- E-ID PKI Administrator: the Security Officer authenticates and authorizes a person to own the trusted role E-ID PKI Administrator. Each E-ID PKI Administrator signs a form (refer to § 10.1 below). This form is also signed by the Security Officer of the OA. E-ID PKI Administrator belongs to the OA;

- System Administrator: the Security Officer authenticates and authorizes a person to own the trusted role System Administrator. Each System Administrator signs a form (refer to § 10.1 below). This form is also signed by the Security Officer of the OA. System Administrator belongs to the OA;

- E-ID PKI Operator: the E-ID PKI Administrator authenticates and authorizes a person to own the trusted role E-ID PKI Operator. Each E-ID PKI Operator signs a form (refer to § 10.1 below). This form is also signed by the E-ID PKI Administrator of the OA. E-ID PKI Operator belongs to the OA.

Once he receives the authorization for a person to own a trusted role, the Security Officer or the E-ID PKI Administrator (depending of the certificate to generate cf. 12.1) authenticates the person who is cleared to own the trusted role during a face to face meeting to deliver him/her a technical certificate (refer to § 12.1 below).

3.2.3.1. LRA

Evidence of the Individual identity, for persons who work in LRA is checked against a physical person who is responsible of the deployment of the LRA platform. Each person has to sign a form (refer to § 10.1 below) regarding the trusted roles that individual person may own within the LRA. The form is returned to the PMA.

3.2.3.2. System

Authentication of system is done by LRA. Evidence of the system is verified by LRA.

The LRA checks that the system is entitled to issue certificate requests, and that the proof need matches the system requirements. The procedure used to request Albanian proof certificates is reference as OPS-IS-005. The requester has to fill OPS-IS-005-Form1.

3.2.4. Non-Verified Subscriber information

Information that is not verified is not included in Certificates.

3.2.5. Validation of Authority

PMA mandates and authorizes OA to generate RCA and CA certificates, under the control of PMA, with the identity and in the name of the Albanian Ministry of Internal Affairs.

Validation of authority of the individual (confirmation of the employment and authorization of the person enrolling, existence and identity of the service named, possession of a function …) with trusted roles who works in OA are authenticated by the PMA. PMA uses the same procedure as described in sections 3.2.3.1 and 3.2.3.2**.**

3.2.6. Criteria for Interoperation

Certificate delivered by E-ID PKI are managed according to the rules and requirements stated by the PMA.

3.3. Identification and Authentication for Renewal certificate Requests

3.3.1. Identification and Authentication for renewal certificate

A request for renewal proof certificate may only be made by the LRA. At each re-key request the identity of a system, identified as required in § 3.2.3, is re-established through the initial registration process.

3.3.2. Identification and Authentication for renewal certificate after Revocation

After the proof certificate has been revoked, the LRA proceeds to the initial registration process described in § 3.2.3 to obtain a new proof certificate.

3.4. Identification and Authentication for Revocation Request

Proof certificate revocation requests are authenticated by the LRA or RA. The authentication procedure requires to go through the initial registration process (See § 3.2.3) for system. The LRA Operator transmits the technical revocation request to the RA (OA, ID-CA ID-NOMIC software). The revocation request is file signed by LRA platform and transmitted to ID-CA ID-NOMIC software during SSL communication

OA is authorized to request certificate revocation. The Security Officer of OA authenticates the employee of the OA according to rules defined by PMA. PMA defines a list of trusted employees

allowed to request such revocation to the OA. The E-ID PKI Operator, on the order of the Security Officer, uses the ID-CA ID-NOMIC web interface to transmit the revocation request during an SSL communication.

4. CERTIFICATE LIFE-CYCLE OPERATIONAL REQUIREMENTS

4.1. Certificate Application

4.1.1. Origin of a certificate request

LRA is in charge of requesting a proof certificate.

4.1.2. Enrolment Process and Responsibilities

The proof certificate request is established by the LRA.
The LRA manually signs (hand written signature) the request.

4.2. Certificate Application Processing

4.2.1. Performing Identification and Authentication Functions

The LRA establishes and provides the proof certificate request.
The LRA authenticates and identifies the system.
The LRA verifies all the information of the system.

4.2.2. Approval or Rejection of Certificate Applications

If verifications are successes, then:

- The LRA Operator accepts the proof certificate request;
- The LRA Operator transmits the technical proof certificate request to the RA (OA, ID-CA ID-NOMIC software). The certificate request is file signed by LRA platform and transmitted to ID-CA ID-NOMIC software during TLS communication ;
- The LRA Operator transmits the request to the RA by means that guarantee confidentiality and integrity. The transmission is done by transport selected by Aleat.

4.2.3. Time to Process Certificate Applications

No stipulation.

4.3. Certificate Issuance

4.3.1. CA Actions during Certificate Issuance

RA (OA, ID-CA ID-NOMIC software) verifies the LRA platform certificate and signature to authenticate the LRA platform and the certificate request.
The RA (OA, ID-CA ID-NOMIC software) transmits proof certificate request, signed file, to the Albanian Proof CA (OA, ID-CA ID-NOMIC software).

Albanian Proof CA (OA, ID-CA ID-NOMIC software) verifies the RA (OA, ID-CA ID-NOMIC software) certificates and signature.
Albanian Proof CA (OA, ID-CA ID-NOMIC software) transmits the proof certificate to the RA (OA, ID-CA ID-NOMIC software).
RA (OA, ID-CA ID-NOMIC software) transmits the proof certificate to the LRA platform.
LRA Operator puts certificates in the system.

All the operations, realized in the OA trust center, are protected in a manner to guarantee the integrity, confidentiality (when it is necessary) and origin of transmitted data and secure link between RA, CA and LRA.

4.3.2. Notifications to Subscriber by the CA of Issuance of Certificate

No stipulation.

4.4. Certificate Acceptance

4.4.1. Conduct Constituting Certificate Acceptance

As soon as the LRA Operator has downloaded its proof certificates (seal and timestamp), then the requester checks and verifies the information contained in the “Subject DN” (Cf. § 3.1.1.2) of the proof certificates.

If the requester agrees with the information then the certificates are accepted.

4.4.2. Publication of the Certificate by the CA

The proof certificate is not published by PS.

4.4.3. Notification of Certificate Issuance by the CA to Other Entities

No stipulation.

4.5. Key Pair and Certificate Usage

4.5.1. CA Private Key and Certificate Usage

The CA key pair is used to sign certificates and corresponding CRL for systems managed by the CA.

The system key pair is used to time-stamp or sign documents.

4.5.2. Relying Party Public Key and Certificate Usage

Relying parties use the trusted certification path and associated public keys for the purposes constrained in the certificates extensions (such as key usage, extended key usage, certificate policies, etc.) and to authenticate the system’s identity according to the present CPS and the CPS supported by the RCA.

4.6. Certificate Renewal with Same Keys

This section addresses proof certificate generation without changing the public key or any other information in the certificate. This operation is not allowed for proof certificate.

4.7. Certificate Renewal with Different Keys

This section addresses proof certificate generation changing the key pair.

The procedures that apply are the same than the ones for initial proof certificate generation.

4.8. Certificate Modification with Same Keys

This section addresses CA certificate generation of a new certificate keeping the same key pair. This operation is not allowed for proof certificate.

4.9. Certificate Revocation and Suspension

4.9.1. Circumstances for Revocation

A proof certificate is revoked when the binding between the certificate and the public key it contains is considered no longer valid. Examples of circumstances that invalidate the binding are:

- The CA is revoked;
- Change in the key length size recommendation coming from national agencies or international standard institute;
- DN information filled incorrectly;
- The proof certificate corresponding to the private key has been lost or compromised;
- The LRA has used a wrong DN in his initial proof certificate request.

Whenever any of the above circumstances occurs, the associated certificate shall be revoked and placed in the CRL.

4.9.2. Origin of Revocation Request

Albanian Proof CA has authority to make revocation requests for the following reasons:

- The CA is revoked;
- Change in the key length size recommendation coming from national agencies or international standard institute;
- DN information filled incorrectly;
- The proof certificate corresponding to the private key has been lost or compromised;
- The LRA has used a wrong DN in his initial proof certificate request.

LRA has authority to make revocation requests for the following reasons:

- DN information filled incorrectly;
- The proof certificate corresponding to the private key has been lost or compromised;
- The LRA has used a wrong DN in his initial proof certificate request.

LRA has authority to make revocation requests for the following reasons:

- DN information filled incorrectly;
- The proof certificate corresponding to the private key has been lost or compromised.

4.9.3. Procedure for Revocation Request

RA or LRA authenticates authorized revocation request for a proof certificate (Cf. 3.3.4).
RA (OA, ID-CA ID-NOMIC software) transmits the revocation request to the CA (OA, ID-CA ID-NOMIC software) for an identify proof certificate.
Albanian Proof CA (OA, ID-CA ID-NOMIC software) verifies the RA (OA, ID-CA ID-NOMIC software) certificates and signature.
CA revokes the proof certificate.

All the operations, realized in the OA trust center, are protected in a manner to guarantee the integrity, confidentiality (when it is necessary) and origin of transmitted data and secure link between RA, CA and LRA.

4.9.4. Revocation Request Grace Period

There is no revocation grace period. Responsible parties must request revocation as soon as they identify the need for revocation.

4.9.5. Time within Which CA Must Process the Revocation Request

Upon system failure, service or other factors which are not under the control of the CA, the OA makes best endeavours to ensure that this service is not unavailable for longer than a maximum period of time of twenty four (24) hours.

The CA (OA, ID-CA ID-NOMIC software) generate a new CRL each 24 hours.

4.9.6. Revocation Checking Requirements for Relying Parties

Use of revoked certificates could have damaging or catastrophic consequences in certain applications for a relying party. The matter of how often new revocation data should be obtained is a determination to be made by relying parties. If it is temporarily infeasible to obtain revocation information, then the relying parties either reject use of the certificate, or make an informed decision to accept the risk, responsibility, and consequences for using a certificate, i.e. certification path provided according to the present CPS, whose authenticity cannot be guaranteed to the standards of this CPS.

4.9.7. CRL Issuance Frequency

CRL are issued every 24 hours. They are rendered available 24 hours per day, 7 days a week, by the PS.

4.9.8. Maximum Latency for CRLs

The maximum delay between the time a proof certificate is revoked by the Albanian Proof CA and the time when revocation information is available to relying parties is no longer than 24 hours.
The maximum delay between the generation of the CRL and the publication is 2 hours

4.9.9. On-Line Revocation/Status Checking Availability

No stipulation.

4.9.10. On-Line Revocation Checking Requirements

No stipulation.

4.9.11. Other Forms of Revocation Advertisements Available

No stipulation.

4.9.12. Special Requirements regarding Key Compromise

There are no more specific requirements than those specified in section 4.9.3.

4.9.13. Circumstances for Suspension

Not applicable.

4.9.14. Who Can Request Suspension

Not applicable.

4.9.15. Procedure for Suspension Request

Not applicable.

4.9.16. Limits on Suspension Period

Not applicable.

4.10. Certificate Status Services

4.10.1. Operational Characteristics

The information status is available through the PS as described in section 2.

4.10.2. Service Availability

The PS availability is described in section 2.3.

4.10.3. Optional Features

No stipulation.

4.11. End of Subscription

RCA and CA certificates that have expired prior to or upon end of subscription are not required to be revoked.

Where the PMA ends its relationship with OA, then the OA transfer all material and files related to the E-ID PKI infrastructure to an entity appointed by the PMA.

4.12. Key Escrow and Recovery

Under no circumstances the system or CA key is escrowed by a third-party or any else other entity.

5. FACILITY, MANAGEMENT, AND OPERATIONAL CONTROLS

5.1. Physical Controls

The CA physical and environmental security policy for systems concerned with certificate generation, CA cryptographic module operation and revocation management services address the physical access control, natural disaster protection, fire safety factors, failure of supporting utilities (e.g. power, telecommunications), structure collapse, plumbing leaks, protection against theft, breaking and entering, and disaster recovery. Controls are implemented to avoid loss, damage or compromise of assets and interruption to business activities and theft of information and information processing facilities and protection against equipment, information, media and software being taken off-site without authorization.

5.1.1. Site Location and Construction

The OA is materialized by different separated physical location. The E-ID PKI and personalization platform are located within dedicated area in different OA's location.

The E-ID PKI (rack servers, ID-CA ID-NOMIC software, ID-CA ID-NOMIC software Luna Network HSM) have to be located in a dedicated area and dedicated cabinet.

The trusted role use and/or manage the E-IK PKI and personalization platform operates with dedicated OA's computer.

The OA's locations for E-ID PKI platform don't have any windows.

5.1.2. Physical Access

Access to the E-ID PKI and personalization plat-form requires positive authentication process based on access with strong authentication, using a combination of badges and biometrics (means "what you have" and "what you are").

All OA employees own badges that allow them to access OA security perimeter in accordance with their privileges. Only OA employees that have trusted roles are cleared to access the key ceremony room and E-ID PKI and personalization platform room.

All external person involved in E-ID PKI and personalization may be cleared to enter the key ceremony room after positive authentication realized by Security Officer. External person are always escorted by OA employee, when they are physically inside OA security perimeter.

All physical access rights are defined in a way not to allow a single person to have access to any sensitive data or proceed to a sensitive operation.

5.1.3. Power and Air Conditioning

OA ensures that power and air conditioning facilities are sufficient to support the operation of the E-ID PKI and personalization platform, using primary and back up installations according to its security policy.

5.1.4. Water Exposures

OA ensures that E-ID PKI and personalization platform are protected in a way that minimize from water exposure consequences according to its security policy.

5.1.5. Fire Prevention and Protection

OA ensures that E-ID PKI and personalization platform are protected with fire detection and suppression systems according to its security policy.

5.1.6. Media Storage

Media used within OA are securely handled to protect media from damage, theft and unauthorized access. Media are under the responsibility of OA. A trusted role has to protect all the media that contains sensitive data under his/her responsibility. Trusted role that has smart car has to store it in a secure place (safe, closed location …) and never give it to other person. Media storage in OA is managed according OA security policy.

HSM are always stored in the E-ID PKI cabinet or in a safe in the OA trust center. Server and computer are always stored in closed location in OA trust center (when there are set in production). Only the System administrator can have access and prepare the server and the computer. A server and a computer are always locked with login and password only known by the System administrator.

All the components are identified in a list. The list contains the inventory of all the server, computer, smart card … that are distribute or available in OA. The list is under the responsibility of the system administrator. When a component is distribute to a trusted role or set in production in the OA trust center, then a component distribution form is signed by the System administrator and by the holder of the component (if it is required).

The component distribution form contains the following information:

- Type of component (computer, smart card, server, firewall, …),
- The reason of the distribution of the component (set in production or give to a trusted role),
- Name and first name of the system administrator,
- Software deployed on the component (for server only),
- Name and first name of the person who receive the component,
- Signature of the trusted role (if it is required),
- Signature of the System administrator,
- Date.

5.1.7. Waste Disposal

All media used for the storage of sensitive information such as keys, activation data or files shall be destroyed before released for disposal according OA security policy.

Before released for disposal:

- Server: the server is formatted with logical function provided by the Operating system. Then, the hard disk, the processor and the electronic component has to be physically destroyed;

- Computer: the computer is formatted with logical function provided by the Operating system. Then, the hard disk, the processor and the electronic component has to be physically destroyed;

- Smart card: all the content of the smart card is deleted with logical function provided by the administration tools of the smart card. Then, the chip of the smart card is taken off from the smart card and broken in several pieces;

- HSM: all the data are deleted using the logical function provided with the HSM software. Then the HSM is physically destroyed;

- USB token: connect the USB key to a computer of Security officer OA, all the data of the USB key are destroyed with a dedicated software developed to securely delete data files. Then, the USB key is broken and the chip or electronic micro-circuit is also broken and taken off from the USB key ;

- Backup HSM key: plug the Backup HSM in the key ceremony computer, all the data of the Backup HSM key are destroyed with a dedicated software developed to securely delete data files.

A destruction operation is always under the control of Security Officer and System administrator. When a component has to be destroyed, the responsible of the component proof a destruction request form and transmit it to the Security Officer. The form indicates:

- The type of component,
- The identification of the component,
- The reason of the destruction,
- The name and first name of the System administrator responsible of the destruction,
- The name and first name of the holder of the component (only for trusted roles),
- The name and the first name of the Security Officer,
- Date,
- Signature of the trusted role (if required),
- Signature of the System administrator,
- Signature of the Security Officer.

5.1.8. Off-Site Backup

The back-up is composed of the following data:

- Back-up of the private key of the RCA, CA, distributed to the Security Officer on a Backup HSM;
- Back-up of the certificate of the RCA, CA, distributed to the Security Officer on a CD Rom;
- Back-up of the E-ID PKI software and associated platform configuration;
- Back-up of USB token's PIN code distributed to the Security Officer in temper evident envelop;
- Back-up of the database of the E-ID PKI platform (Refer to § 5.4.1);
- Archive data.

All preceding data are stored in a safe at OA back up site under the control of a Security Officer according OA security policy. The tests are done during the training period according to the OA emergency and recovery plan.

5.2. Procedural Controls

5.2.1. Trusted Roles

A trusted role is one whose incumbent performs functions that can introduce security problems if not carried out properly, whether accidentally or maliciously. The functions performed in these roles form the basis of trust for all uses of the RCA.

Trusted roles include roles that involve the following responsibilities:

Role	Description ETSI EN 319 411 (ETSI EN 319 401 and CEN TS 419 261)
Security Officer	Overall responsibility for administering the implementation of the security practices. Additionally approve the generation/revocation/suspension of Certificates.
System Administrator	Authorized to install, configure and maintain the CA trustworthy systems for registration, certificate generation, subscriber device provision and revocation management.
System Operator	Responsible for operating the CA trustworthy systems on a day to day basis. Authorized to perform system backup and recovery.
System Auditor	Authorized to view and maintain archives and audit logs of the CA trustworthy system.
CA Activation Data Holder	Authorized person to have a CA activation data that is necessary for cryptographic module operation.
Card Stock Manager	Subscriber device provision (Card stock and order management); Person which manage the Cryptographic tokens (Blank ID Cards).
Revocation Officer	Responsible for operating certificate status changes;
Registration Officer	Responsible for verifying information that is necessary for certificate issuance and approval of certification requests

All personnel are formally appointed to trusted roles by PMA. The annex 11 gives more details about the function and the tools used by the trusted role.

5.2.2. Number of Persons Required per Task

The number of persons required per tasks is given in each procedure as stated in the present CPS, by indicating the required trusted roles for the operation. The number of required persons for sensitive operation is:

- Proof certificate generation: one LRA Operator;
- CA activation: see section § 6.2.8;

- Proof certificate revocation: one LRA Operator or one E-DI PKI Operator;
- Personalization identity smart card: one E-DI PKI Operator;

5.2.3. Identification and Authentication for Each Role

Identification and authentication of all person involved during key ceremony is done by OA employee according to Section 3.2.3 above.

OA ensures effective administration of users in compliance with ISO 27001 policies and procedures. The administration includes user account management, periodic reviews and audit, and timely modification or removal of access.

The identification and authentication of the person who have privileges on Luna PCI HSMs is assimilated to the possession of a physical item (USB token and corresponding PIN code). These items are required to set up functionality on HSMs. Only cleared person can enter the key ceremony room to activate the Luna G5 HSM that contained the RCA and CA private key.

The list of person cleared to access OA security perimeter and associated access rights is available in the document OA information system security policy.

The identification and authentication of the person who have privileges on E-ID PKI is done during SSL authentication between trusted role and E-ID PKI platform. Persons with trusted roles on E-ID PKI platform have certificate on a dedicated smart card.

5.2.4. Roles Requiring Separation of Duties

A person can only have one trusted role as described in Annex 3. No individual shall be assigned more than one identity.

5.3. Personnel Controls

5.3.1. Qualifications, Experience, and Clearance Requirements

OA employs a sufficient number of personnel which possess the expert knowledge, experience and qualifications necessary for the offered services and appropriate for the job function. OA personnel fulfil the requirement of "expert knowledge, experience and qualifications" through formal training and credentials, actual experience, or a combination of the two. Trusted roles and responsibilities, as specified in the OA security policy, are documented in job descriptions and clearly identified. OA personnel (both temporary and permanent) have job descriptions defined from the view point of separation of duties and least privilege, determining position sensitivity based on the duties and access levels, background screening and employee training and awareness. OA personnel shall be formally appointed to trusted roles by senior management responsible for security.

The job descriptions include skills and experience requirements. Managerial personnel who are employed possess experience or training in electronic signature technology and familiarity with security procedures for personnel with security responsibilities and experience with information security and risk assessment sufficient to carry out management functions.

OA manages qualifications, experience and clearance requirements through ISO 27001 policy and procedure.

5.3.2. Background Check Procedures

All CA personnel in trusted roles shall be free from conflicting interests that might prejudice the impartiality of the CA operations. The CA shall not appoint to trusted roles or management any person who is known to have a conviction for a serious crime or other offence which affects his/her suitability for the position. Personnel shall not have access to the trusted functions until any necessary checks are completed. CA asks the candidate to provide past convictions and turn down an application in case of refusal. All persons filling trusted roles shall be selected on the basis of loyalty, trustworthiness, and integrity, and shall be subject to background investigation.

Background check procedures are performed according OA security policy and by PMA.

5.3.3. Training Requirements

PMA and OA ensure that all personnel performing duties with respect to the operation of a CA receive comprehensive training in:

- LRA and OA security principles and mechanisms;
- Software versions in use in the E-ID PKI system;
- Duties they are expected to perform;
- Disaster recovery and business continuity procedures.

5.3.4. Retraining Frequency and Requirements

Individuals responsible for trusted roles shall be aware of changes in the CA operations, as applicable. Any significant change to the operations shall have a training (awareness) plan, and the execution of such plan shall be documented.

5.3.5. Job Rotation Frequency and Sequence

CA ensures that any change in the staff will not affect the operational effectiveness of the service or security of the system.

5.3.6. Sanctions for Unauthorized Actions

Appropriate disciplinary sanctions are applied to personnel violating CPS.

5.3.7. Independent Contractor Requirements

Contractor personnel employed have to perform CA functions operations according to the same requirements as defined in section 3.

5.3.8. Documentation Supplied to Personnel

The CA makes available to its personnel the present CPS, and any relevant statutes, policies or contracts. Other technical, operations, and administrative documents (e.g., Administrator Manual, User Manual, etc.) are provided in order for the trusted personnel to perform their duties.
Documentation shall be maintained identifying all personnel who received training and the level of training completed.

5.4. Audit Logging Procedures

5.4.1. Types of Events Recorded

For E-ID PKI and personalization platform, the logs include, but are not limited to, the following events:

- Operating System start-up and shutdown;
  - Log by System administrator in a log book each time that a server or a computer is set in production (initial or after a crash);
  - Log by server and computer in current uses;
- E-ID PKI and personalization application start-up and shutdown;
  - Log by System administrator in a log book each time that a server or a computer is set in production (initial or after a crash);
  - Log by server and computer in current uses;
- Attempts to create, remove, set passwords or change the system privileges of the privileged users (Trusted Roles);
  - Log by System administrator in a log book each time that a server or a computer is set in production (initial or after a crash);
  - Log by server and computer in current uses;
- Changes to CA certificate and keys (insert key)
  - Log by Security Officer in a log book;
  - Log by E-ID PKI software and HSM in current uses;
- Changes to certificate creation policies (e.g., validity period);
  - Log by Security Officer in a log book;
  - Log by E-ID PKI software in current uses;
- Login and logoff attempts, both successes and failures;
  - Log by server, firewall and computer in current uses;
- Authorized attempts at network access to the E-ID PKI and personalization platform;
  - Log by server, firewall and computer in current uses;
- Unauthorized attempts to access system files;
  - Log by server, firewall and computer in current uses;
- Successful and failed read and write operations on the repository;
  - Log by server and computer in current uses;
- Failures during the generation of a certificate;
  - Log by E-ID PKI software in current uses;
- Certificate lifecycle management-related events (e.g., certificate applications, issuance, revocation and renewal);
  - Log by E-ID PKI software and HSM in current uses;
  - This log are manually copy, by System Administrator, on a dedicated tape for back-up purpose (Cf. 5.1.8);
  - Kind of identification document presented by the certificate applicant
  - All event logs related to the preparation of SSCD
- Identity smart card and associated lifecycle management-related events:

  - Log by personalization software in current uses;
- Removing or replacing the cryptographic hardware security module in its assigned secure storage location;
  - Log by System Administrator in a log book;
  - Log by Security Officer in a log book;
- Activation and deactivation of the cryptographic hardware module;
  - Log by Security Officer in a log book;
  - Log by E-ID PKI software and HSM in current uses;
- Cloning, for disaster recovery or any other purpose, the private keys contained in the cryptographic hardware security module;
  - Log by Security Officer in a log book;
- Physical access to the enclave;
  - Log by access system control;
  - OA register (id badge, name, first name and date) in log book the distribution of badge that allow access to the OA;
- Hardware errors, equipment failures, power events, fire, smoke, or water alarms;
  - Log by system Administrator.

5.4.2. Frequency of Processing Log

Audit logs are examined on at least a weekly basis for significant security and operational events. In addition, audit logs are reviewed for suspicious or unusual activity in response to alerts generated based on E-ID PKI and personalization platform.
Audit log processing consists of a review of the audit logs and documentation for all significant events in an audit log summary. Audit log reviews include a verification that the log has not been tampered with, an inspection of all log files stored in central log repository and an investigation of any alerts or irregularities in the logs. Actions taken based on audit log reviews are also documented.

5.4.3. Retention Period for Audit Log

Records concerning CA certificates are held for a period of time appropriate for providing necessary legal evidence in accordance with applicable legislation. The records could be needed at least as long as a transaction relying on a valid certificate can be questioned.

5.4.4. Protection of Audit Log

The log created by E-ID PKI and personalization platform are protected with an electronic audit log system that includes mechanisms to protect the log files from unauthorized viewing, modification, deletion, or other tampering.
When the log data of the component and software are stored on a media (tape …), they are place in a safe under the control of the System administrator and/or Security Officer.

The log book of the System administrator and Security Officer are always in OA trust center in a safe.

5.4.5. Audit Log Backup Procedures

Back-up audit logs (Cf. § 5.1.8) are backed-up in a secure location (System Administrator's and Security Officer's safe), under the control of authorized trusted role, separated from their

component source generation. Audit logs backup are protected with the same level of trust defined for the original logs.

5.4.6. Audit Collection System

There is a central server with syslog application that performed the audit collection.
The System administrator collects the log data, on tape, directly on the central server, computer and firewall that are located in the OA trust center (Cf. § 5.1.8).

5.4.7. Notification to Event-Causing Subject

No stipulation.

5.4.8. Vulnerability Assessments

System administrator verify at minimum in the log that:

- Only authorized IP are contained in the firewall log;
- Only authorized trusted roles are contained in the software log;
- Only authorized used are contained in the firewall, server, software and computer log.

When, there are suspected information in log, the System administrator try to solve the reason and alert the Security Officer. The Auditor checks the E-ID PKI's application events.

OA security policy defines complementary action in audit analysis.

5.5. Records Archival

5.5.1. Types of Records Archived

At a minimum, the following data shall be archived:

- All the back-up log collected by the System administrator (refer to § 5.1.8): System Administrator safe;
- All the back-up log and data collected by the Security Officer (refer to § 5.1.8): security officer safe;
- The Security Officer log book: security officer safe;
- The System Administrator log book: System Administrator safe;
- CPS document: PMA and OA;
- Any contractual agreements between PMA and OA: OA and PMA;
- Any contractual with supplier which provides services and software for E-ID PKI and personalization platform: PMA;
- Server, computer and firewall equipment configuration: System Administrator safe;
- E-ID PKI and personalization software configuration: System Administrator safe;
- RCA and CA Certificates, ARL: PMA and Security Officer safe on CD Rom;
- Certificates and CRL (or other revocation information): back-up events logs (Cf. § 5.4.1) System Administrator;
- All the trusted role created with their certificate: E-ID PKI software in OA trust center;
- All the used forms: Security Officer;

- Other data or applications sufficient to verify archive contents: System Administrator;
- All work related to or from the PMA and compliance auditors: PMA and OA.

5.5.2. Retention Period for Archive

The minimum retention period for archive data is 10 years after the event occurred. The signed application forms are stored in Aleat central site premises in the archived room.

5.5.3. Protection of Archive

The archives are created in a way that they cannot be deleted or destroyed (except for transfer to long term media) within the period of time that they are required to be held. Archive protections ensure that only authorized trusted access can make operation regarding their profile role without modifying integrity, authenticity and confidentiality of the data. If the original media cannot retain the data for the required period, a mechanism to periodically transfer the archived data to new media is defined by the OA.

5.5.4. Archive Backup Procedures

OA incrementally backs up electronic archives of its issued Certificate information on a daily basis and performs full backups on a weekly basis. Paper-based records shall be maintained in archive room secure facility

If it is necessary, to keep the data readable, the:

- Log book can be photocopied and signed again by the required trusted role;
- CDROM and tape can be copied on another media (same or different).

5.5.5. Requirements for Time-Stamping of Records

No stipulation.

5.5.6. Archive Collection System (Internal or External)

The archive collection system respects the security requirements defined in § 5.4.

5.5.7. Procedures to Obtain and Verify Archive Information

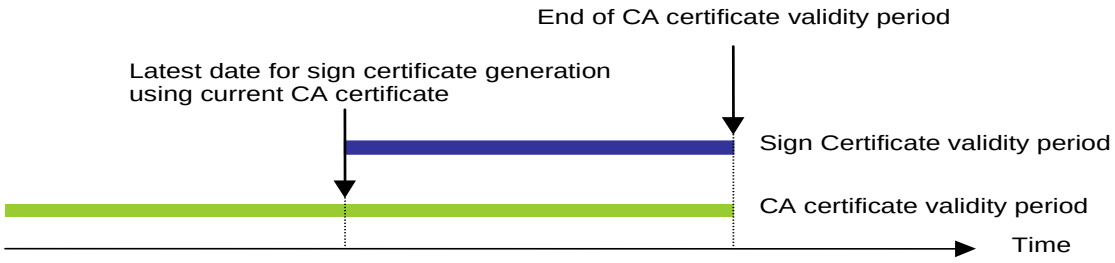
Only authorised OA equipment, trusted role and other authorized person (legal person …) are allowed to access the archive. Access to archive information is requested to the PMA and OA according OA security policy and agreement between OA and PMA. The integrity of information is verified when it is restored.

5.6. Key Changeover

5.6.1. CA

The CA maintains its private key operational period compliant with the cryptographic recommendation for key size length issued by national bodies or international standard institutes.

As the CA cannot generate proof certificates whose validity period would be superior to the CA certificate validity period, the CA is re-keyed at the latest the duration period of the certificates it issues before the end of its certificate validity period, such as illustrated on the following diagram:



As soon as a new CA key pair is generated, only this new key can be used to sign “proof certificate” and associated CRL.

The previous CA certificate stay valid for validation process of certification path until all issued certificates signed using the previous CA key pair are expired.

When a new CA key pair and certificate has to be created, then the following operation has to be done:

- A key ceremony is done to create the new CA key pair and the associated certificate signed by the current RCA (Cf. § 6.1). To sign the CA public key, it is necessary to insert the RCA private key in the HSM used for key ceremony;
- The new key is backed-up on CD Rom;
- The old CA private key is destroyed in the E-ID PKI’s HSM platform;
- The new CA private key is inserted in the E-ID PKI’s HSM platform.

For these operations it is necessary to have the required trusted roles with the right activation data (Cf. Annex 2).

5.6.2. System

The validity period of seal and timestamp certificates is 5 years. When the system changes the current key to have new certificate, then the previous keys are destroyed in the HSM.

5.7. Compromise and Disaster Recovery

5.7.1. Incident and Compromise Handling procedures

OA has established business continuity procedures (emergency and recovery plan of the OA), for the E-ID PKI that outlines the steps to be taken in the event of the corruption or loss of computing resources, software and/or data that could disturb or compromise the RCA services. OA carries out a risk assessment to evaluate business risks and determines the necessary security requirements

and operational procedures and elaborates in consequences its disaster recovery plan. This risk analysis is regularly reviewed and revised if necessary (threat evolution, vulnerability evolution …).

OA personnel that have trusted role and/or operation role are specially trained to operate according to procedure defined in the OA disaster recovery plan for the most sensitive activities.

The integrity of CA systems is protected against virus, malicious and unauthorized software in compliance with ISO 27001 security policy and procedures.

If OA detects a potential hacking attempt or other form of compromise, it performs an investigation in order to determine the nature and the degree of damage. Otherwise, the scope of potential damage is assessed by the PMA in order to determine if the RCA needs to be rebuilt, only some certificates need to be revoked, and/or the E-ID PKI platform needs to be declared compromised, and which services has to be maintained (revocation and certificate status information) and how.

OA has the capability to restore or recover essential operations within twenty four (24) hours following a disaster with, at minimum, support for the following functions:

- Certificate issuance
- Certificate revocation
- Publication of revocation information

OA maintains offsite backup of important CA information.

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

In case an E-ID PKI equipment is damaged or rendered inoperative, but the signature keys are not destroyed, the operation is re-established as quickly as possible, giving priority to the ability to generate certificate status information according to the OA emergency and recovery plan.

5.7.3. Entity private key compromise procedures

If a RCA, CA, private key is compromised, lost, destroyed or suspected to be compromised:

- PMA, after investigation on the “key-problem” decides that the RCA certificate and/or CA certificate has to be revoked;
- A new key pair and certificate are generated.

5.7.4. Business continuity capabilities after a Disaster

The OA’s emergency and recovery plan addresses the business continuity.

5.8. RCA component termination

In the event of termination of a RCA component, the RCA requests all certificates issued to this component to be revoked.
In the event of RCA termination:

- CA archives all audit logs and other records prior to termination;

- CA destroys all its private keys upon termination;
- Archive records are transferred to an appropriate authority such as the PMA;
- RCA uses means to notify the LRA to delete all trust anchors representing the RCA.

6. TECHNICAL SECURITY CONTROLS

6.1. Key Pair Generation and Installation

6.1.1. Key Pair Generation

6.1.1.1. CA

Before starting key ceremonies, it is necessary that Security Officer and PMA identifies and make sure that all involved employees are educated about key ceremony operation and their responsibilities, especially for person who hold activation data, according to [2016_2000021244 - Citizen PKI - Key Ceremony 2016 v0.3].

Key generation is always undertaken and witnessed (PMA witness at minimum) in a physically secure environment, called key ceremony room (Cf. 5.1.1); by personnel in trusted roles as described in [2016_2000021244 - Citizen PKI - Key Ceremony 2016 v0.3]. Activation data are distributed to holders that are trusted person from OA and PMA (Cf. Annex 2). Key generation is carried out within a HSM that is FIPS 140 – 2 Level 3 compliant. Key ceremony is always performed in an off-line HSM on a dedicated computer.

Main steps of the key ceremony are identified in [2016_2000021244 - Citizen PKI - Key Ceremony 2016 v0.3]. During the key ceremony, the master of ceremony and witness(es) are using a script that details all operation to be carried out.

At the end of the key ceremony, the generated keys are backed-up and destroyed in the HSM. Therefore, generated key only exist in Backup HSM.

6.1.1.2. System

System's key generation is performed by LRA Operator using the HSM.

6.1.2. Private Key Delivery to system

The system accesses the private key directly from the HSM.

6.1.3. Public Key Delivery to CA

System's public key is delivered securely to the CA (OA ID-CA ID-NOMIC software) for certificates issuance. The LRA Operator generates a Pkcs#10 file that contains the public key generated. Then the Pkcs#10 file is securely transmitted during SSL communication between LRA platform and OA (Cf. § 4.2.2).

6.1.4. CA Public Key Delivery to Relying Parties

OA makes RCA and CA certificates available to relying parties by publishing them in the PS. RCA and CA certificates are also delivered to the PMA's administrative contact during the key ceremony. The Security Officer transmits the RCA and CA certificates to the System Administrator to be set in the PS server.

6.1.5. Key Sizes

If the PMA determines that the security of a particular algorithm may be compromised**,** it may require the CA and LRA to revoke the affected certificates.

CA keys for the RSA algorithm are 2048 bits length using at minimum the SHA-2 hash function.
Citizen key for the RSA algorithm are 2048 bits length using at minimum the SHA-2 hash function.

6.1.6. Public Key Parameters Generation and Quality Checking

CA keys and citizen keys are generated in accordance with the cryptography tools of hardware security modules (see section 6.2.11).

6.1.7. Key Usage Purposes (as per X.509 v3 Key Usage Field)

Private key usage of system and CA are defined in the certificate profiles (refer to § 7.2). The CA key usage is set to allow private keys to only sign proof certificates and CRL. The system key usage is set to allow private key to only sign, authenticate, or time-stamp documents.
These restrictions are implemented in the certificate using the extension “Key usage”.

6.2. Private Key Protection and Cryptographic Module Engineering

6.2.1. Cryptographic Module Standards and Controls

CA hardware security module is approved FIPS 140-2 level 2 and 3 or EAL 4+ certified, or higher.

6.2.2. Private Key (m out of n) Multi-Person Control

To use a back up file of CA key it is necessary to initialize, or use a pre-initialized, Luna G5 HSM, on the on-line E-ID PKI’s HSM platform, with Albanian trusted domain, created during a key ceremony, in order to use the CA key in the HSM. After the initialization of the HSM, the key has to be inserted in the HSM to be used.

A key contained in a Luna G5I HSM can only be exported in a back up file format. The key has to be destroyed in the HSM after the end of validity period of the CA key, therefore CA key is always under multiple controls.

6.2.3. Private Key Escrow

The system and CA private keys are never escrowed, for any reason.

6.2.4. Private Key Backup

The system private signature keys are backed up.

The keys are ciphered, and to use the keys it is necessary to insert them in a HSM. The backed-up keys are stored in a dedicated backup HSM under the responsibility of Security Officer.

CA private key is back-up on 2 identical Luna backup HSM devices

6.2.5. Private Key Archival

Private system and CA keys are never archived.

6.2.6. Private Key Transfer Into or From a Cryptographic Module

A key only exist on Backup HSM created during the key ceremony. Therefore, to be used, a key has to be inserted inside a Luna G5 HSM personalized with the Albanian trusted domain. To personalize a Luna G5 HSM with Albanian trusted domain, the following activation data and trusted roles for:

- Initial Red USB token: Activation holder of Albanian Ministry of Internal Affairs;
- Initial Blue USB token: Security Officer;
- Black USB token: System Administrator and E-ID PKI Administrator.

Operation of transfer into or from HSM required the following activation data and trusted roles for:

- E-ID PKI's HSM platform (on-line, means pre-initialized with Albanian trusted domain):
  - Insert: Black USB token used to initialize the HSM (System Administrator);
  - Export: Black USB token used to initialize the HSM (System Administrator);

- E-ID PKI's HSM computer (off-line, means not initialized with Albanian trusted domain):
  - Insert:
    - Initial Red USB token: Activation holder of Albanian Ministry of Internal Affairs;
    - Initial Blue USB token: Security Officer;
    - Black USB token: System Administrator and E-ID PKI Administrator.
  - Export: Black USB token used to initialize the HSM (System Administrator).

The Luna G5 HSM, when it is in production inside the cabinet in the OA trust center, is managed by the System administrator with HSM (Black USB token) and Security Officer (Blue USB token) (depending of operation)

6.2.7. Private Key Storage on Cryptographic Module

Keys are stored in hardware security modules (Luna Network HSM). They are not accessible outside the hardware module.

System keys are stored in a HSM.

6.2.8. Method of Activating Private Key

CA keys can only be activated inside a Luna G5 HSM. The key has to be inserted in the Luna G5 HSM (Cf. § 6.2.6).

If the E-ID PKI's HSM server is turned off, then the HSM has to be reactivated using initial Blue USB token (Security Officer) and Black USB token used to initialize the HSM (System Administrator).

If the E-ID PKI's HSM server is turned off and HSM crashes, then the HSM has to be reactivated using:

- Initial Red USB token: Activation holder of Albanian Ministry of Internal Affairs;
- Initial Blue USB token: Security Officer;
- Black USB token: System Administrator and E-ID PKI Administrator.

E-ID PKI software use CA private key to sign CRL and certificate.

System private key is auto activated .

6.2.9. Method of Deactivating Private Key

A HSM is only activated for operation in the OA trust center is restricted to authorised personal of the OA. In case the usage of a key stored in the HSM is not required, the corresponding will be destroyed (Cf. § 6.2.10). In case the HSM has to be remove, for termination reason, from the E-ID platform, then all the HSM is deactivated destroying all the key inside (Cf. § 6.2.10) and the Albanian trusted domain.

CA key deactivation, different from switch off server or HSM, requires at least the following trusted roles and activation data:

- Initial Red USB token: Activation holder of Albanian Ministry of Internal Affairs;
- Initial Blue USB token: Security Officer.

System private key is not deactivated till destruction.

6.2.10. Method of Destroying Private Key

Keys are destroyed when they are no longer needed, or when certificates to which they correspond expire or are revoked. Destroying key requires the following operations:

- Destruction of the key inside HSM performed with Black USB token used to initialize the HSM (System Administrator);
- Destruction of the corresponding back-up files (Security officer).

Normally the keys, contained in HSM, are destroyed by LRA Operator each time he/she renews the key pairs.

6.2.11. Cryptographic Module Rating

The CA cryptographic module is FIPS 140-2 level 2 and 3.

The identity smart card is EAL 4+ certified.

6.3. Other Aspects of Key Pair Management

6.3.1. Public Key Archival

The public key is archived as part of the certificate archival as described in § 0.

6.3.2. Certificate Operational Periods and Key Pair Usage Periods

6.3.2.1. CA

The CA certificate lifetime is 15 years.
The CA private key lifetime is 10 years.

6.3.2.2. System

The proof certificate lifetime is 5 years.
The proof certificate's private key lifetime is 5 years.

6.4. Identity Smart Card and Activation Data

6.4.1. Identity Smart Card delivery process

No stipulation.

6.4.2. Activation Data Generation and Installation

No stipulation.

6.4.3. Activation Data Protection

No stipulation.

6.4.4. Other Aspects of Activation Data

No stipulation.

6.5. Computer Security Controls

6.5.1. Specific Computer Security Technical Requirements

All the computer and server used for E-ID PKI and personalization platform are described in a list maintained by System administrator according OA security policy.

All the server and computer must under the control of the System administrator. The E-ID PKI Operator and E-ID PKI Administrator have simple user account with no Administration privilege. System Administrator has an account with Administration privilege on all the computer and server.

The computer for trusted role (LRA Operator …) respects the following rules:

- Is always locked when the trusted role is not in front of the computer;
- The computer is systematically switched off at the end of the work day;
- The component can only have software that are exclusively required to use the E-ID PKI and personalization software and administration needs;
- The trusted role must have dedicated login/password to use their computer;
- The trusted role has to keep the login/password confidential;
- Only authorized data can be inserted in the server.

The server for E-ID PKI and personalization platform respects the following rules:

- E-ID PKI and personalization software can only be set up in the E-ID PKI and personalization server stored in the dedicated cabinet;
- Only authorized data can be inserted in the server;
- E-ID PKI software can only be used authenticating the trusted role with certificate delivered by Technical CA (SSL protocol);
- Smart card that contains certificate delivered by Technical CA has to need a PIN and PUK code to be activated and unlocked;
- The smart card is under the responsibility of the trusted role. The trusted role doesn't communicate its smart card and the associated PIN code. The smart card is always under the control of the trusted roles.

The Backup HSMs are only connected to a computer dedicated to key ceremony or to the server that hosts the HSM. A Backup HSM whose purpose is to be a "Backup HSM key" must never has been connected to anything else than a key ceremony computer or a E-ID PKI server hosting a HSM.

All the complementary rules are described in OA security policy.

6.5.2. Computer Security Rating

All the E-ID PKI components software of the OA have been developed following the requirements of common criteria rules.

6.6. Life Cycle Technical Controls

6.6.1. System Development Controls

Applications are tested, developed and implemented in accordance with industry best practice development and change management standards.

6.6.2. Security Management Controls

The E-ID PKI equipments are dedicated to the RCA and CA. No other unrelated applications shall be installed that are not part of the E-ID PKI configuration.

The System administrator is sole responsible of computer and server. The System administrator is the sole to have access to the Administration count on the all the server and computer but not on

the HSM. The other trusted roles don't have the login and password of the Administration count of the server and computer for E-ID PKI and personalization platform.

All the complementary rules are described in OA security policy.

6.6.3. Life Cycle Security Controls

For the software and hardware that are evaluated, PMA keeps watching on the maintenance scheme requirements to keep the level of trust.

OA security policy describes the life cycle security controls for E-ID PKI and personalization platform. ISO 27001 processes are in place and are followed. Policies are defined and procedures are implemented for risk management, change management, vulnerability management and security control analysis.

6.7. Network Security Controls

The E-ID PKI and personalization platform are protected by firewalls. These firewalls only allow required network traffic. The firewall systems block all traffic through unused ports. Services which are not required for the E-ID PKI and personalization platform are denied by the firewalls.

Only network software which is necessary to the functioning of the E-ID PKI and personalization platform is used in the production network.

The network is managed according OA security policy. Configuration of network equipment is reviewed periodically following ISO 27001 procedures. OA protects its communication of sensitive data through the use of encryption and digital signature.

6.8. Time-Stamping

Time stamping is not used for records but there is a NTP server used for the E-ID PKI and personalization platform.

System Administrator verifies every week that the time delivered by NTP server and used by E-ID PKI and personalization component is correct. If there is a difference between the time and date delivered by the NTP server and trusted source (radio, internet …) and E-ID PKI and personalization component, then System Administrator set the right time and date. He logs the event in the System administrator log book. If the difference is bigger than a hour, then System administrator inform Security Officer to elaborate corrective action. In this circumstance, if the difference could become a source of compromising (one year of difference for example) in the certificate and CRL life cycle, then certificate can be revoked.

7. CERTIFICATE, ARL, AND OCSP PROFILES

7.1. Albanian Proof CA Certificate Profile

7.1.1. Version Number

The RCA and CA certificate are X.509 v3 certificates (populate version field with integer "2"). The certificate fields are those defined in the RFC 5280.

7.1.2. Certificate Extensions

Base certificate	Value
Version	2 (=version 3)
Serial number	Defined by Keyseed®
Key length	2048
Certificate duration	15 years
Issuer DN	C = AL OI = NTRAL-K82018015V O = Aleat CN= Albanian Citizen ID Root CA
Subject DN	C = AL OI = NTRAL-K82018015V O = Aleat CN= Albanian Proof CA
NotBefore	YYMMDDHHMMSS (date of certificate generation)
NotAfter	YYMMDD000000Z (Key Ceremony date + 15 years)
Public Key Algorithm	rsaEncryption
Signature Algorithm	Sha2WithRSAEncryption (sha256RSA or 1.2.840.113549.1.1.11)
Parameters	NULL

Standard extensions	OID	Include	Critical	Value
Authority Info Access	(1.3.6.1.5.5.7.1.1)			n/a
Authority Key Identifier	{id-ce 35}	**X**	**FALSE**	
Methods of generate key ID				**Method 1**
Select AKI Fields				**Key identified**
Basic Constraint	{id-ce 19}	**X**	**TRUE**	
CA		X		**True**
PathLengthConstraint		X		**0**
Certificate Policies	{id-ce 32}	**X**	**FALSE**	
policyIdentifiers				0.4.0.2042.1.2 (Normalized Certificate Policy requiring a secure cryptographic device)
policyQualifiers				n/a
CPSpointer				CPS URI: https://www.aleat.al/pdf/cps-citizen-root-ca.pdf
OID				n/a

Value				**n/a**
noticeRef				n/a
OID				n/a
organization				n/a
noticeNumbers				n/a
explicitText				n/a
CRL Distribution Points	{id-ce 31}	**X**	**FALSE**	
distributionPoint				1]Certificates Revocation List Distribution Point Name of the distribution point : Complete Name : URI https://www.aleat.al/csp/albanian-citizen-id-root-ca-04.crl
reasons				n/a
cRLIssuers				n/a
Extended Key Usage	{id-ce 37}			n/a
Server Authentication	1.3.6.1.5.5.7.3.1			clear
Client Authentication	1.3.6.1.5.5.7.3.2			clear
email protection	1.3.6.1.5.5.7.3.4			clear
Document signing	1.3.6.1.4.1.311.10.3.12			clear
PDF Signing	1.2.840.113583.1.1.5			clear
OCSPsigning	1.3.6.1.5.5.7.3.9			clear
timeStamping	1.3.6.1.5.5.7.3.8			clear
Code signing	1.3.6.1.5.5.7.3.3			clear
Issuer Alternative Name	{id-ce 18}			n/a
Subject Alternative Name	{id-ce 17}			n/a
Qualifier Certificate Statement	1.3.6.1.5.5.7.1.3			n/a
Key Usage	{id-ce 15}	**X**	**TRUE**	
Digital Signature				Clear
Non Repudiation				Clear
Key Encipherment				Clear
Data Encipherment				Clear
Key Agreement				Clear
Key CertSign				**Set**
Key CRL Sign				**Set**
Private Key Usage Period	{id-ce 16}			n/a
Subject Key Identifier	{id-ce 14}	**X**	**FALSE**	
Methods of generating key ID				**Method 1**
privateInternetExtensions	AIA authorityInformationAccess			**n/a**
Other Extensions				n/a

7.1.3. Algorithm Object Identifiers

See section 7.1.

7.1.4. Name Forms

The name forms follow the requirements described in the section 3.1.

7.1.5. Name Constraints

The name forms follow the requirements described in the section 3.1.

7.1.6. Certificate Policy Object Identifier

See section 7.1.

7.1.7. Usage of Policy Constraints Extension

See section 7.1.

7.1.8. Policy Qualifiers Syntax and Semantics

See section 7.1.

7.1.9. Processing Semantics for the Critical Certificate Policies Extension

See section 7.1.

7.2. Seal Certificate Profile

7.2.1. Version Number

The RCA and CA certificate are X.509 v3 certificates (populate version field with integer "2").
The certificate fields are those defined in the RFC 5280.

7.2.2. Certificate Extensions

Base certificate	Value
Version	2 (=version 3)
Serial number	Defined by ID NOMIC ID-CA®
Key length	2048
Certificate duration	5 years
Issuer DN	C = AL OI = NTRAL-K82018015V O = Aleat CN= Albanian Proof CA
Subject DN	C = AL OI = NTRAL-K82018015V O = Aleat CN=<System Name>
NotBefore	YYMMDDHHMMSS (date of certificate generation)
NotAfter	YYMMDDHHMMSS (date of certificate generation + 5 years)
Public Key Algorithm	rsaEncryption
Signature Algorithm	Sha2WithRSAEncryption (sha256RSA or 1.2.840.113549.1.1.11)

Parameters	NULL

Standard extensions	OID	Include	Critical	Value
Authority Info Access	(1.3.6.1.5.5.7.1.1)			n/a
Authority Key Identifier	{id-ce 35}	**X**	**FALSE**	
Methods of generate key ID				**Method 1**
Select AKI Fields				**Key Identifier**
Basic Constraint	{id-ce 19}	**X**	**TRUE**	
CA				**True**
Maximum Path Length				n/a
Certificate Policies	{id-ce 32}	**X**	**FALSE**	n/a
policyIdentifiers				0.4.0.2042.1.1 (Normalized Certificate Policy)
policyQualifiers				n/a
CPSpointer				CPS URI: https://www.aleat.al/pdf/cps-proof-ca.pdf
OID				n/a
Value				**n/a**
User Notice				n/a
OID				n/a
value				n/a
noticeRef				n/a
organization				n/a
noticeNumbers				n/a
explicitText				n/a
CRL Distribution Points	{id-ce 31}	**X**	**FALSE**	
distributionPoint				[1]Certificates Revocation List Distribution Point Name of the distribution point : Complete Name : URI http://www.aleat.al/csp/alb-proof-ca-04.crl
reasons				n/a
cRLIssuer				n/a
Extended Key Usage	{id-ce 37}	**X**	**FALSE**	
Server Authentication	1.3.6.1.5.5.7.3.1			**Clear**
Client Authentication	1.3.6.1.5.5.7.3.2			**Clear**
emailProtection	1.3.6.1.5.5.7.3.4			**Set**
document signing	1.3.6.1.4.1.311.10.3.12			**Clear**
PDF signing	1.2.840.113583.1.1.5			**Set**
OCSPsigning	1.3.6.1.5.5.7.3.9			**Clear**
timeStamping	1.3.6.1.5.5.7.3.8			**Clear**
code signing	1.3.6.1.5.5.7.3.3			**Clear**
Issuer Alternative Name	{id-ce 18}			n/a
Subject Alternative Name				n/a
Qualified Certificate Statement	1.3.6.1.5.5.7.1.3			n/a
Key Usage	{id-ce 15}	**X**	**TRUE**	
Digital Signature				**Set**

Non Repudiation				**Clear**
Key Encipherment				**Clear**
Data Encipherment				**Clear**
Key Agreement				**Clear**
Key CertSign				**Clear**
Key CRL Sign				**Clear**
Private Key Usage Period	{id-ce 16}			**n/a**
Subject Key Identifier	{id-ce 14}	**X**	**FALSE**	
Methods of generating key ID				**Method 1**
privateInternetExtensions				**n/a**
Other Extensions				n/a

7.2.3. Algorithm Object Identifiers

See section 7.2.

7.2.4. Name Forms

The name forms follow the requirements described in the section 3.1.

7.2.5. Name Constraints

The name forms follow the requirements described in the section 3.1.

7.2.6. Certificate Policy Object Identifier

See section 7.2.

7.2.7. Usage of Policy Constraints Extension

See section 7.2.

7.2.8. Policy Qualifiers Syntax and Semantics

See section 7.2.

7.2.9. Processing Semantics for the Critical Certificate Policies Extension

See section 7.2.

7.3. Timestamp Certificate Profile

7.3.1. Version Number

The RCA and CA certificate are X.509 v3 certificates (populate version field with integer "2").
The certificate fields are those defined in the RFC 5280.

7.3.2. Certificate Extensions

Base certificate	Value
Version	2 (=version 3)
Serial number	Defined by ID NOMIC ID-CA®
Key length	2048
Certificate duration	5 years
Issuer DN	C = AL OI = NTRAL-K82018015V O = Aleat CN= Albanian Proof CA
Subject DN	C = AL OI = NTRAL-K82018015V O = Aleat CN=<System Name>
NotBefore	YYMMDDHHMMSS (date of certificate generation)
NotAfter	YYMMDDHHMMSS (date of certificate generation + 5 years)
Public Key Algorithm	rsaEncryption
Signature Algorithm	Sha2WithRSAEncryption (sha256RSA or 1.2.840.113549.1.1.11)
Parameters	NULL

Standard extensions	OID	Include	Critical	Value
Authority Info Access	(1.3.6.1.5.5.7.1.1)			n/a
Authority Key Identifier	{id-ce 35}	**X**	**FALSE**	
Methods of generate key ID				**Method 1**
Select AKI Fields				**Key Identifier**
Basic Constraint	{id-ce 19}	**X**	**FALSE**	
CA				**False**
Maximum Path Length				n/a
Certificate Policies	{id-ce 32}	**X**	**FALSE**	n/a
policyIdentifiers				0.4.0.2042.1.1 (Normalized Certificate Policy)
policyQualifiers				n/a
CPSpointer				CPS URI: https://www.aleat.al/pdf/cps-proof-ca.pdf
OID				n/a
Value				n/a
User Notice				n/a
OID				n/a
value				n/a
noticeRef				n/a
organization				n/a
noticeNumbers				n/a
explicitText				n/a

CRL Distribution Points	{id-ce 31}	**X**	**FALSE**	
distributionPoint				[1]Certificates Revocation List DistributionPoint Name of the distribution point : Complete Name : URI https://www.aleat.al/csp/albanian-proof-ca-04.crl
Reasons				n/a
cRLIssuer				n/a
Extended Key Usage	{id-ce 37}	**X**	**FALSE**	
Server Authentication	1.3.6.1.5.5.7.3.1			**Clear**
Client Authentication	1.3.6.1.5.5.7.3.2			**Clear**
emailProtection	1.3.6.1.5.5.7.3.4			**Clear**
document signing	1.3.6.1.4.1.311.10.3.12			**Clear**
PDF signing	1.2.840.113583.1.1.5			**Clear**
OCSPsigning	1.3.6.1.5.5.7.3.9			**Clear**
timeStamping	1.3.6.1.5.5.7.3.8			**Set**
code signing	1.3.6.1.5.5.7.3.3			**Clear**
Issuer Alternative Name	{id-ce 18}			n/a
Subject Alternative Name				n/a
Qualified Certificate Statement	1.3.6.1.5.5.7.1.3			n/a
Key Usage	{id-ce 15}	**X**	**TRUE**	
Digital Signature				**Set**
Non Repudiation				**Clear**
Key Encipherment				**Clear**
Data Encipherment				**Clear**
Key Agreement				**Clear**
Key CertSign				**Clear**
Key CRL Sign				**Clear**
Private Key Usage Period	{id-ce 16}			**n/a**
Subject Key Identifier	{id-ce 14}	**X**	**FALSE**	
Methods of generating key ID				**Method 1**
privateInternetExtensions				**n/a**
Other Extensions				n/a

7.3.3. Algorithm Object Identifiers

See section 7.3.

7.3.4. Name Forms

The name forms follow the requirements described in the section 3.1.

7.3.5. Name Constraints

The name forms follow the requirements described in the section 3.1.

7.3.6. Certificate Policy Object Identifier

See section 7.3.

7.3.7. Usage of Policy Constraints Extension

See section 7.3.

7.3.8. Policy Qualifiers Syntax and Semantics

See section 7.3.

7.3.9. Processing Semantics for the Critical Certificate Policies Extension

See section 7.3.

7.4. CRL Profile

7.4.1. Version Number

RCA shall issue X.509 version two (v2) ARLs (populate version field with integer "1"). The CRL fields are those defined in the RFC 5280.

7.4.2. CRL and CRL Entry Extensions

Features of the CRL:	Duration (expressed in days): 7 days Periodicity of update : 24 hours CRL version (v1 or v2) : V2 Issuer: C=AL OI=NTRAL-K82018015V O=Aleat CN=Albanian Proof CA Extensions : CRL Number + AKI CRL Number : incremented 1 by 1 Signature Algorithm:SHA256 RSA Hash Algorithm: SHA256 Next Publication Date: generation date + 1 day http URL for publication : https://www.aleat.al/csp/albanian-proof-ca-04.crl

7.5. OCSP Profile

No stipulation.

7.5.1. Version Number(s)

No stipulation.

7.5.2. OCSP Extensions

If an OCSP is used, then the CPS will give details.

8. COMPLIANCE AUDIT AND OTHER ASSESSMENTS

8.1. Frequency and Circumstances of Assessment

The E-ID PKI is subject to periodic compliance audits, to allow PMA to authorize or not (regarding the audit result) CA to be operated by OA under the CA CPS.

The E-ID PKI and personalization infrastructure are subject to periodic compliance audits, to allow PMA to authorize or not (regarding the audit result) CA to be operated by OA under the CA CPS.

8.2. Identity/Qualifications of Assessor

The compliance auditor shall demonstrate competence in the field of compliance audits, and shall be thoroughly familiar with requirements of this CPS. The PMA and OA looks carefully, regarding its own audit requirements basis, to the methods employed to E-ID PKI. Auditor must be certified to conduct ISO 27001 audit.

8.3. Assessor's Relationship to Assessed Entity

The compliance auditor is either a private firm, which is independent from the entity being audited, or sufficiently organizationally separated from that entity to provide an unbiased, independent evaluation.

The PMA determines whether a compliance auditor meets this requirement.

8.4. Topics Covered by Assessment

The purpose of a compliance audit shall be to verify that a component operates in accordance with the CA CPS and the OA’s security policy.

The purposes of a compliance audit are to verify that a component operates in accordance with the CPS.

The conducted audit is to verify, at minimum, the following topics:

- Knowledge of the CPS, procedure and technical guide by the trusted role;
- E-ID PKI and personalization software are deployed on the correct server;
- E-ID PKI and personalization component respect the network security policy of OA and the present CPS;
- Materials and HSM are used correctly regarding the software deployed on it;
- IP configuration is correct and well administrated by System administrator;
- Each certificate delivered with the E-ID PKI respect [2016_2000021870 – Citizen PKI – Naming document 2016 v0.3];
- OA trust center respect the physical and logical security as described in the present CPS and OA security policy;
- All the media are managed according OA security policy and the present CPS;
- E-ID PKI and personalization platform has a correct time;
- Activation data are correctly distributed and managed by the right trusted roles;

- Back-up files still exist and correctly protected;
- All the trusted role have their smart card;
- Only authorized components (Operator computer and personalization platform) are connected to E-ID PKI and personalization platform. This verification is made with System Administrator with System Administrator log book, firewall and server audit files.

8.5. Actions Taken as a Result of Deficiency

The PMA may determine that the CA is not complying with its obligations set forth in the CA CPS. When such a determination is made, the PMA may suspend or direct to stop affected CA and may request that corrective actions be taken which allow to continue operation of the operation of the noncompliant CA. When the compliance auditor finds a discrepancy between how the CA is designed or is operated or maintained, and the requirements of the CPS, the following actions shall be performed:

- The compliance auditor notes the discrepancy;
- The compliance auditor notifies the PMA of the discrepancy;
- The party responsible for correcting the discrepancy determines what further notifications or actions are necessary pursuant to the requirements of the CA CPS, and then proceed to make such notifications and take such actions without delay in relation with the approval of PMA.

Depending upon the nature and severity of the discrepancy, and how quickly it can be corrected, the PMA may decide to stop temporarily operation of a CA, to revoke a certificate issued by the CA, or take other actions it deems appropriate.

8.6. Communications of Results

An Audit Compliance Report, including identification of corrective measures taken or being taken by the component, is provided to the PMA as set forth in § 8.1. The report identifies the versions of the CPS and OA's security policy used in the assessment. Additionally, where necessary, the results shall be communicated as set forth in § 8.5 above. The Audit Compliance Report is not available on Internet for relying parties.

9. OTHER BUSINESS AND LEGAL MATTERS

9.1. Fees

9.1.1. Certificate Issuance or Renewal Fees

Defined by OA and PMA.

9.1.2. Certificate Access Fees

The CA PS is free access on the internet for relying parties.

9.1.3. Revocation or Status Information Access Fees

The CA PS is free access on the internet for relying parties.

9.1.4. Fees for Other Services

No stipulation.

9.1.5. Refund Policy

No stipulation.

9.2. Financial Responsibility

9.2.1. Insurance Coverage

OA maintains reasonable levels of insurance coverage.

9.2.2. Other Assets

OA maintains sufficient financial resources to maintain operations and fulfil CA duties.

9.2.3. Insurance or Warranty Coverage for End-Entities

If there is damage for a relying party due to Albanian Ministry Of Internal Affairs or OA fault, Albanian Ministry Of Internal Affairs and/or OA will cover part of the relying party damage in the limits stated in the PMA and OA.

9.3. Confidentiality of Business Information

9.3.1. Scope of Confidential Information

PMA and OA guarantees a special treatment for the confidential following:

- Records and archive;
- Personal identity data;
- CA PKI private keys;
- CA Audit result and reports;
- CA Disaster recovery plans;
- Contractual arrangements with OA;
- OA trust center security policy;
- Part of the CA CPS defined as confidential,
- Revocation reason;

9.3.2. Information Not Within the Scope of Confidential Information

All information that is published in the PS is not considered confidential, but can be covered by the law on intellectual property right.

9.3.3. Responsibility to Protect Confidential Information

OA enforces Albanian law for the protection of data (confidential and personal data) and secures confidential and personnel data from compromise and disclosure.

9.4. Privacy of Personal Information

9.4.1. Privacy Plan

PMA collects, stores, processes and discloses personally identifiable information in accordance with the European law on privacy data protection.

9.4.2. Information Treated as Private

PMA considers that information considered as private for System and CA are:

- 2016_2000021870 – Citizen PKI – Naming document 2016 v0.3;
- Revocation request form;
- Certificate request form.

9.4.3. Information Not Deemed Private

Any and all information within a certificate, CRL or printed upon the smart card is inherently public information and shall not be considered confidential information.

9.4.4. Responsibility to Protect Private Information

E-ID PKI and personalization component treat and protect all the private information in a manner that only authorize access to trusted role (internal or legal entity) according to the Albanian Ministry Of Internal Affairs requirements on the privacy data protection.

9.4.5. Notice and Consent to Use Private Information

All private information coming from E-ID PKI and personalization cannot be used without any explicit consent from the PMA.

9.4.6. Disclosure Pursuant to Judicial or Administrative Process

OA is compliant with the national law and use secure procedures to allow access to the private data for any legal entity with authentication and secured controlled access to those data.

9.4.7. Other Information Disclosure Circumstances

PMA obtains consent from Albanian Ministry of Internal Affairs to transfer its private data in case of transfer of activity, as described in the § 5.8.

9.5. Intellectual Property rights

OA retains all intellectual property rights, and is proprietary of the RCA CPS, RCA certificate, CA certificate, proof certificate and revocation information that are issued by the CA.

The LRA retains all intellectual rights it has on information contained in the proof certificate delivered by Albanian Proof CA and for which he/she is the proprietary.

9.6. Representations and Warranties

9.6.1. PMA Representations and Warranties

PMA defines the present CPS. PMA establishes that CA complies with the present CPS. The processes and procedures and audit framework used to determine compliance are documented within the CPS.

PMA ensures that all requirements on E-ID PKI component, as detailed in the present CPS, are implemented as applicable to deliver and manage proof certificate.

PMA has the responsibility for compliance with the procedures prescribed in this CPS, even when CA functionality is undertaken by sub-contractors (OA …). CA provides all its certification services consistent with its certification practice statement.

9.6.2. CA Representations and Warranties

Common obligations for RCA and CA are delegated to OA and are:

- Protect and guarantee integrity and confidentiality of their secret data and/or private key;
- Only use their cryptographic key and certificate, with associated tools specified in CPS, for what purpose they have been generated for;
- Respect and operate CPS part that deals with their duty (this part of CPS has to be transmitted to the corresponding component);
- Let auditor team audit and communicate every useful information to them, according to the PMA intention, control and check the compliance with the present CPS;
- Document their internal procedures to complete global CPS;

- Use every means (technical and humans) necessary to achieve the realization of the CPS it has to implement and they are responsible for.

9.6.3. OA Representations and Warranties

The OA has the responsibility to:

- Respect its security policy;
- Protect and guarantee integrity and confidentiality of their secret data and/or private key;
- Let auditor team audit and communicate every useful information to them, according to the PMA intention, control and check the compliance with the present CPS and the OA's security policy;
- Alert PMA when there is an security incident about the CA services that the OA performed;
- Respect and operate CPS part that deals with their duty (this part of CPS has to be transmitted to the corresponding component);
- Protect identity smart card and associated activation data;
- Document their internal procedures to complete global CPS and its security policy;
- Respect total or part of agreements that binds it to the PMA.

9.6.3.1. Security Officer

Security Officer obligations are:

- Respect its obligation regarding the function they have to perform (as specified in Annex 11 and in the present CPS);
- Respect CPS;
- Protects the activation data and the associated PIN code;
- Protects the smart card and the associated PIN code;
- Manage and deliver technical certificate for trusted roles;
- Conduct internal audit and external audit (ISO 27001);
- Protect back up files of keys;
- Respect the OA security policy.

9.6.3.2. System Administrator

System Administrator obligations are:

- Respect its obligation regarding the function they have to perform (as specified in Annex 11 and in the present CPS);
- Administrate all server, computer and firewall of E-ID PKI platform according present CPS and OA security policy;
- Make the periodic back-up of the E-ID PKI and personalization component;
- Protect and guarantee integrity and confidentiality of IP addresses, login/password and account of server, computer and firewall;
- Respect the OA security policy;
- Protects the activation data and the associated PIN code;
- Conducts vulnerable analysis of the network.

9.6.3.3. E-ID PKI Administrator

E-ID PKI Administrator obligations are:

- Respect their obligation regarding the function they have to perform (as specified in Annex 11 and in the present CPS);
- Respect the present CPS;
- Protects the smart card and the associated PIN code;
- Protects the activation data and the associated PIN code;
- Conduct application audit on E-ID PKI and personalization platform;
- Manage and deliver technical certificate for trusted roles;
- Respect the OA security policy.

9.6.3.4. E-ID PKI Operator

E-ID PKI Operator obligations are:

- Respect its obligation regarding the function they have to perform (as specified in Annex 11 and in the present CPS);
- Respect the present CPS;
- Protects the smart card and the associated PIN code;
- Revoke certificate on PMA request;
- Unblock identity smart card on LRA request;
- Protects identity smart card and corresponding activation data;
- Respect the OA security policy.

9.6.4. RA Representations and Warranties

The RA has the responsibility to:

- Submit accurate and complete information to the CA;
- Nominates and identifies LRA;
- Let auditor team audit and communicate every useful information to them, according to the PMA intention, control and check the compliance with the present CPS and the OA's security policy;
- Alert PMA when there is an security incident about the CA services that the OA performed;
- Respect the CA CPS.

9.6.5. LRA Representations and Warranties

The LRA has the responsibility to:

- Submit accurate and complete information to the RA;
- Keep secret activation data;
- Alert and notify RA for revocation request;
- Protect identity smart card and associated activation data;
- Let auditor team audit and communicate every useful information to them, according to the PMA intention, control and check the compliance with the present CPS and the OA's security policy;
- Alert PMA when there is an security incident about the CA services that the OA performed;
- Respect the CA CPS.

9.6.6. Citizen Representations and Warranties

No stipulation.

9.6.7. Representations and Warranties of Other Participants

9.6.7.1. Relying party

The RP has the responsibility to valid an electronic certificate from E-ID PKI's CA using:

- The valid RCA and CA certificates;
- The ARL and the CRL to validate certificates;
- The information accessible from the SP about RCA and CA;
- Procedures described in the RFC 5280.

9.7. Disclaimers of Warranties

The CA services only guarantees the identification and authentication of the system with proof certificate and of CA that own a certificate issued by the RCA, and the management of the corresponding certificate and certificate status information regarding the present CPS. Not any more guarantees can be pinpointed by PMA and relying parties in their contractual relationship (if there is any).

9.8. Liability limitation

PMA is only responsible for the present CPS requirements and principles, for the compliance audit between the present CPS and the CA CPS.

CA is responsible for any damage caused to relying parties because of improperly operating of the CA CPS.

OA assumes no liability whatsoever in relation to the use of proof certificate and CA certificates or associated public/private key pairs for any use other than the one stated in the present CPS.

9.9. Indemnities

In a damage proved to be under OA responsibility, the indemnities are limited to maximum sum of money that is given in the CA CPS.

9.10. Term and Termination

9.10.1. Term

The CA CPS becomes effective, and after its amendments, upon ratification by the PMA, adoption by the OA and publication in the PS.

9.10.2. Termination

In the event that the CA ceases to operate, a public announcement must be made by the PMA. Upon termination of service, the CA must properly archive its records including certificates issued, proof certificate, CA certificate, CPS and CRL for a period of 10 years after the date of service termination.

9.10.3. Effect of Termination and Survival

End of validity of the CPS stops all obligation and liability for RCA and CA.

RCA and CA cannot keep on delivering electronic certificate referring to the CPS. End of validity of the CPS stops all obligation and liability for PMA.

9.11. Individual Notices and Communications with Participants

PMA provides participants with new version of CPS as soon as it is validated by OA, via the PS.

9.12. Amendments

9.12.1. Procedure for Amendment

PMA reviews CPS at least yearly. Additional reviews may be enacted at any time at the discretion of PMA. Spelling errors or typographical corrections which do not change the meaning of the CPS are allowed without notification. Prior to approving any changes to this CPS, PMA notifies CA.

9.12.2. Notification Mechanism and Period

PMA notifies RCA and CA on its intention to modify CPS no less than 30 days before entering the modification process.

9.12.3. Circumstances under Which OID Must be Changed

Present CPS OIDs are changed if the PMA determines that a change in the CPS modify the level of trust provided by the CPS requirements or CPS material.

9.13. Dispute Resolution Provisions

OA proposes to solve dispute on identity to set in the certificate and in the case that parties in conflict cannot find an arrangement; the problem will be solved in a Albanian court. The contractual arrangements between Albanian Ministry of Internal Affairs and OA contains a dispute resolution clause.

9.14. Governing Law

The applicable laws that govern the CA CPS applicability are the laws of the State of Albany, according to the entire relevant European directive that could apply to the present CPS.

9.15. Compliance with Applicable Law

This CPS is subject to applicable national, local and foreign laws, rules, regulations, ordinances, decrees, and orders including, but not limited to, restrictions on exporting or importing cryptographic software, hardware, or technical information.

9.16. Miscellaneous Provisions

9.16.1. Entire Agreement

If there is any, the PMA has to approve it according to the OA approval procedures.

9.16.2. Assignment

Except where specified by other contracts, only the PMA may assign and delegate this CPS to any party of its choice.

9.16.3. Severability

If any part of the CPS is unenforceable by a court of law, it doesn't make the other part of the CPS invalid.

9.16.4. Waiver of Rights

The requirements defined in the CPS are to be implemented as described in CPS without possible waiver of right in the intention of changing any defined rights or obligation.

9.16.5. Act of God

OA is not responsible for indirect damage and interruption of services due to Act of God that directly caused direct damage to system and relying party.

9.17. Other Provisions

No stipulation.

10. ANNEX 1: TRUSTED ROLES FORMS

The following annex gives all the content for the required forms used to attribute trusted roles.

10.1. Authorization form

- Role requester:
  - Date:
  - Name;
  - First name;
  - Telephone;
  - Address;
  - Role requested ;

Signature of the Role requester

- Name of the Authorizer;
  - Date:
  - Name;
  - First name;
  - Telephone;
  - Address;
  - Authorizer role.

Signature of the Authorizer.

10.2. Trusted roles certificate delivery form

- Person who will receive smart card and certificate for trusted role:
  - Date:
  - Name;
  - First name;
  - Telephone;
  - Address;
  - Role;

Signature of the trusted role certificate applicant

- Name of the “master trusted role” who deliver the certificate ;
  - Date:
  - Name;
  - First name;
  - Telephone;
  - Address.

Signature of “master trusted role” who deliver the certificate

10.3. Activation data delivery form

- Person who receive activation data:
  - Date:
  - Name;

- First name;
- Telephone;
- Address;
- Type of activation data ;

Signature of the Activation data holder

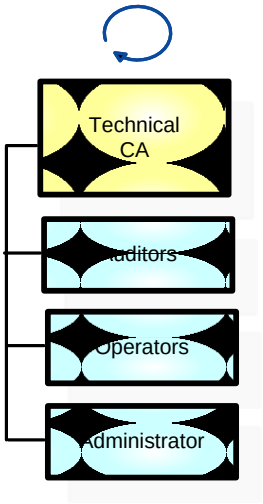
- Name of Security Officer;
  - Date:
  - Name;
  - First name;
  - Telephone;
  - Address.

Signature of Security Officer

11. ANNEX 2: DESCRIPTION OF TRUSTED ROLES

11.1. OA roles

The Technical CA used to manage the E-ID PKI trusted roles are, the following:



Trusted roles	Certificates and/or tools	Function	Comments
Security Officer (*Aleat IT Security Manager*)	Administrator certificate on dedicated smart card	Manage certificate profiles and PKI configuration on ID CA ID NOMIC software	Using ID NOMIC ID CA software.
		Create and revoke PKI roles certificates. Those certificates are signed using the Technical CA.	Using ID NOMIC ID CA software.
	Auditor certificate on dedicated smart card	Audit all E-PKI activity.	Using ID NOMIC ID CA software.
	2 Blue USB tokens	Activation holder (HSM init)	Using Safenet HSM
System Administrator (*Aleat IT System Administrator*)	Black USB token	Key and partition management	Using Safenet HSM
	Login and password of server	Administrate all E-ID PKI and personalization server	Using ID NOMIC ID CA software.
Master of key ceremony (*Aleat IT Security Manager*)	NA	Prepare and realize RCA and CA initial key ceremony	Using Keyseed® software
**E-ID PKI Operator (*Aleat*	RA Operator certificate on	Revoke services certificates. Those certificates are revoked using the	Using ID NOMIC ID CA software.

***System Operator*)**	dedicated smart card	Proof CA. Audit PKI events.	
Revocation Officer	RA Operator	Revoke certificates. Those certificates are revoked using the Citizen Sign CA Portal.	Using ID NOMIC ID CA software.
System Auditor (Aleat Quality & Inspection Manager)	Auditor certificate on dedicated smart card	Authorized to view and maintain archives and audit logs of the CA trustworthy system. Audit all E-PKI activity.	Using ID NOMIC ID CA software.

11.2. Albanian trusted roles

11.2.1. Ministry of Internal Affairs

Trusted roles	Certificates and/or tools	Function	Comments
Activation holder of Albanian Ministry of Internal Affairs Known as "Domain Manager"	NA	PMA's witness	Assist to key ceremony
		PMA's Administrative contact	Sign [Key ceremony record]
	2 Red USB token	Activation holder	Using HSM

11.2.2. Civil Registry Offices

Trusted roles	Certificates and/or tools	Function	Comments
LRA Operator	NA	LRA Operator	Create the certificate based on trusted requester demand
		LRA platform	Use the LRA platform to transmit services certificate and revocation request to the OA.

12. ANNEX 3: MANAGEMENT OF TRUSTED ROLES CERTIFICATES

12.1. Delivery of technical certificates to trusted roles

When a trusted role needs a technical certificate, he/she receives it from another trusted role (refer to § 11). The section 11 indicates which roles can deliver technical certificate with which technical CA. the section 11 indicates also which software is used to signs technical certificates.

The authorization and authentication of the person who has a trusted role is done by another trusted role as describes in section 3.2.3.3.
When an authorized person, with a trusted role, needs a technical certificate (refer to § 11), this certificate is delivered by Security Officer or the E-ID PKI Administrator (named “master trusted role” for explanation in this paragraph). The following procedures, in this paragraph, are only explained with “master trusted role” and a trusted role.

“Master trusted role” has to use the right technical certificate on a dedicated smart card to issue other technical certificate (refer to § 11) for trusted roles.
“Master trusted role” uses the dedicated computer in the OA trust center.
“Master trusted role” uses the right smart card and technical certificate with a browser to be authenticated on the E-ID PKI software.
“Master trusted role” generates the key pair on a smart card. This smart will be distributed to the trusted role.
“Master trusted role” creates the certificate requests and transmits the public key to the technical CA with ID-CA of ID-NOMIC software interface.
“Master trusted role” uses the right technical CA to sign the certificate.
“Master trusted role” then store the certificate on the same smart card.
“Master trusted role” chooses a PUK code for the smart card.

“Master trusted role” distributes the smart card to the trusted role.
Trusted role chooses a PIN code.

The trusted role and the “Master trusted role” sign the Trusted roles certificate delivered form (Cf. § 10.2).

12.2. Revocation of a technical certificates delivered to trusted roles

Revocation of a technical certificate is also done by the “Master trusted role”.

“Master trusted role” has to use the right technical certificate on a dedicated smart card to revoke other technical certificate (refer to § 11) for trusted roles.
“Master trusted role” uses the dedicated computer in the OA trust center.
“Master trusted role” uses the right smart card and technical certificate with a browser to be authenticated on the E-ID PKI software.
The “Master trusted role” revoke the technical certificate with E-ID PKI software functions.

12.3. Renewal of technical certificates for trusted roles

The renewal of technical certificate is the done by “Master trusted role”.

The authorization and authentication of the person who has a trusted role is done by another trusted role as describes in section 3.2.3.3.
When an authorized person, with a trusted role, needs a new technical certificate (refer to § 11), this certificate is delivered by “Master trusted role”. The following procedures, in this paragraph, are only explained with the role “Master trusted role” and trusted role.

There is tow choice for the smart card of the trusted role:

- Same smart card: trusted role will keep the same smart card. Before to use the smart card, the “Master trusted role” has to revoke the technical certificate (refer to § 12.2) and delete the key pair on the smart card. “Master trusted role” keep the same PUK code and trusted role keep the same PIN code ;

- New smart card: trusted role will have a new smart card. The “Master trusted role” has to has to revoke the technical certificate (refer to § 12.2) and delete the key pair on the smart card. Then “Master trusted role” has to destroy the old smart card (refer to § 5.1.7). After the generation of the generation of the new certificate on the new smart card, “Master trusted role” has to choose a PUK code and trusted role has to choose a new PIN code.

“Master trusted role” has to use the right technical certificate on a dedicated smart card to issue other technical certificate (refer to § 11) for trusted roles.
“Master trusted role” uses the dedicated computer in the OA trust center.
“Master trusted role” uses the right smart card and technical certificate with a browser to be authenticated on the E-ID PKI software.
“Master trusted role” generate new key pairs on the smart cards provided by the trusted role or on new smart cards.
“Master trusted role” create certificate requests and transmit public keys to the technical CA using E-ID PKI software.
“Master trusted role” use the appropriate technical CA to sign certificates.
“Master trusted role” store generated certificates on the smart cards.

12.4. Protection of smart cards

All trusted role’s technical certificates and corresponding private keys are stored in dedicated smart cards with PIN codes to activate them and PUK codes to unblock them.

The PUK code could be the same for all the smart card, but it is recommended to have one PUK code per smart card. The PIN code is associated to one smart card. There is a different PIN code for each smart card.

When the smart card is not used by the trusted role, then the trusted role has to protect the smart and the associated PIN code in confidentiality and integrity. Trusted role never let the smart card in the smart card reader of the computer when trusted role is not in front of the used computer.

“Master trusted role” has to protect the PUK code in integrity and in confidentiality.

13. ANNEX 4: LIST OF REFERENCED DOCUMENTS

This annex contains all references of documents mentioned in the present CPS between.

Acronym	Name of the document	Date	Version
[2016_2000021244 - Citizen PKI - Key Ceremony 2016 v0.3	key ceremony preparation guide	13/09/2016	0.3
[2016-2000021870 - Naming Document - Citizen PKI V0.3]	Creation of the certificate authorities' hierarchy for Albanian E-ID PKI.	13/09/2016	0.3

---------- END of DOCUMENT ---------