



Certification Policy – Server CA

C1 - public

Version	Date	Modifications – Observations
0.1	16/02/2018	Création
0.2	09/2018	Révision
1.0	09/2018	Final version
1.1	04/2021	Rebranding (no modification except stylesheet)

	Committee
Drafted by	PKI Committee
Verified by	Governance Committee
Approved by	Security Committee

CONTENTS

- 1. Introduction.....7
 - 1.1 Overview.....7
 - 1.1.1 Purpose of the Pixid PKI.....7
 - 1.1.2 Pixid PKI Hierarchy7
 - 1.1.3 The present document.....7
 - 1.2 Document name and identification.....7
 - 1.3 Policy administration7
 - 1.4 PKI Participants 8
 - 1.4.1 Certification Authorities 8
 - 1.4.2 Registration Authorities 8
 - 1.4.3 Subscribers..... 8
 - 1.4.3.1 Pixid employees..... 8
 - 1.4.3.2 Technical partner..... 8
 - 1.4.4 Relying Parties 8
 - 1.5 Certificates usage 8
 - 1.5.1 Appropriate certificate usages..... 8
 - 1.5.2 Prohibited certificate usages 9
 - 1.6 Definitions and acronyms 9
 - 1.6.1 References 9
 - 1.6.2 Definition 9
 - 1.6.3 Acronyms.....12
- 2. Publications and Repository Responsibilities12
 - 2.1 Identification of entities operating repositories12
 - 2.2 Publication of Certification Information12
 - 2.3 Time of Frequency of Publication.....13
 - 2.3.1 Frequency of Publication of Revocation information.....13
 - 2.3.2 Frequency of Publication of Terms & Conditions.....13
 - 2.4 Access Control on Repositories13
- 3. Identification and authentication.....13
 - 3.1 Naming.....13
 - 3.1.1 Types of names.....13



- 3.1.2 Anonymity or pseudonymity of Subscribers14
- 3.1.3 Rules for interpreting various name forms14
- 3.1.4 Uniqueness of names14
- 3.1.5 Recognition, authentication, and role of trademarks.....14
- 3.2 Initial identity validation14
 - 3.2.1 Pixid employees14
 - 3.2.2 PIXID Partner14
 - 3.2.3 Method to prove possession of private key.....15
 - 3.2.4 Authentication of organization identity15
 - 3.2.5 Unverified subscriber information15
 - 3.2.6 Validation of authority15
 - 3.2.7 Criteria for interoperation.....15
- 3.3 Identification and authentication for re-key & update requests15
- 3.4 Identification and authentication for revocation request15
- 4. Certificate life-cycle operational requirements16
 - 4.1 Certificate Application16
 - 4.1.1 Who can submit a certificate application16
 - 4.1.2 Enrolment process and responsibilities16
 - 4.1.2.1 PKI Participants responsibilities related to enrolment process.....16
 - 4.1.2.1.1 Subscribers’ responsibilities16
 - 4.1.2.1.2 RA responsibilities16
 - 4.2 Certificate application processing17
 - 4.3 Certificate issuance17
 - 4.3.1 CA actions during certificate issuance17
 - 4.3.2 Notification by the CA of the issuance of Certificate17
 - 4.4 Certificate acceptance17
 - 4.4.1 Publication of the Certificate by the CA.....17
 - 4.4.2 Notification of Certificate issuance by the CA to other entities17
 - 4.5 Key pair and certificate usage18
 - 4.5.1 Subscriber private key and certificate usage18
 - 4.5.2 Relying Party public key and Certificate usage18
 - 4.6 Certificate renewal.....18
 - 4.7 Certificate re-key18
 - 4.8 Certificate modification19
 - 4.9 Certificate revocation19



- 4.9.1 Circumstances for revocation.....19
- 4.9.2 Who can request revocation19
- 4.9.3 Procedure for revocation request.....19
- 4.9.4 Time within which CA must process the revocation request19
- 4.9.5 Revocation checking requirement for Relying Parties.....19
- 4.9.6 CRL issuance frequency19
- 4.9.7 On-line revocation/status checking availability19
- 4.9.8 Special requirements regarding key compromise 20
- 4.10 Certificate status services 20
- 4.11 End of subscription 20
- 4.12 Key escrow and recovery 20
- 5. Facility, management, and operational controls..... 20
- 6. Technical security controls 20
 - 6.1 Key pair generation and installation..... 20
 - 6.1.1 Key pair generation 20
 - 6.1.2 Key sizes 20
 - 6.1.2.1 Subscribers’ Private Key Type..... 20
 - 6.1.3 Public key parameters generation and quality checking 21
 - 6.1.4 Key usage purposes 21
 - 6.2 Private key protection..... 21
 - 6.2.1 Cryptographic module standards and controls..... 21
 - 6.2.2 Private key escrow 21
 - 6.2.3 Private key backup 21
 - 6.2.4 Private key archival..... 21
 - 6.2.5 Private key transfer into or from a cryptographic module 21
 - 6.2.6 Method of activating the private key 21
 - 6.2.7 Method of deactivating private key 21
 - 6.2.8 Method of destroying private key 21
 - 6.2.9 Cryptographic module rating 22
 - 6.3 Other aspects of key pair management 22
 - 6.3.1 Public key archival 22
 - 6.3.2 Subscriber Certificate operational periods and key pair usage periods..... 22
 - 6.4 Activation data 22
 - 6.5 Computer security controls..... 22
 - 6.6 Life cycle technical controls 22



- 6.7 Network security controls 22
- 7. Compliance audit and other assessments 22
- 8. Other business and legal matters 22
 - 8.1 Fees 22
 - 8.2 Financial responsibility..... 23
 - 8.2.1 Insurance coverage 23
 - 8.2.2 Other assets..... 23
 - 8.2.3 Insurance or warranty coverage for end-entities 23
 - 8.3 Confidentiality of business information 23
 - 8.4 Protection of personal information 23
 - 8.5 Intellectual property rights..... 23
 - 8.6 Representations and warranties..... 23
 - 8.6.1 CA representations and warranties 23
 - 8.6.2 Relying Party representations and warranties..... 23
 - 8.6.3 Representations and warranties of other participants..... 24
 - 8.7 Disclaimers of warranties..... 24
 - 8.7.1 Damages covered and disclaimers..... 24
 - 8.7.2 Loss limitations 24
 - 8.8 Limitations of liability 25
 - 8.9 Indemnities..... 25
 - 8.10 Term and termination 25
 - 8.11 Amendments 25
 - 8.11.1 Procedure for amendment..... 25
 - 8.11.2 Notification mechanism and period..... 25
 - 8.11.3 Circumstances under which OID must be changed 26
 - 8.12 Governing law and jurisdiction 26
 - 8.13 Compliance with applicable law 26



1. Introduction

1.1 Overview

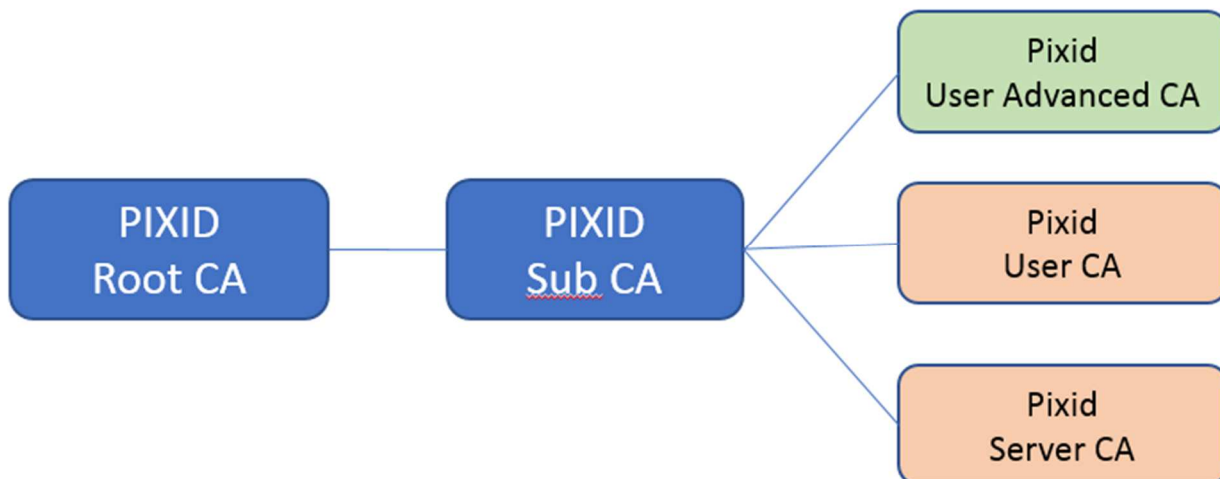
1.1.1 Purpose of the Pixid PKI

The purpose of Pixid PKI is to provide authentication, e-signature and e-seals certificates to the users of Pixid solutions and Pixid employees.

The Pixid-services and myPixid platforms are solutions for web-based management of temporary and flexible employment. Companies (customers), Recruitment agencies (suppliers) and candidates (resources) meet on Pixid platforms and sign contractual agreements. Pixid PKI provides, among others, on-the-fly certification services for the creation of advanced electronic signatures on its platforms.

1.1.2 Pixid PKI Hierarchy

Pixid, acting as a TSP, is using several Certification Authorities (CA), as shown in the certificates hierarchy, to issue Pixid end-user certificates.



1.1.3 The present document

The present document contains the certificate policy (CP) and practices (CPS) for Pixid’s Servers CA (“Pixid Server CA”), which produces end-users certificates. Throughout this document, the use of the term “CP” refers to the present document, unless otherwise specified.

The CP describes the practices of the “Pixid Server CA”.

1.2 Document name and identification

The CP can be identified by any party through the following OID:

1.3.6.1.4.1.23876.111002

1.3 Policy administration

See [1].

1.4 PKI Participants

- The PKI Participants within Pixid PKI are:
- Certification Authorities
- Registration Authorities
- Subscribers
- Relying Parties

The aforementioned parties are collectively called the PKI Participants. All PKI Participants implement practices, procedures and controls conforming to the requirements expressed within this CP.

1.4.1 Certification Authorities

See **Erreur ! Source du renvoi introuvable.**; the legal person (organization) responsible for these CA's is Pixid.

1.4.2 Registration Authorities

Pixid is the registration authority for the "Pixid Server CA".

1.4.3 Subscribers

1.4.3.1 Pixid employees

Pixid employees can be subscribers when they manage Pixid servers or time-stamping units.

1.4.3.2 Technical partner

Pixid's partner's employees are subscribers when they manage a service which is technically linked to a Pixid platform or a Pixid service.

1.4.4 Relying Parties

Relying Parties are entities including physical or legal persons who rely on a Certificate and/or a security operation verifiable with reference to a public key listed in a Certificate. Relying Parties shall comply with the Relying Parties obligations and liabilities as stated in the relevant sections of this CP.

Note: Relying Parties are entities that are not necessarily Subscribers.

1.5 Certificates usage

1.5.1 Appropriate certificate usages

Appropriate certificate usages are explicitly described in the certificates themselves, using the *Key Usage* extension. The certificates issued under the present policy are to be used exclusively for electronic seals, the sealing of timestamps produced by Pixid TSU's or SSL authentication of Pixid servers.

1.5.2 Prohibited certificate usages

Usage of certificates other than the ones mentioned in the previous paragraph is prohibited. Relying Parties shall use the OID as identified in the certificate to appropriately accept or reject a certificate usage.

1.6 Definitions and acronyms

1.6.1 References

- [1] [PIXID - 111000 - C1] Certification Policy - Pixid Root CA.. Available on Pixid’s website (see section 2 of this document)
- [2] [PIXID – 111001.2 - C1] Certification Policy - Pixid User CA. Available on Pixid’s website (see section 2 of this document)
- [3] [PIXID – 111005 - C1] Timestamping Policy - Pixid. Available on Pixid’s website (see section 2 of this document)
- [4] European Data Protection Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regards to the processing of personal data and on the free movement of such data.
- [5] Regulation (EU) 910/2014 of the European Parliament and of the Council on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC, July, 23th, 2014.
- [6] ETSI EN 319 411-1 – Electronic Signatures and Infrastructures (ESI); Policy and security requirements for Trust Service Providers issuing certificates; Part 1: General requirements, V1.1.1 (2016-02).
- [7] ETSI EN 319 411-2 – Electronic Signatures and Infrastructures (ESI); Policy and security requirements for Trust Service Providers issuing certificates; Part 2: Requirements for trust service providers issuing EU qualified certificates, V2.1.1 (2016-02).
- [8] ETSI EN 319 401 – Electronic Signatures and Infrastructures (ESI); General Policy Requirements for Trust Service Providers, V2.1.1 (2016-02)
- [9] CEN TS 419 261:2015 – Security requirements for trustworthy systems managing certificates and time-stamps, April 2015.

1.6.2 Definition

Advanced Electronic Signature	Refers to Electronic Signature which meets the requirements set out in Article 26 of the EIDAS Regulation [5].
Certification Authority (CA)	Authority trusted by one or more users to create and assign certificates. A certification authority may optionally create the users’ keys.
Certificate	Public key of a user, together with some other information, rendered un-forgable by encipherment with the private key of the certification authority which issued it.
Certificate Identifier	A unique identifier of a Certificate consisting of the name of the CA and of the certificate serial number assigned by the CA.
Certificate Policy (CP)	Named set of rules that indicates the applicability of a certificate to a particular community and/or class of application with common security requirements.



Certification Practice Statement	Statement of the practices which a certification authority employs in issuing, managing, revoking, and renewing or re-keying certificates.
Certificate Validity Period	The time interval during which the CA warrants that it will maintain information about the status of the certificate. (Time interval between start validity date and time and final validity date and time).
Certificate Revocation List (CRL)	Signed list indicating a set of certificates that are no longer considered valid by the certificate issuer.
Certification Path	An ordered sequence of certificates that, together with the public key of the initial object in the path, can be processed to obtain that of the final object in the path.
Certification Service Provider	An entity or a legal or natural person who issues certificates or provides other services related to electronic signatures.
Commitment Type	A signer-selected indication of the exact intent of an electronic signature.
CRL Distribution Point	A directory entry or other distribution source for CRLs; a CRL 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 CA's.
Device	Combination of the key pair, the corresponding certificate and secured user device
Digital Signature	Data appended to, or a cryptographic transformation of, a data unit that allows a recipient of the data unit to prove the source and integrity of the data unit and protect against forgery, e.g. by the recipient
End Entity	A certificate subject that uses its public key for purposes other than signing certificates
Electronic Signature	Data in electronic form which is attached to or logically associated with other data in electronic form and which is used by the signatory to sign
Hash Function	Cryptographic function that maps a variable length string of bits to fixed-length strings of bits, satisfying the following two properties: It is computationally unfeasible to find for a given output an input which maps to this output; It is computationally unfeasible to find for a given input a second input which maps to the same output.
Key Pair	Public Key and the corresponding Private Key.
Object Identifier (OID)	Sequence of numbers that uniquely and permanently references an object.
Online Certificate Status Protocol (OCSP) Provider	Online trusted source of certificate status information. The OCSP protocol specifies the syntax for communication between the OCSP server (which contains the certificate status) and the client application (which is informed of that status).
Public RA	Publicly accessible RA to all potential Pixid client
Public Key	Key of an entity's asymmetric key pair that can be made public.



Private RA	RA dedicated to a closed user group
Private Key	Key of an entity's asymmetric key pair that should only be used by that entity.
Qualified certificate for electronic signature or seal	Certificate for electronic signatures or seal, that is issued by a qualified trust service provider and meets the requirements laid down in Annex I of the EIDAS Regulation [5].
Secure User Device	Device which holds the user's private key and protects this key against compromise and performs signing or decryption functions on behalf of the user.
Signature Attributes	Additional information that is signed together with the Signer's Document.
Signature Creation Data	Refers to unique data, such as codes or private cryptographic keys used by the signatory to create an electronic signature.
Signature Creation Device	Refers to configured software or hardware used to implement the signature creation data.
Signature Policy	Set of technical and procedural requirements for the creation and verification of an electronic signature, under which the signature can be determined to be valid.
Signature Policy Identifier	Object Identifier that unambiguously identifies a Signature Policy.
Signature Verification	Process performed by a verifier either soon after the creation of an electronic signature or later to determine if an electronic signature is valid against a signature policy implicitly or explicitly referenced.
Signature-Verification-Data	Data, such as codes or public cryptographic keys used for the purpose of verifying an electronic signature.
Signature-Verification Device	Configured software or hardware used to implement the signature verification-data.
Signatory	A person who holds a signature creation device and acts either on his own behalf or on behalf of the natural legal person or entity he represents.
Signer	Entity that creates an (electronic) signature.
Subject	Entity to which a Certificate is issued.
Subscriber	Entity that requests and subscribes to a Certificate and for which it is either the Subject or not.
Trusted Third Party (TTP)	Authority trusted (and widely recognised, possibly accredited) by one or more users to provide Trusted Services such as Timestamping, Certification ...
Time Stamp	Proof-of-existence for a datum at a particular point in time, in the form of a data structure signed by a Time Stamping Authority, which includes at least a trustworthy time value, a unique integer for each newly generated time stamp, an identifier to uniquely indicate the security policy under which the time stamp was created, a hash representation of the datum, i.e. a data imprint associated with a one-way collision resistant uniquely identified hash-function.
Time Stamping Authority (TSA)	Authority trusted by one or more users to provide a Time Stamping Service.

Time Stamping Service	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.
Validation Data	Additional data, collected by the signer and/or a verifier, needed to verify the electronic signature in order to meet the requirements of the signature policy. It may include: certificates, revocation status information, time-stamps or Time-Marks.
Verifier	Entity that validates or verifies an electronic signature. This may be either a relying party or a third party interested in the validity of an electronic signature.

1.6.3 Acronyms

AES	Advanced Electronic Signature	OCS	Online Certificate Status Protocol
ARL	Authority Revocation List	OTP	One Time Password
CA	Certification Authority	PIN	Personal Identification Number
CP	Certificate Policy	PKI	Public Key Infrastructure
CPS	Certification Practice Statement	PKIX	Public Key Infrastructure (X.509) (IETF Working Group)
CRL	Certificate Revocation List	PKCS	Public Key Certificates Standard
CSP	Certification Service Provider	QES	Qualified Electronic Signature
DSA	Digital Signature Algorithm	RA	Registration Authority
DRA	Delegated Registration Authority	RFC	Request for Comments
HSM	Hardware Security Module	RSA	A specific Public Key algorithm invented by Rivest, Shamir, and Adleman
IETF	Internet Engineering Task Force	SCD	Signature Creation Device
ISO	International Organisation for Standardisation	SSCD	Secure Signature Creation Device
ITU	International Telecommunications Union	TSA	Time Stamping Authority
LCP	Lightweight Certificate Policy	TSP	Trust Service Provider
LDAP	Lightweight Directory Access Protocol	TSU	Time Stamping Unit
NCP	Normalised Certificate Policy	URL	Uniform Resource Locator
NCP+	Normalised Certificate Policy +	UTC	Coordinated Universal Time
OID	Object Identifier		

2. Publications and Repository Responsibilities

2.1 Identification of entities operating repositories

See [1].

2.2 Publication of Certification Information

The Pixid CP covering the practices used by the CA for Certificates issuance under this CP is available online on <http://pki.mypixid.io/>. This repository shall also contain any other public documents where Pixid makes certain disclosures about its practices, procedures and the content of certain of its policies, including the CP, and the covered CPs.



The Pixid Server CA publishes revocation status information at the following URL: <http://pki.mypixid.io/>. The CA maintains the CRL distribution point and the information on this URL until the expiration date of all Certificates containing the CRL distribution point.

2.3 Time of Frequency of Publication

2.3.1 Frequency of Publication of Revocation information

The Pixid Server CA publishes its CRL at least every 6 (six) days.

2.3.2 Frequency of Publication of Terms & Conditions

An update of all relevant Terms & Conditions (including the CP, the General Terms and Conditions) is published whenever a change occurs.

2.4 Access Control on Repositories

See [1].

3. Identification and authentication

3.1 Naming

3.1.1 Types of names

Naming and identification rules for physical (private) persons are the same as legal rules applied for naming and identification of physical persons on citizen identity cards, passports or other official documents. The certificates' distinguished names (DN) are structured as follows:

Country (C)	Country of the server/service
Organization (O)	Organisation which operate the server/service
OrganizationUnit (OU)	ID of the organisation which operate the server/service
SerialNumber	(random unique value)
Common Name (CN)	Name of the server/service

Moreover, the certificates may also contain the following data, within the Subject Alternative Names (SAN) field:

rfc822Name	Email address for the service or person in charge of the server/service
dNSName	FQDN of the server

3.1.2 Anonymity or pseudonymity of Subscribers

Not applicable.

3.1.3 Rules for interpreting various name forms

- The Subject Alternative Names (SAN) are not included in certificates for electronic seals.
- TSU's certificates only contain the *rfc822Name* attribute of the SAN

3.1.4 Uniqueness of names

The full combination of the subject's attributes (Distinguished Name) has to be unique. This is guaranteed by the SerialNumber attribute.

3.1.5 Recognition, authentication, and role of trademarks

No requirement.

3.2 Initial identity validation

3.2.1 Pixid employes

Subscribers are Pixid's system administrators in charge of a server or a service implemented by a server. They are registered within Pixid's organization with the following information:

- First and last names
- Date and place of birth
- Reference to a nationally recognized identity document, which provides the previous information (name, date and place of birth)
- Professional email address
- Professional phone number

Certificate request additionally includes the following information:

- The name of the server / service
- A rationale for the certificate (reference to a project, business need, etc.)
- If applicable, the email address, FQDN for the server

3.2.2 PIXID Partner

Subscribers are Pixid's contact in charge of a project or a service linked to a Pixid service. They are registered with the following information:

- First and last names
- Date and place of birth
- Reference to a nationally recognized identity document, which provides the previous information (name, date and place of birth)
- Professional email address
- Professional mobile phone number

Certificate request additionally includes the following information:

- The name of the server / service
- The ID of the partner (SIREN number...)
- A rationale for the certificate (reference to a project, business need, etc.)
- If applicable, the email address, FQDN for the server

3.2.3 Method to prove possession of private key

In most cases, certificate requests are provided by the Subscriber using the PKCS#10 specification. That format ensures that the sender has possession of the private key corresponding to the public key contained in the request.

When the use of PKCS#10 is not possible for technical reasons or convenience, the certificate request could be provided by the Subscriber using the usual communication tool (ie : ticketing management system, email...). The Private key is then protected by a passphrase sent (SMS) to the Subscriber by the RA using the professional mobile phone give, during the request.

3.2.4 Authentication of organization identity

When the certificate is delivered to an organization (not Pixid), the identity of this organization is guaranteed by the commercial or partnership agreement between the organization and Pixid.

3.2.5 Unverified subscriber information

Not applicable. Certificates do not contain unverified information.

3.2.6 Validation of authority

Pixid internal RA ensures, at the time of the request, that the Subscriber is entitled to request the certificate.

3.2.7 Criteria for interoperation

Not applicable.

3.3 Identification and authentication for re-key & update requests

Not applicable.

3.4 Identification and authentication for revocation request

Revocation requests are sent by e-mail. Control of the subscriber's e-mail address, as provided during the initial identity validation, is deemed sufficient for the authentication of the request.

4. Certificate life-cycle operational requirements

4.1 Certificate Application

4.1.1 Who can submit a certificate application

Any Pixid employee may request a certificate.

Pixid's partner could request a certificate when they manage service which are technically link to a Pixid platform or a Pixid service.

4.1.2 Enrolment process and responsibilities

The RA's responsibility is to verify that the Subscriber is indeed the person (s)he claims to be and to validate the information that is requested to be certified by the CA as well as the information supporting this certification.

The Subscriber will have to proceed to a valid initial identification and authentication as described in section 3.2. The RA guarantees the accuracy of all information provided to the CA.

4.1.2.1 PKI Participants responsibilities related to enrolment process

4.1.2.1.1 *Subscribers' responsibilities*

The Subscriber agrees with and accepts the General Terms and Conditions and the CP. Specifically, the Subscriber hereby gives his/her acceptance to the following responsibilities related to the enrolment process:

- The information submitted during enrolment process by the Subscriber must be valid, up-to-date, accurate, and complete. The Subscriber is responsible for the accuracy of the data provided during enrolment process and the RA will ensure the correctness and accuracy of the submitted information.
- The Subscriber must agree to the retention (for a period of 7 years from the date of expiry of the last Subscriber Certificate) by the CA and RA, of all information used for the purposes of registration; in the event that the CA ceases its activities, the Subscriber must also consent for this information to be transmitted to third parties under the same terms and conditions as those laid down in this CP.

4.1.2.1.2 *RA responsibilities*

The RA guarantees that:

- Subscribers are properly identified and authenticated both with regard to the personal identity of the Subscriber as a natural private person.
- Any application for Certificates submitted to the CA is complete, accurate, valid and duly authorised.
- The Subscriber is entitled to request a certificate for the server/service
- The Subscriber is entitled to request a certificate for the server/service related to the designated organization
- The provided SAN information is valid; in particular, the *rfc822Name* and *dNSName* belong to a domain owned by Pixid (or the partner).

- The RA informs the Subscriber of the terms and conditions for the use of the Certificate.
- The RA checks the identity of the Subscriber on the basis of valid identity documents recognised under national law or equivalent measures according to national law. These identity documents must indicate the full name (last name and first names), date and place of birth.

The RA ensures the storage of at least one copy of the information provided by the Subscriber during enrolment process, in particular:

- A copy of all information used to check the identity of the Subscriber, including any reference numbers on documentation used for this verification as well as any limitations on its validity.
- This information is retained by the RA for a period of 7 (seven) years from the date of expiry of the last Certificate linked to the Subscriber's registration.
- The RA ensures compliance with the requirements relating to the processing of personal data and the protection of privacy with respect to the Subscriber enrolment process.
- The RA guarantees that these items are managed and stored in such a way as to avoid any repercussions as a result of a loss of confidentiality, integrity as well as availability of this data.

4.2 Certificate application processing

Certificates requests are submitted by Pixid employees using internal communication means within Pixid's organization (email, ticketing management service, etc.).

Certificates requests are submitted by Pixid partner using usual communication system (email, ticketing management service, etc.).

4.3 Certificate issuance

4.3.1 CA actions during certificate issuance

The CA authenticates certificate requests and only accept requests from the RA sent through a secure channel ensuring authenticity and integrity of the request.

4.3.2 Notification by the CA of the issuance of Certificate

Subscribers are notified of the certificate issuance using the same communication channel used for the request (email, ticketing management service, etc.).

4.4 Certificate acceptance

The Certificate is deemed to be accepted by the Subscriber if he/she installs the certificate on the server.

4.4.1 Publication of the Certificate by the CA

Certificates are not published by the CA.

4.4.2 Notification of Certificate issuance by the CA to other entities

Not applicable.

4.5 Key pair and certificate usage

4.5.1 Subscriber private key and certificate usage

The Subscriber gives his/her acceptance to the following responsibilities related to the Subscriber private key and Certificate usage:

- In using the Key Pair, the Subscriber must comply with any limitations indicated in the Certificate, this CP, or in applicable contractual agreements.
- The Subscriber must protect its Activation Data at all times against compromise, loss, disclosure, alteration or any otherwise unauthorised use. The Subscriber is the sole user of the Private Key.
- The Subscriber has sole liability for the use of the Private Key.
- The Subscriber must ask the CA to revoke the Certificate as required pursuant to this CP, in particular if:
 - > The Subscriber no longer has “sole” control of the Private Key because the Private Key Activation Data has been compromised or for any other reason; and/or,
 - > The certified data has become inaccurate or has changed in any way (e.g., if the information submitted during the enrolment process as proof of professional status becomes obsolete, in full or in part)

The Certificate revocation process is then started immediately.

The Subscriber must inform the CA of any changes to data not included in the Certificate but submitted and registered during the enrolment process.

4.5.2 Relying Party public key and Certificate usage

Relying Parties providing services or directly relying on Certificates issued in accordance with this CP must perform the following and assume the responsibility for having performed the following:

- Successfully perform public key operations as a condition of relying on a Certificate, compliant with RFC 5280.
- Validate a Certificate by using the CA’s Certificate Revocation Lists (CRLs) OCSP or web based Certificate status services in accordance with the Certificate path validation procedure
- Un-trust a Certificate if it has expired is revoked
- Rely on a Certificate only for appropriate applications (and context) as set forth in this CP, taking into account all the limitations on the use of the Certificate specified in the Certificate, the applicable contractual documents and this CP.
- Take all other precautions with regard to the use of the Certificate as set out in this CP or elsewhere, and rely on a Certificate as may be reasonable under the circumstances.

4.6 Certificate renewal

Not applicable.

4.7 Certificate re-key

Not applicable.

4.8 Certificate modification

Not applicable.

4.9 Certificate revocation

4.9.1 Circumstances for revocation

The Subscriber and, when applicable, the organisation for which the Subscriber (or Subject when Subject and Subscriber are different entities) is certified (as stated in the Certificate), must ask the CA to revoke the Certificate in the following cases:

- The Private Key of the Subscriber is lost, stolen or potentially compromised; or,
- The Subscriber no longer has “sole” control of the Private Key because the Private Key Activation Data has been compromised or for any other reason; or,
- The certified data has become inaccurate or has changed in any way (e.g., if the information submitted during the enrolment process as proof of professional status becomes obsolete, in full or in part).

The RA will request the revocation of a Certificate after having received notice by the Subscriber, or when applicable, by the Subscriber’s organisation.

4.9.2 Who can request revocation

Revocation can be requested by the Subscriber, by the Subscriber’s organization, and by the RA.

4.9.3 Procedure for revocation request

Certificate revocation requests must be sent by e-mail at the following URL: revocation@mypixid.eu
Applications and reports relating to a revocation are processed on receipt and are authenticated as described in 3.4.

4.9.4 Time within which CA must process the revocation request

The investigation of the Certificate revocation request shall begin within twenty-four (24) hours of receipt.

4.9.5 Revocation checking requirement for Relying Parties

Relying Parties must use online resources that the CA makes available through its repository to check the status of a Certificate before relying on it.

4.9.6 CRL issuance frequency

See 2.3.1.

4.9.7 On-line revocation/status checking availability

Not applicable.

4.9.8 Special requirements regarding key compromise

Not applicable.

4.10 Certificate status services

See 2.3.1.

4.11 End of subscription

Subscription termination is subject to appropriate clause within the Subscriber Agreement (e.g., in the General Terms and Conditions). End of subscription is materialized by the expiration or the revocation of any Certificate belonging to the Subscriber.

4.12 Key escrow and recovery

Not applicable.

5. Facility, management, and operational controls

See [1].

6. Technical security controls

See [1] for CA Key Pair and Certificate management. The current section only refers to Subscribers' Key Pair and Certificates.

6.1 Key pair generation and installation

6.1.1 Key pair generation

The generation of Subscribers' private keys occurs within a secure cryptographic device.

6.1.2 Key sizes

6.1.2.1 Subscribers' Private Key Type

	RSA Key size	Hash algorithm
Subscriber	2048	SHA256

6.1.3 Public key parameters generation and quality checking

Public key RSA exponents are chosen secure. Public Key module generation is done with state of the art parameter generation technology. Parameter generation is implemented using state of the art technology and are regularly re-evaluated regarding new advances in cryptology.

6.1.4 Key usage purposes

See 1.5.

6.2 Private key protection

6.2.1 Cryptographic module standards and controls

Not applicable to Subscribers' keys.

6.2.2 Private key escrow

Key escrow is never allowed.

6.2.3 Private key backup

Not applicable to Subscribers' keys.

6.2.4 Private key archival

Not applicable to Subscribers' keys.

6.2.5 Private key transfer into or from a cryptographic module

Not applicable to Subscribers' keys.

6.2.6 Method of activating the private key

The means to activate the private key are under the responsibility of the Subscriber. He/she must ensure that technical and organizational security measures are applied so that, during its lifespan, his/her private key cannot be used by a third-party.

6.2.7 Method of deactivating private key

The means to deactivate the private key are under the responsibility of the Subscriber.

6.2.8 Method of destroying private key

The means to destroy the private key are under the responsibility of the Subscriber. This means must ensure that, once destroyed, the private key cannot be recovered.

6.2.9 Cryptographic module rating

See section 6.2.1.

6.3 Other aspects of key pair management

6.3.1 Public key archival

Not applicable to Subscribers' keys.

6.3.2 Subscriber Certificate operational periods and key pair usage periods

Subscriber certificates' validity period is 3 (three) years. The key pair usage period is the same.

6.4 Activation data

See section 6.2.6

6.5 Computer security controls

See [1].

6.6 Life cycle technical controls

See [1].

6.7 Network security controls

See [1].

7. Compliance audit and other assessments

See [1].

8. Other business and legal matters

See [1] for general business and legal matters. The current section only refers to the business and legal matters specifically pertaining to the Pixid Server CA CA.

8.1 Fees

Save the access to the CRL and OCSP services, which is public and free, the cost of the CA's services are outside the scope of the present policy.

8.2 Financial responsibility

8.2.1 Insurance coverage

Pixid maintains sufficient financial resources and/or obtain appropriate liability insurance, in accordance with applicable law, to cover liabilities arising from its operations and/or activities.

8.2.2 Other assets

Not applicable.

8.2.3 Insurance or warranty coverage for end-entities

Not applicable.

8.3 Confidentiality of business information

Provisions relating to the treatment of confidential information that PKI Participants may communicate to each other, and in particular relating to the scope of what is considered as information within or not within the scope of confidential information, to the responsibility to protect confidential information, and to disclosure conditions are provided within the CP.

8.4 Protection of personal information

Pixid acting as a TSP operates within the boundaries of the General Data Protection Regulation.

8.5 Intellectual property rights

Subscribers acknowledges and agrees that Pixid and/or its licensors own all intellectual property rights in the Services and the Documentation.

8.6 Representations and warranties

8.6.1 CA representations and warranties

Pixid guarantees that all the requirements set out in the present CP are complied with.

8.6.2 Relying Party representations and warranties

The following statements must be considered and complied with by any Relying Party:

- Receive notice and adhere to the conditions of this CP and of the Pixid CP and associated conditions for Relying Parties.
- Decision to rely on a certificate must always be a *conscious* one and can only be taken by *the Relying Party itself based on RFC 5280*.

- Therefore, *before deciding to rely on a certificate it is needed to be assured of its validity*. If the Relying Party is not certain that its software performs such checks automatically, the Relying Party has to open the Certificate by clicking on it and checking that the Certificate is *NOT* either *expired* – by looking at the “valid from ___ to ___” notice; *or suspended or revoked* – by following the link to the Certificate Revocation List (CRL) and making sure that the certificate is not listed there.
- Never rely on expired or revoked certificates.
- Without prejudice to the warranties provided in the present CP, the Relying Party is wholly accountable for verification of a Certificate before trusting it.
- Without prejudice to the warranties provided in this CP or in the Pixid CP, the Relying Party is wholly accountable for verification of a Certificate before trusting it.
- If a Relying Party relies on a Certificate without following the above rules, Pixid will not accept liability for any consequences.
- The Relying Party is strongly advised not to rely upon the Information contained within their client application in use (browser) as to the usage of the Certificate and to check it against the Certificate Policy if in doubt.
- If a Relying Party becomes aware of or suspects that a Private Key has been compromised it will immediately notify Pixid

8.6.3 Representations and warranties of other participants

Not applicable.

8.7 Disclaimers of warranties

8.7.1 Damages covered and disclaimers

Except as expressly provided elsewhere in the CP and in the applicable legislation, Pixid disclaims all warranties and obligations of any type, including any warranty of merchantability, any warranty of fitness for a particular purpose, and any warranty of accuracy of information provided (except that it came from an authorised source), and further disclaims any and all liability for negligence and lack of reasonable care on the part of Subscribers and Relying Parties.

Pixid does not warrant any software.

8.7.2 Loss limitations

To the extent permitted by law, Pixid makes the following exclusions or limitations of liability:

- a) In no event shall Pixid be liable for any indirect, incidental, consequential or any other kind of damages, or for any loss of profits, loss of data, or other indirect, consequential or punitive damages arising from or in connection with the use, delivery, license, performance, or non-performance of Certificates, digital signatures, or other transactions or services (including time stamping services) offered by the CP even if Pixid has been advised of the possibility of such damages.
- b) In no event shall Pixid be liable for any direct, indirect, incidental, consequential or any other kind of damages, or for any loss of profits, loss of data, or other indirect, consequential or punitive damages arising from or in connection with the use or the reliance of a suspended, revoked or expired Certificate.

- c) By accepting a Certificate , the Subscriber agrees to indemnify and hold Pixid and his agent(s) and contractors harmless from any acts or omissions resulting in liability, any loss or damage, and any suits and expenses of any kind, that Pixid and its agents and contractors may incur, that are caused by the use or publication of a Certificate and that arises from:
- > Falsehood or misrepresentation of fact by the Subscriber;
 - > Failure by the Subscriber to disclose a material fact, if the misrepresentation or omission was made negligently or with intent to deceive Pixid or any person receiving or relying on the Certificate
 - > Failure to protect the Subscribers Private Key, to use a trustworthy system, or to otherwise, take the precautions necessary to prevent the compromise, loss, disclosure, modification or unauthorised use of the Subscriber’s Private Key.

8.8 Limitations of liability

The liability of Pixid towards the Subscriber or a Relying Party is limited according to other sections of the CP and to the extent permitted by law.

8.9 Indemnities

Pixid assumes no financial responsibility for improperly used Certificates, CRLs, etc.

8.10 Term and termination

The CP remains in force until notice of the opposite is communicated by Pixid on its repository. Notified changes are appropriately marked by an indicated version.

8.11 Amendments

8.11.1 Procedure for amendment

The Pixid via its TSP Board is responsible for approval and changes of the CP.

The only changes that the Pixid TSP Board may make to these CP specifications without notification are minor changes that do not affect the assurance level of this CP, e.g., editorial or typographical corrections, or changes to the contact details.

Errors, updates, or suggested changes to this document shall be communicated to the contact of the Pixid TSP Board as identified in the CP. Such communication must include a description of the change, a change justification, and contact information of the person requesting the change.

The Pixid TSP Board shall accept, modify or reject the proposed change after completion of a review phase.

8.11.2 Notification mechanism and period

Proposed changes to the CP will be disseminated to interested parties by publishing the new document on the Pixid repository. The date of publication and the effective date are indicated on the title page of the CP.

8.11.3 Circumstances under which OID must be changed

All changes to the CP, other than editorial or typographical corrections, or changes to the contact details, will be subject to an incremented version of the Object Identifier for the CP.

Minor changes to this CP do not require a change in the CP OID or the CP pointer qualifier that might be communicated by the CA. Major changes that may materially change the acceptability of Certificates for specific purposes may require corresponding changes to the CP OID or CP pointer qualifier.

Minor changes are indicated by version number that contains a decimal number e.g., version 1.1 for a version with minor changes as opposed to version 2.0 that addresses major changes.

8.12 Governing law and jurisdiction

The CP shall be governed by, and construed in conformity with, the laws of France.

8.13 Compliance with applicable law

The CP and provision of Pixid PKI Services are compliant to relevant and applicable national and European laws.