

DigiCert

Certification Practices Statement



DigiCert, Inc.
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1. INTRODUCTION

1.1. OVERVIEW

This document is the DigiCert, Inc. ("DigiCert") Certification Practices Statement (CPS) that outlines the principles and practices related to DigiCert's certification and time-stamping services. This CPS applies to all entities participating in or using DigiCert's certificate and time-stamping services, excluding participants in DigiCert's Private PKI services, which are not cross-certified or publicly trusted. This CPS only addresses the actions of DigiCert and not those of third parties operating with cross certificates issued by DigiCert. Specific requirements regarding those Certificates are set forth in the individual agreements with the appropriate DigiCert customer and in that third party's own CPS.

This CPS describes the practices used to comply with the current versions of the following policies, guidelines, and requirements:

- the DigiCert Certificate Policy (the "CP"),
- the Adobe Systems Inc. ("Adobe") AATL Certificate Policy,
- Mozilla Root Store Policy,
- the Federal Bridge Certification Authority ("FBCA") Certificate Policy,
- the Certification Authority/Browser Forum ("CAB Forum") Baseline Requirements Certificate Policy for the Issuance and Management of Publicly-Trusted Certificates ("Baseline Requirements") located at <https://cabforum.org/baseline-requirements-documents>,
- the CAB Forum Guidelines for the Issuance and Management of Extended Validation Certificates ("EV Guidelines") located at <https://cabforum.org/extended-validation>,
- the CAB Forum Guidelines for the Issuance and Management of Extended Validation Code Signing Certificates,
- the CAB Forum Network and Certificate System Security Requirements,
- the Minimum Requirements for the Issuance and Management of Publicly-Trusted Code Signing Certificates ("Minimum Requirements for Code Signing") located at <https://aka.ms/csbr>,
- the Direct Trust Community X.509 Certificate Policy, and
- the Wi-Fi Alliance Hotspot 2.0 Specification.

If any inconsistency exists between this CPS and the normative provisions of the foregoing policies, guidelines, and requirements ("Applicable Requirements"), then the Applicable Requirements take precedence over this CPS. Time-stamping services are provided according to IETF RFC 3161 and other technical standards.

This CPS is only one of several documents that control DigiCert's certification services. Other important documents include both private and public documents, such as the CP, DigiCert's agreements with its customers, Relying Party agreements, and DigiCert's privacy policy. DigiCert may provide additional certificate policies or certification practice statements. These supplemental policies and statements are available to applicable users or relying parties.

Pursuant to the IETF PKIX RFC 3647 CP/CPS framework, this CPS is divided into nine parts that cover the security controls and practices and procedures for certificate and time-stamping services within the DigiCert PKI. To preserve the outline specified by RFC 3647, section headings that do not apply are accompanied with the statement "Not applicable" or "No stipulation."

1.2. DOCUMENT NAME AND IDENTIFICATION

This document is the DigiCert Certification Practices Statement and was first approved for publication on 9 August 2010 by the DigiCert Policy Authority (DCPA). The following revisions have been made to the original document:

Date	Changes	Version
09-October-2018	Clarification to email validation methods and Mozilla CA Root Policy 2.6.1 updates made throughout the document. Removed frequent password changing practice from section 6.4.1 to comply with NIST Special Publication 800-63-3: Digital Authentication Guidelines. Changes made to section 3.2.2 to clarify differences between Levels 1-4 and Class 1-3 Certificate issuance practices. Added sections 1.5.2.1 for Revocation Reporting Contact Person and additions/revisions to section 4.9 to meet the revocation requirements for CABF ballot SC6.	4.16
24-August-2018	Updates throughout for Adobe AATL 2.0, added Class 1-3 OIDs, removed unused definitions and references to EU Qualified Certificates, updated sections 3.2.2 and 3.2.3 regarding email validation, added language in section 6.1.1 to specify that DigiCert does not create key pairs for publicly trusted end-entity TLS Certificates, amended limitation of liability in section 9.8 to address Netsure Extended Warranty and Relying Party Agreement, and removed line 9 in Appendix A	4.15
25-January-2018	Added language based on the CAB Forum's Baseline Requirements, as indicated by Mozilla's Self-Assessment process	4.14
8-November-2017	Added Symantec CAA identifying domains	4.13
8-September-2017	Added CAA processing provisions, removed references to PIV-I, revised descriptions of processes used for validating identity, updated description of physical access and security, added trusted role of RA Administrator, and removed "conflict-of-interest" prohibition from trusted roles.	4.12
23-February-2017	Updated address, made revisions related to the Minimum Requirements for the Issuance and Management of Publicly-Trusted Code Signing Certificates, and made other changes to update the CPS.	4.11
9-September-2016	Updated to: include Cybertrust CAs acquired from Verizon, clarify identity verification process, update document in accordance with FBCA CP v. 2.29 and sec. 9.6.3 of Baseline Requirements.	4.10
1-June-2015	Updated CPS to conform to practices for backup, archival, CA key generation, and certificate acceptance.	4.09
1-April-2015	Minor changes made to update with CA/Browser Forum guidelines and for consistency with DigiCert CP v. 4.08	4.08
7-October-2014	Updated for consistency with DigiCert CP v. 4.07	4.07
14-May-2014	Updated practices to comply with new policy requirements and changes to the DirectTrust CP, Baseline Requirements, EV Guidelines, and EV Code Signing Guidelines.	4.06
2-May-2013	Updated mailing address. Also updated practices to comply with new policy requirements, the DirectTrust CP, changes to the Adobe program, and CAB Forum guidelines.	4.05
10-May-2012	Updated to include practices set forth in the Baseline Requirements, the current Mozilla CA Policy, EV Code Signing, the IGTF, and other policy bodies.	4.04
3-May-2011	IGTF Certificates added and minor updates made to several sections.	4.03
29-October-2010	Changes made in response to comments from the FPKI CPWG regarding certificate status services, trusted roles, and off-site	4.02

Date	Changes	Version
	backup of archive.	
26-August-2010	Updated the process used to authenticate the certificate requester's authority under section 3.2.5 for code signing Certificates issued to organizations	4.01
9-August-2010	This version 4.0 replaces the DigiCert Certificate Policy and Certification Practices Statement, Version 3.08, dated May 29, 2009, and the DigiCert Certification Practice Statement for Extended Validation Certificates, Version 1.0.4, May 29, 2009.	4.0

The OID for DigiCert is joint-iso-ccitt (2) country (16) USA (840) US-company (1) DigiCert (114412). The OID-arc for this version 4 of the CPS is 2.16.840.1.114412.0.2.4. Subsequent revisions to this CPS might have new OID assignments. DigiCert issues Certificates and time-stamp tokens containing the following OIDs / OID arcs:

Digitally Signed Object	Object Identifier (OID)
Domain Vetted (DV) SSL/TLS Server Certificates per the Baseline Requirements	2.16.840.1.114412.1.2 and/or 2.23.140.1.2.1 (CAB Forum Baseline Reqs.)
Organization Vetted (OV) SSL/TLS Server Certificates per the Baseline Requirements	2.16.840.1.114412.1.1 and/or 2.23.140.1.2.2 (CAB Forum Baseline Reqs.)
Individual Vetted (IV) SSL/TLS Server Certificates per the Baseline Requirements	2.16.840.1.114412.1.1 and/or 2.23.140.1.2.3 (CAB Forum Baseline Reqs.)
Hotspot 2.0 OSU Server Certificates	2.16.840.1.114412.1.5
Federated Device Certificate	2.16.840.1.114412.1.11
Federated Device Hardware Certificate	2.16.840.1.114412.1.12
Issuer CA (where allowed by policy)	2.5.29.32.0 (anyPolicy)
Extended Validation (EV) SSL/TLS Server Certificates	2.16.840.1.114412.2.1, 2.23.140.1.1(CAB Forum EV Guidelines), 1.3.6.1.4.1.6334.1.100.1 (originally registered by beTRUSTed), and/or 2.16.840.1.113733.1.7.23.6 (originally registered by Verisign)
Object Signing Certificates	2.16.840.1.114412.3
Code Signing Certificates	2.16.840.1.114412.3.1
Minimum Requirements for Code Signing	2.16.840.1.114412.3.1.1 and/or 2.23.140.1.4.1
Extended Validation Code Signing	2.16.840.1.114412.3.2 and/or 2.23.140.1.3
Windows Kernel Driver Signing	2.16.840.1.114412.3.11
Adobe Signing Certificate	2.16.840.1.114412.3.21
Client Certificate OID Arc	2.16.840.1.114412.4
Level 1 Certificates - Personal	2.16.840.1.114412.4.1.1
Level 1 Certificates - Enterprise	2.16.840.1.114412.4.1.2
Level 2 Certificates	2.16.840.1.114412.4.2
Level 3 Certificates - US	2.16.840.1.114412.4.3.1
Level 3 Certificates - CBP	2.16.840.1.114412.4.3.2
Level 4 Certificates - US	2.16.840.1.114412.4.4.1
Level 4 Certificates - CBP	2.16.840.1.114412.4.4.2
Class 1-3 Certificates	2.16.840.1.114412.5
Class 1 Certificates	2.16.840.1.113733.1.7.23.1 and/or 2.16.840.1.114412.5.1
Class 2 Certificates	2.16.840.1.113733.1.7.23.2 and/or 2.16.840.1.114412.5.2

Digitally Signed Object	Object Identifier (OID)
Class 3 Certificates	2.16.840.1.113733.1.7.23.3.2 (private hierarchy) and/or 2.16.840.1.114412.5.3
Grid Certificate OID Arcs	2.16.840.1.114412.4.31 or 2.16.840.1.114412.31 (Grid-only arc)
IGTF Classic X.509 Authorities with secured infrastructure	2.16.840.1.114412.4.31.1 (Client w/ Public), 2.16.840.1.114412.31.4.1.1 (Client Grid Only), and/or 1.2.840.113612.5.2.2.1.x (IGTF)
IGTF Member Integrated X.509 Credential Services with Secured Infrastructure Certificates	2.16.840.1.114412.4.31.5 and/or 1.2.840.113612.5.2.2.5.x (IGTF)
IGTF Grid Host - Public Trust	2.16.840.1.114412.1.31.1
IGTF Grid-Only Host Certificate	2.16.840.1.114412.31.1.1.1, 1.2.840.113612.5.2.2.1.x (IGTF), and/or 1.2.840.113612.5.2.2.5.x (IGTF)
Authentication-Only Certificates	2.16.840.1.114412.6
Trusted Time-stamping	2.16.840.1.114412.7.1
Legacy arc	2.16.840.1.114412.81
Test arc	2.16.840.1.114412.99

All OIDs mentioned above belong to their respective owners. The specific OIDs used when objects are signed pursuant to this CPS are indicated in the object's respective Certificate Policies extension. For instance, when DigiCert issues a Certificate containing one of the above-specified policy identifiers for "Baseline Requirements," "Minimum Requirements," or "Extended Validation," it asserts that the Certificate was issued and is managed in accordance with those applicable requirements. Commercial Best Practices ("CBP") differs from "US" in that there are no trusted role citizenship requirements for an Issuer CA issuing under a CBP policy, whereas policies designated "US" must follow the citizenship practices set forth in Section 5.3.1.

The Legacy arc exists to identify Certificates issued for purpose of achieving compatibility with legacy systems that are incapable of processing newer algorithms that might be required by comparable industry best practices.

1.3. PKI PARTICIPANTS

1.3.1. Certification Authorities

DigiCert operates certification authorities (CAs) that issue digital certificates. As the operator of several CAs, DigiCert performs functions associated with Public Key operations, including receiving certificate requests, issuing, revoking and renewing a digital Certificate, and maintaining, issuing, and publishing CRLs and OCSP responses. General information about DigiCert's products and services are available at www.digicert.com.

DigiCert owns and operates the GTE Cybertrust Global Root, the Baltimore Cybertrust Root, the Cybertrust Global Root CA, and the Verizon Global Root CA. In limited circumstances, these root CAs are used to issue cross Certificates to external third parties operating their own PKIs. An "external subordinate CA" is an unaffiliated third party that is issued a subordinate CA Certificate by DigiCert where the Private Key associated with that CA Certificate is not maintained under the physical control of DigiCert. In accordance with requirements of the U.S. Federal PKI Policy Authority (FPKIPA), DigiCert notifies the FPKIPA prior to issuing a CA Certificate chaining to the Federal Bridge CA to an external subordinate CA. All external subordinate CAs are prohibited, either technically or contractually, from issuing Certificates to domain names or IP addresses that a Subscriber does not legitimately own or control (i.e. issuance for purposes of "traffic management" is prohibited), and external subordinate CAs are required to implement procedures that are at least as restrictive as those found herein. DigiCert ensures that no CA chaining to the Federal Bridge CA has more than one trust path to the Federal Bridge CA (regardless of path validation results).

DigiCert is also a time stamping authority (TSA) and provides proof-of-existence for data at an instant in time as described herein.

1.3.2. Registration Authorities and Other Delegated Third Parties

Except for the authentication of domain control or IP address verification performed solely by DigiCert in accordance with Section 3.2.2, DigiCert may delegate the performance of certain functions to third party Registration Authorities (RA). The specific role of an RA or Delegated Third Party varies greatly between entities, ranging from simple translation services to actual assistance in gathering and verifying Applicant information. Some RAs operate identity management systems (IdMs) and may manage the certificate lifecycle for end-users. For IGTF Certificates, designated RAs are responsible for vetting the identity of each certificate applicant. DigiCert contractually obligates each Delegated Third Party to abide by the policies and industry standards that are applicable to that Delegated Third Party's delegated responsibilities. RA personnel involved in the issuance of publicly-trusted SSL/TLS Server Certificates must undergo the skills and training required under Section 5.3.

1.3.3. Subscribers

Subscribers use DigiCert's services and PKI to support transactions and communications. Subscribers are not always the party identified in a Certificate, such as when Certificates are issued to an organization's employees. The *Subject* of a Certificate is the party named in the Certificate. A *Subscriber*, as used herein, may refer to the Subject of the Certificate and the entity that contracted with DigiCert for the Certificate's issuance. Prior to verification of identity and issuance of a Certificate, a Subscriber is an *Applicant*.

1.3.4. Relying Parties

Relying Parties are entities that act in reliance on a Certificate and/or digital signature issued by DigiCert. Relying parties must check the appropriate CRL or OCSP response prior to relying on information featured in a Certificate. The location of the CRL distribution point is detailed within the Certificate.

1.3.5. Other Participants

Other participants include Accreditation Authorities (such as Policy Management Authorities, Federation Operators, Application Software Vendors, and applicable Community-of-Interest sponsors); Bridge CAs and CAs cross-certified with DigiCert's CAs that serve as trust anchors in other PKI communities; and Time Source Entities, Time Stamp Token Requesters, and Time Stamp Verifiers involved in trusted time stamping. Accreditation Authorities are granted an unlimited right to re-distribute DigiCert's root Certificates and related information in connection with the accreditation.

DigiCert has cross-certified with the Federal Bridge Certification Authority (FBCA). DigiCert also issues cross-Certificates to other third-party CAs.

1.4. CERTIFICATE USAGE

A *digital Certificate* (or *Certificate*) is formatted data that cryptographically binds an identified subscriber with a Public Key. A digital Certificate allows an entity taking part in an electronic transaction to prove its identity to other participants in such transaction. Digital Certificates are used in commercial environments as a digital equivalent of an identification card. A *time-stamp token (TST)* cryptographically binds a representation of data to a particular time stamp, thus establishing evidence that the data existed at a certain point in time.

1.4.1. Appropriate Certificate Uses

Certificates issued pursuant to this CPS may be used for all legal authentication, encryption, access control, and digital signature purposes, as designated by the key usage and extended key usage fields found within the Certificate. However, the sensitivity of the information processed or protected by a Certificate varies greatly, and each Relying Party must evaluate the application environment and associated risks before deciding on whether to use a Certificate issued under this CPS.

This CPS covers several different types of end entity Certificates/tokens with varying levels of assurance. The following table provides a brief description of the appropriate uses of each. The descriptions are for guidance only and are not binding.

Certificate	Appropriate Use
DV SSL/TLS Server Certificates	Used to secure online communication where the risks and consequences of data compromise are low, including non-monetary transactions or transactions with little risk of fraud or malicious access.
OV SSL/TLS Server Certificates	Used to secure online communication where the risks and consequences of data compromise are moderate, including transactions having substantial monetary value or risk of fraud or involving access to private information where the likelihood of malicious access is substantial.
EV SSL/TLS Server Certificates	Used to secure online communication where risks and consequences of data compromise are high, including transactions having high monetary value, risk of fraud, or where involving access to private information where the likelihood of malicious access is high.
Hotspot 2.0 OSU Server Certificates	Used to authenticate OSU Servers pursuant to the Wi-Fi Alliance's Hotspot 2.0 specification.
Federated Device Certificates	Similar to SSL/TLS Server Certificates above but for use as necessary in connection with cross-certified PKIs
Code Signing Certificates, including EV Code Signing	Establishes the identity of the Subscriber named in the Certificate and that the signed code has not been modified since signing.
Rudimentary Level 1 Client Certificates - Personal	Provides the lowest degree of assurance concerning identity of the individual and is generally used only to provide data integrity to the information being signed. These Certificates should only be used where the risk of malicious activity is low and if an authenticated transaction is not required.
Level 1 Client Certificates - Enterprise and Class 1 and 2 Certificates	Used in environments where there are risks and consequences of data compromise, but such risks are not of major significance. Users are assumed not likely to be malicious.
Level 2 Client Certificates (FBCA basic assurance certificates)	Issued to identity-vetted individuals. Certificates specify if the name is a pseudonym. Used in environments where there are risks and consequences of data compromise, but such risks are not of major significance. Users are assumed not likely to be malicious.
Level 3 Client Certificates (FBCA medium certificates) and Class 3 Certificates	Used in environments where risks and consequences of data compromise are moderate, including transactions having substantial monetary value or risk of fraud or involving access to private information where the likelihood of malicious access is substantial.
Level 4 Client Certificates (FBCA medium hardware Certificates)	Used in environments where risks and consequences of data compromise are high, including transactions having high monetary value or risk of fraud or involving access to private information where the likelihood of malicious access is high.
Direct Certificates	Used to transfer health care information in accordance with the Direct Protocol adopted by the ONC. Direct Certificates are issued as Level 2 or Level 3 Certificates.
Authentication Only	Used where the identity of the certificate holder is irrelevant and where the risk of unauthorized access to a secure site is low.
IGTF and Grid-only Certificates	Support identity assertions and system authentication amongst participants in the International Grid Trust Federation. IGTF Certificates include those issued as publicly-trusted client Certificates and those issued under the Grid-only arc.

Certificate	Appropriate Use
Adobe Signing Certificates	Used to sign Adobe documents and show that the portion of the document signed by the author has not been modified since signing.
Time Stamp Token	Used to identify the existence of data at a set period of time.

1.4.2. Prohibited Certificate Uses

Certificates do not guarantee that the Subject is trustworthy, honest, reputable in its business dealings, safe to do business with, or compliant with any laws. A Certificate only establishes that the information in the Certificate was verified in accordance with this CPS when the Certificate issued. Code signing Certificates do not indicate that the signed code is safe to install or free from malware, bugs, or vulnerabilities.

1.5. POLICY ADMINISTRATION

1.5.1. Organization Administering the Document

This CPS and the documents referenced herein are maintained by the DCPA, which can be contacted at:

DigiCert Policy Authority
Suite 500
2801 N. Thanksgiving Way
Lehi, UT 84043 USA
Tel: 1-801-701-9600
Fax: 1-801-705-0481
www.digicert.com
support@digicert.com

1.5.2. Contact Person

Attn: Legal Counsel
DigiCert Policy Authority
Suite 500
2801 N. Thanksgiving Way
Lehi, UT 84043 USA
www.digicert.com
support@digicert.com

1.5.2.1. Revocation Reporting Contact Person

Attn: Support
DigiCert Technical Support
Suite 500
2801 N. Thanksgiving Way
Lehi, UT 84043 USA
<https://www.digicert.com/certificate-revocation.htm>

To request that a Certificate be revoked, please email revoke@digicert.com.

Entities submitting certificate revocation requests must list their identity and explain the reason for requesting revocation. DigiCert or an RA will authenticate and log each revocation request according to Section 4.9 of the DigiCert CP and this CPS. DigiCert will always revoke a Certificate if the request is authenticated as originating from the Subscriber or the Affiliated Organization listed in the Certificate. If revocation is requested by someone other than an authorized representative of the Subscriber or Affiliated Organization, DigiCert or an RA will investigate the alleged basis for the revocation request prior to taking action in accordance with Section 4.9.1 and 4.9.3.

1.5.3. Person Determining CPS Suitability for the Policy

The DCPA determines the suitability and applicability of this CPS based on the results and recommendations received from an independent auditor (see Section 8). The DCPA is also responsible for evaluating and acting upon the results of compliance audits.

1.5.4. CPS Approval Procedures

The DCPA approves the CPS and any amendments. Amendments are made after the DCPA has reviewed the amendments' consistency with the CP, by either updating the entire CPS or by publishing an addendum. The DCPA determines whether an amendment to this CPS is consistent with the CP, requires notice, or an OID change. *See also* Section 9.10 and Section 9.12 below.

1.6. DEFINITIONS AND ACRONYMS

1.6.1. Definitions

"Applicant" means an entity applying for a Certificate.

"Application Software Vendor" means a software developer whose software displays or uses DigiCert Certificates and distributes DigiCert's root Certificates.

"CAB Forum" is defined in section 1.1.

"Certificate" means an electronic document that uses a digital signature to bind a Public Key and an identity.

"Certificate Approver" is defined in the EV Guidelines.

"Certificate Requester" is defined in the EV Guidelines.

"Contract Signer" is defined in the EV Guidelines.

"Direct Address" means an email address conforming to the Applicability Statement for Secure Health Transport.

"Direct Address Certificate" means a Certificate containing an entire Direct Address.

"Direct Organizational Certificate" means a Certificate containing only the domain name portion of a Direct Address.

"Domain Name" is as defined in the Baseline Requirements.

"EV Guidelines" is defined in section 1.1.

"Key Pair" means a Private Key and associated Public Key.

"OCSP Responder" means an online software application operated under the authority of DigiCert and connected to its repository for processing certificate status requests.

"Private Key" means the key of a Key Pair that is kept secret by the holder of the Key Pair, and that is used to create digital signatures and/or to decrypt electronic records or files that were encrypted with the corresponding Public Key.

"Public Key" means the key of a Key Pair that may be publicly disclosed by the holder of the corresponding Private Key and that is used by a Relying Party to verify digital signatures created with the holder's

corresponding Private Key and/or to encrypt messages so that they can be decrypted only with the holder's corresponding Private Key.

“Qualified Certificate” means a Certificate that meets the requirements of EU law and is provided by an Issuer CA meeting the requirements of EU law.

“Relying Party” means an entity that relies upon either the information contained within a Certificate or a time-stamp token.

“Relying Party Agreement” means an agreement which must be read and accepted by the Relying Party prior to validating, relying on or using a Certificate or accessing or using DigiCert’s Repository. The Relying Party Agreement is available for reference through a DigiCert online repository.

“Subscriber” means either the entity identified as the subject in the Certificate or the entity that is receiving DigiCert’s time-stamping services.

“Subscriber Agreement” means an agreement that governs the issuance and use of a Certificate that the Applicant must read and accept before receiving a Certificate.

“WebTrust” means the current version of CPA Canada’s WebTrust Program for Certification Authorities.

“WHOIS” Information retrieved directly from the Domain Name Registrar or registry operator via the protocol defined in RFC 3912, the Registry Data Access Protocol defined in RFC 7482, or an HTTPS website.

1.6.2. Acronyms

AATL	Adobe Approved Trust List
CA	Certificate Authority or Certification Authority
CAA	Certification Authority Authorization
CAB	“CA/Browser” as in “CAB Forum”
CMS	Card Management System
CP	Certificate Policy
CPS	Certification Practice Statement
CRL	Certificate Revocation List
CSR	Certificate Signing Request
CT	Certificate Transparency
DBA	Doing Business As (also known as “Trading As”)
DCPA	DigiCert Policy Authority
DV	Domain Validated
ETSI	European Telecommunications Standards Institute
EU	European Union
EV	Extended Validation
FIPS	(US Government) Federal Information Processing Standard
FQDN	Fully Qualified Domain Name
FTP	File Transfer Protocol
HISP	Health Information Service Provider
HSM	Hardware Security Module
HTTP	Hypertext Transfer Protocol
IANA	Internet Assigned Numbers Authority
ICANN	Internet Corporation for Assigned Names and Numbers
IdM	Identity Management System
IDN	Internationalized Domain Name
ISSO	Information System Security Officer
IETF	Internet Engineering Task Force
IGTF	International Grid Trust Federation

ITU	International Telecommunication Union
IV	Individual Validated
MICS	Member-Integrated Credential Service (IGTF)
NIST	National Institute of Standards and Technology
OCSP	Online Certificate Status Protocol
OID	Object Identifier
ONC	Office of the National Coordinator for Healthcare (U.S.)
OSU	Online Sign-Up (Wi-Fi Alliance Hotspot 2.0)
OV	Organization Validated
PIN	Personal Identification Number (e.g. a secret access code)
PKI	Public Key Infrastructure
PKIX	IETF Working Group on Public Key Infrastructure
RA	Registration Authority
RFC	Request for Comments (at IETF.org)
SAN	Subject Alternative Name
SHA	Secure Hashing Algorithm
SSL	Secure Sockets Layer
TLD	Top-Level Domain
TLS	Transport Layer Security
TSA	Time Stamping Authority
TST	Time-Stamp Token
TTL	Time To Live
UTC	Coordinated Universal Time
X.509	The ITU-T standard for Certificates and their corresponding authentication framework

1.6.3. References

CA/Browser Forum Baseline Requirements Certificate Policy for the Issuance and Management of Publicly-Trusted Certificates (“Baseline Requirements”)

CA/Browser Forum Guidelines for the Issuance and Management of Extended Validation Certificates (“EV Guidelines”)

DirectTrust Community X.509 Certificate Policy, v.1.3

FBCA Supplementary Antecedent, In-Person Definition

Wi-Fi Alliance Hotspot 2.0 Release 2 Online Signup Certificate Policy Specification (Hotspot 2.0 CP)

X.509 Certificate Policy for the Federal Bridge Certification Authority, v. 2.32

Mozilla Root Store Policy v.2.6.1

2. PUBLICATION AND REPOSITORY RESPONSIBILITIES

2.1. REPOSITORIES

DigiCert makes its root Certificates, revocation data for issued digital Certificates, CPs, CPSs, Relying Party Agreements, and standard Subscriber Agreements available in public repositories. DigiCert develops, implements, enforces, and annually updates this CPS to meet the compliance standards of the documents listed in Section 1.6.3. These updates also describe how the latest version of the Baseline Requirements are implemented. As Baseline Requirements are updated, DigiCert reviews the changes to determine their impact on these practices. Each section impacted by the Baseline Requirements will be updated and provided to the DCPA for approval and implementation. If an SSL/TLS Server Certificate is intended to be trusted in Chrome,

it is published by posting it in a Certificate Transparency log. DigiCert does not maintain an LDAP directory or searchable database of the certificates it issues.

DigiCert's legal repository for most services is located at <https://www.digicert.com/legal-repository/>. DigiCert's publicly trusted root Certificates and its CRLs and OCSP responses are available through online resources 24 hours a day, 7 days a week with systems described in Section 5 to minimize downtime.

2.2. PUBLICATION OF CERTIFICATION INFORMATION

The DigiCert certificate services and the repository are accessible through several means of communication:

1. On the web: <https://www.digicert.com> (and via URIs included in the certificates themselves)
2. By email to admin@digicert.com
3. By mail addressed to: DigiCert, Inc., Suite 500, 2801 N. Thanksgiving Way, Lehi, Utah 84043
4. By telephone Tel: 1-801-877-2100
5. By fax: 1-801-705-0481

2.3. TIME OR FREQUENCY OF PUBLICATION

CA Certificates are published in a repository as soon as possible after issuance. CRLs for end-user Certificates are issued at least once per day. CRLs for CA Certificates are issued at least every 6 months (every 31 days for offline CAs chaining to the Federal Bridge CA), and also within 18 hours if a CA Certificate is revoked. Under special circumstances, DigiCert may publish new CRLs prior to the scheduled issuance of the next CRL. (See Section 4.9 for additional details.)

New or modified versions of the CP, this CPS, Subscriber Agreements, or Relying Party Warranties are typically published within seven days after their approval.

2.4. ACCESS CONTROLS ON REPOSITORIES

Read-only access to the repository is unrestricted. Logical and physical controls prevent unauthorized write access to repositories.

3. IDENTIFICATION AND AUTHENTICATION

3.1. NAMING

3.1.1. Types of Names

Certificates are issued with a non-null subject Distinguished Name (DN) that complies with ITU X.500 standards except that DigiCert may issue a Level 1 Certificate with a null subject DN if it includes at least one alternative name form that is marked critical. When DNs are used, common names must respect namespace uniqueness requirements and must not be misleading. This does not preclude the use of pseudonymous Certificates, except where stated otherwise under Section 3.1.3.

DigiCert issues EV SSL/TLS Certificates to .onion domains in accordance with Appendix F of the EV Guidelines.

DigiCert issues OSU Server Certificates with subject alternative names that contain: (1) OSU Server FQDN(s) and (2) Friendly Name(s) that identify the wifi service provider, in accordance with section 3.4 of the Hotspot 2.0 CP.

3.1.2. Need for Names to be Meaningful

DigiCert uses distinguished names that identify both the entity (i.e. person, organization, device, or object) that is the subject of the Certificate and the entity that is the issuer of the Certificate. DigiCert only allows directory information trees that accurately reflect organization structures.

3.1.3. Anonymity or Pseudonymity of Subscribers

Generally, DigiCert does not issue anonymous or pseudonymous Certificates; however, for IDNs, DigiCert may include the Punycode version of the IDN as a subject name. DigiCert may also issue other pseudonymous end-entity Certificates if they are not prohibited by policy and any applicable name space uniqueness requirements are met.

3.1.4. Rules for Interpreting Various Name Forms

Distinguished Names in Certificates are interpreted using X.500 standards and ASN.1 syntax. See RFC 2253 and RFC 2616 for further information on how X.500 distinguished names in Certificates are interpreted as Uniform Resource Identifiers and HTTP references.

3.1.5. Uniqueness of Names

The uniqueness of each subject name in a Certificate is enforced as follows:

SSL/TLS Server Server Certificates	Inclusion of the domain name in the Certificate. Domain name uniqueness is controlled by the Internet Corporation for Assigned Names and Numbers (ICANN).
Client Certificates	Requiring a unique email address or a unique organization name combined/associated with a unique serial integer.
IGTF and Grid-only Device Certificates	For device Certificates, an FQDN is included in the appropriate fields. For other Certificates, DigiCert may append a unique ID to a name listed in the Certificate.
Code Signing Certificates (including CDS Certificates)	Requiring a unique organization name and address or a unique organization name combined/associated with a unique serial integer.
Time Stamping	Requiring a unique hash and time or unique serial integer assigned to the time stamp

3.1.6. Recognition, Authentication, and Role of Trademarks

Subscribers may not request Certificates with content that infringes on the intellectual property rights of another entity.

For OSU Server Certificates, DigiCert conducts a trademark search of logos and Friendly Names in relevant mark registration databases, such as the U.S. Patent and Trademark Office or WIPO, to confirm an applicant's right to use a particular trademark. Based on the results of such search(es), DigiCert issues an OSU Server Certificate with one or more logotype extensions containing the hash algorithm and hash value of logos associated with the service provider. If an applicant does not have a friendly name or logo available, DigiCert may include a logo and friendly name specified by the Wi-Fi Alliance.

Unless otherwise specifically stated in this CPS, DigiCert does not verify an Applicant's right to use a trademark and does not resolve trademark disputes. DigiCert may reject any application or require revocation of any Certificate that is part of a trademark dispute.

3.2. INITIAL IDENTITY VALIDATION

DigiCert may use any legal means of communication or investigation to ascertain the identity of an organizational or individual Applicant. DigiCert may refuse to issue a Certificate in its sole discretion.

3.2.1. Method to Prove Possession of Private Key

DigiCert establishes that the Applicant holds or controls the Private Key corresponding to the Public Key by performing signature verification or decryption on data purported to have been digitally signed or encrypted with the Private Key by using the Public Key associated with the certificate request.

3.2.2. Authentication of Organization and Domain/Email Control

DV SSL/TLS Server Certificates	DigiCert validates the Applicant's right to use or control each domain name that will be listed in the Subject Alternative Name field of a Certificate by using at least one of the following procedures from section 3.2.2.4 of the Baseline Requirements: 1. This method (BR Section 3.2.2.4.1) is no longer used because it was deprecated as of 1-August-2018; 2. Email, Fax, SMS, or Postal Mail to the Domain Contact by sending a unique Random Value (valid for no more than 30 days from its creation) through email, fax, SMS, or postal mail, to the Domain Contact and receiving confirmation by their use of the Random Value, performed in accordance with BR Section 3.2.2.4.2; 3. Phone call to the Domain Contact's phone number, as provided by the Domain Registrar, and receiving confirmation that the Applicant has requested validation of the FQDN, performed in accordance with BR Section 3.2.2.4.3; 4. Constructed Email to Domain Contact establishing the Applicant's control over the FQDN by sending an email created by using 'admin', 'administrator', 'webmaster', 'hostmaster' or 'postmaster' as the local part followed by the ("@" sign, followed by an Authorization Domain name, including a Random Value in the email, and receiving a response using the Random Value, performed in accordance with BR Section 3.2.2.4.4; 5. (BR Section 3.2.2.4.5) is no longer used because it was deprecated as of 1-August-2018; 6. An Agreed-Upon Change to the Website by the Applicant placing an agreed-upon Request Token or Random Value in the "/.well-known/pki-validation" directory, performed in accordance with BR Section 3.2.2.4.6; 7. DNS Change by confirming the presence of a Random Value or Request Token in a DNS CNAME, TXT, or CAA record for either an Authorization Domain Name or an Authorization Domain Name prefixed with a label that begins with an underscore character, performed in accordance BR Section 3.2.2.4.7; 8. IP Address - by confirming the Applicant's control over the FQDN through control of an IP address returned from a DNS lookup for A or AAAA records for the FQDN, performed in accordance with BR Sections 3.2.2.5 and 3.2.2.4.8; 9. (BR Section 3.2.2.4.9) is no longer used because it was deprecated upon publication of v.4.16 of this CPS; 10. (BR Section 3.2.2.4.10) is no longer used because it was deprecated upon publication of v.4.16 of this CPS ; 11. (BR Section 3.2.2.4.11) is no longer used because it was deprecated as of 5-February-2018; and 12. Confirming that the Applicant is the Domain Contact for the Base Domain Name (provided that the CA or RA is also the
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	Domain Name Registrar or an Affiliate of the Registrar), performed in accordance with BR Section 3.2.2.4.12. All of the above methods for validation, except IP Address (BR Section 3.2.2.4.8) may be used for Wildcard Certificate Domain Name validation along with current best practice of consulting a public suffix list. DigiCert verifies an included country code using (a) the IP Address range assignment by country for either (i) the web site's IP address, as indicated by the DNS record for the web site or (ii) the Applicant's IP address; (b) the ccTLD of the requested Domain Name; or (c) information provided by the Domain Name Registrar.
IV and OV SSL/TLS Server, OSU Server, Object Signing, and Device Certificates (excluding device Certificates issued under the Grid-only arc)	DigiCert validates the Applicant's right to use or control the Domain Name(s) and the country code that will be listed in the Certificate using the DV SSL/TLS Server Certificate validation procedures above. DigiCert also verifies the identity and address of the Applicant using the procedures found in section 3.2.2.1 or section 3.2.3 of the Baseline Requirements. DigiCert verifies any DBA included in a Certificate using a third party or government source, attestation letter, or reliable form of identification in accordance with section 3.2.2 of the Baseline Requirements.
Device Certificates issued under the Grid-only arc	An RA or Trusted Agent validates the applicant's information in accordance with an RPS (or similar document) applicable to the community of interest.
EV SSL/TLS Server and EV Code Signing Certificates	Information concerning organization identity related to the issuance of EV SSL/TLS Server Certificates is validated in accordance with the EV Guidelines.
S/MIME Certificates issued as Level 1-4 Client Certificates using the native DigiCert infrastructure. ¹	DigiCert verifies an individual's or organization's right to use or control an email address to be contained in a Certificate that will have the "Secure Email" EKU by doing one of the following: 1. By verifying domain control over the email domain using one of the procedures listed above in this table under the heading "DV SSL/TLS Server Certificates"; or 2. by sending an email message containing a Random Value to the email address to be included in the Certificate and receiving a confirming response through use of the Random Value to indicate that the Applicant and/or Organization owns or controls that same email address.
S/MIME Certificates issued as Class 1-2 Certificates using the acquired Symantec infrastructure ²	An RA may have an Applicant associated with the Organization connect through a browser to complete one of the following three types of authentication: 1. Manual Authentication: The Applicant submits enrollment

¹ Level 1 through Level 4 Certificates are distinct and different from Class 1 through 3 certificates listed in the next row because they are issued with different policy OIDs, as referenced in section 1.2, and issued by a separate system.

² Class 1 through Class 3 Certificates are distinct and different from Level 1 through 4 Certificates listed in the previous row and they are issued with different policy OIDs, as referenced in section 1.2, and issued by a separate system.

	information and a Public Key/CSR. An RA reviews the enrollment information received from the Applicant in a customized interface. If approved, the system automatically sends a PIN to the enrolled email address for the Applicant to use to retrieve the Certificate at a specified URL. If the Applicant's Private Key matches, the Certificate is installed. 2. Manual Passcode Authentication: The system is pre-populated with the Applicant's information, including an email address, that the RA has reviewed that comes from existing business relations or an employee data base. The system sends a randomly generated passcode to the enrolled email address for the Applicant to use to retrieve the Certificate at a specified URL. The Applicant's key pair and certificate are generated and installed on the Applicant's system; or Automated Enrollment Code/Passcode Authentication: The system is pre-populated with the Applicant's information, including an email address, and an Enrollment Code/Passcode. The Enrollment Code/Passcode is sent to the Applicant's email address. The Enrollment Code/Passcode is checked for validity in the system and if verified, the system will generate the Certificate based on the Public Key matching the Private Key 3. Automated Administrative or Web Service API Authentication: Provided that the email address or domain has been verified pursuant to one of the methods used for Levels 1-4 as described above in this table, the Applicant submits enrollment information and a Public Key/CSR. Applicant data received through the portal is compared with a trusted source of verified email addresses (e.g., an active directory). Upon approval, the status of the request is set to "approved" and the Certificate is sent back through an API. If the Applicant's Private Key matches, the Certificate is installed.
Class 3 Certificates using the acquired Symantec infrastructure	An RA may connect through a customized interface to complete one of the following two types of authentication: 1. Manual Authentication: The Applicant submits enrollment information and a Public Key/CSR. An RA reviews the enrollment information received from the Applicant associated with the Organization in a customized interface. If approved, the system automatically sends the Certificate to the enrolled email for the Applicant which the Applicant must be able to access in order to install the certificate. 2. Automated Administrative or Web Service API Authentication: The Applicant submits enrollment information and a Public Key/CSR. Applicant data received through the portal is compared with a trusted source (e.g., an active directory) that contains the email address or domain that has been verified pursuant to methods used for Levels 1-4 as described above in this table. Upon approval, the status of the request is set to "approved" and the Certificate is sent back through an API. If the Applicant's Private Key matches, the Certificate is installed.

DigiCert maintains and utilizes a scoring system to flag certificate requests that potentially present a higher risk of fraud. Those certificate requests that are flagged “high risk” receive additional scrutiny or verification prior to issuance, which may include obtaining additional documentation from or additional communication with the Applicant.

Before issuing an SSL/TLS Server Certificate with a domain name that has not been previously verified as within the scope of an RA’s or other Delegated Third Party’s allowed domain names, DigiCert establishes that the RA or Delegated Third Party has the right to use the Domain Name by independently verifying the authorization with the domain owner, as described above.

For each IP Address listed in a Certificate, DigiCert confirms that, as of the date the Certificate was issued, the Applicant controlled the IP Address by:

1. Having the Applicant demonstrate practical control over the IP Address by making an agreed-upon change to information found on an online Web page identified by a uniform resource identifier containing the IP Address;
2. Obtaining documentation of IP address assignment from the Internet Assigned Numbers Authority (IANA) or a Regional Internet Registry (RIPE, APNIC, ARIN, AfriNIC, LACNIC); or
3. Performing a reverse-IP address lookup and then verifying control over the resulting Domain Name, as set forth above.

DigiCert verifies the organization name, address, legal existence, and authorization for CA Certificates that cross-certify with the FBCA.

3.2.3. Authentication of Individual Identity

If a Certificate will contain the identity of an individual, then DigiCert or an RA validates the identity of the individual using the following procedures:

Certificate	Validation
IV SSL/TLS Server Certificates and Object Signing Certificates (issued to an individual)	1. a. DigiCert or the RA obtains and reviews a legible copy, which discernibly shows the Applicant’s face, of at least one currently valid government-issued photo ID (passport, driver’s license, military ID, national ID, or equivalent document type). DigiCert or the RA inspects the copy for any indication of alteration or falsification. b. For Object Signing Certificates, a validation specialist also engages in a videoconference call with the Applicant, who must present their photo ID and sign a Declaration of Identity, witnessed by the validation specialist, which is recorded as evidence. 2. DigiCert may additionally cross-check the Applicant’s name and address for consistency with available third-party data sources. 3. If further assurance is required, then the Applicant must provide an additional form of identification, such as recent utility bills, financial account statements, credit card, an additional ID credential, or equivalent document type. 4. DigiCert or the RA confirms that the Applicant is able to receive communication by telephone, postal mail/courier, or fax. If DigiCert cannot verify the Applicant’s identity using the

Certificate	Validation
	procedures described above, then the Applicant must submit a Declaration of Identity that is witnessed and signed by a Registration Authority, Trusted Agent, notary, lawyer, accountant, postal carrier, or any entity certified by a State or National Government as authorized to confirm identities.
Device Certificate Sponsors	See section 3.2.3.3
OSU Server Certificates	DigiCert verifies that the requester is a duly authorized representative of the organization as an employee, partner, member, agent, etc., and is authorized to act on behalf of the organization.
EV Certificates issued to a business entity	As specified in section 11.2.1(3) of the EV Guidelines
Grid-only Certificates	Either the RA responsible for the grid community or a Trusted Agent obtains an identity document during a face-to-face meeting with the Applicant, or a Trusted Agent attests that the Applicant is personally known to the Trusted Agent. The RA must retain sufficient information about the applicant's identity to prove upon DigiCert's request that the applicant was properly identified.
Authentication-Only Certificates	The entity controlling the secure location must represent that the certificate holder is authorized to access the location.
Level 1 Client Certificates – Personal (email Certificates)	As specified in Section 3.2.2 (no identity verification other than control of the email address listed in the Certificate).
Level 1 Client Certificates - Enterprise	Any one of the following: 1. In-person appearance before a person performing identity proofing for a Registration Authority or a Trusted Agent with presentment of an identity credential (e.g., driver's license or birth certificate). 2. Using procedures similar to those used when applying for consumer credit and authenticated through information in consumer credit databases or government records, such as: a. the ability to place or receive calls from a given number; or b. the ability to obtain mail sent to a known physical address. 3. Through information derived from an ongoing business relationship with the credential provider or a partner company (e.g., a financial institution, airline, employer, or retail company). Acceptable information includes: a. the ability to obtain mail at the billing address used in the business relationship; b. verification of information established in previous transactions (e.g., previous order number); or c. the ability to place calls from or receive phone calls at a phone number used in previous business transactions. 4. Any method used to verify the identity of an Applicant for a Level 2, 3, or 4 Client Certificate.
Level 2 Client Certificates and IGTF Classic/MICS Certificates	The CA or an RA confirms that the following are consistent with the application and sufficient to identify a unique individual: (a) the name on the government-issued photo-ID

Certificate	Validation
	referenced below; (b) date of birth; and (c) current address or personal telephone number. 1. In-person appearance before a person performing identity proofing for a Registration Authority or a Trusted Agent (or entity certified by a state, federal, or national entity as authorized to confirm identities) with presentment of a reliable form of current government-issued photo ID. 2. The Applicant must possess a valid, current, government-issued, photo ID. The Registration Authority or Trusted Agent performing identity proofing must obtain and review, which may be through remote verification, the following information about the Applicant: (i) name, date of birth, and current address or telephone number; (ii) serial number assigned to the primary, government-issued photo ID; and (iii) one additional form of ID such as another government-issued ID, an employee or student ID card number, telephone number, a financial account number (e.g., checking account, savings account, loan or credit card), or a utility service account number (e.g., electricity, gas, or water) for an address matching the applicant's residence. Identity proofing through remote verification may rely on database record checks with an agent/institution or through credit bureaus or similar databases. DigiCert or an RA may confirm an address by issuing credentials in a manner that confirms the address of record or by verifying knowledge of recent account activity associated with the Applicant's address and may confirm a telephone number by sending a challenge-response SMS text message or by recording the applicant's voice during a communication after associating the telephone number with the applicant in records available to DigiCert or the RA. 3. Where DigiCert or an RA has a current and ongoing relationship with the Applicant, identity may be verified through the exchange of a previously exchanged shared secret (e.g., a PIN or password) that meets or exceeds NIST SP 800-63 Level 2 entropy requirements, provided that: (a) identity was originally established with the degree of rigor equivalent to that required in 1 or 2 above using a government-issued photo-ID, and (b) an ongoing relationship exists sufficient to ensure the Applicant's continued personal possession of the shared secret. 4. Any of the methods used to verify the identity of an applicant for a DigiCert Level 3 or 4 Client Certificate.
Level 3 Client Certificates	In-person proofing before an RA, Trusted Agent, or an entity certified by a state, federal, or national entity that is authorized to confirm identities. The information must be collected and stored in a secure manner. Required identification consists of one unexpired Federal/National Government-issued Picture I.D. (e.g. a passport), a REAL ID, or two unexpired Non-Federal Government I.D.s, one of which must be a photo I.D. Acceptable forms of government ID include a driver's license, state-issued photo ID card, passport,

Certificate	Validation
	national identity card, permanent resident card, trusted traveler card, tribal ID, military ID, or similar photo identification document. See e.g. USCIS Form I-9. The person performing identity proofing examines the credentials and determines whether they are authentic and unexpired and checks the provided information (name, date of birth, and current address) to ensure legitimacy. The Applicant signs a Declaration of Identity, defined below, to which the person performing identity proofing attests. DigiCert or the RA reviews and keeps a record of the Declaration of Identity. DigiCert also employs the in-person antecedent process, defined in FBCA Supplementary Antecedent, In-Person Definition, to meet this in-person identity proofing requirement. Under this definition, historical in-person identity proofing is sufficient if (1) it meets the thoroughness and rigor of in-person proofing described above, (2) supporting ID proofing artifacts exist to substantiate the antecedent relationship, and (3) mechanisms are in place that bind the individual to the asserted identity. In one use case, the Applicant (e.g. an employee) has been identified previously by an employer using USCIS Form I-9 and is bound to the asserted identity remotely through the use of known attributes or shared secrets. In another use case, DigiCert uses a third party Identity Verification Provider that constructs a real-time, five-question process, based on multiple historic antecedent databases, and the applicant is given two minutes to answer at least four of the five questions correctly. See FBCA Supplementary Antecedent, In-Person Definition. The identity of the Applicant must be established no earlier than 30 days prior to initial certificate issuance.
Level 4 Client Certificates (Biometric ID Certificates)	In-person proofing before an RA, Trusted Agent, or an entity certified by a state, federal, or national entity that is authorized to confirm identities. A certified entity must forward the collected information directly to an RA in a secure manner. The Applicant must supply one unexpired Federal/National Government-issued Picture I.D. (e.g. a passport), a REAL ID, or two unexpired Non-Federal Government I.D.s, one of which must be a photo I.D.. Acceptable forms of government ID include a driver's license, state-issued photo ID card, passport, national identity card, permanent resident card, trusted traveler card, tribal ID, military ID, or similar photo identification document. See e.g. USCIS Form I-9. The entity collecting the credentials must also obtain at least one form of biometric data (e.g. photograph or fingerprints) to ensure that the Applicant cannot repudiate the application. The person performing identity verification for DigiCert or the RA examines the credentials for authenticity and validity. The Applicant signs a Declaration of Identity, defined below, to which the person performing identity proofing attests. DigiCert or the RA reviews and keeps a record of the Declaration of Identity. Use of an in-person antecedent is not allowed. The identity of the Applicant must be established by in-person proofing no earlier than

Certificate	Validation
	30 days prior to initial certificate issuance. Level 4 Client Certificates are issued in a manner that confirms the Applicant's address.

A Declaration of Identity consists of:

1. the identity of the person performing the verification;
2. a signed declaration by the verifying person stating that they verified the identity of the Subscriber as required using the format set forth at 28 U.S.C. 1746 (declaration under penalty of perjury) or comparable procedure under local law, the signature on the declaration may be either a handwritten or digital signature using a Certificate that is of equal or higher level of assurance as the credential being issued;
3. unique identifying number(s) from the Applicant's identification document(s), or a facsimile of the ID(s);
4. the date of the verification; and
5. a declaration of identity by the Applicant that is signed (in handwriting or using a digital signature that is of equivalent or higher assurance than the credential being issued) in the presence of the person performing the verification using the format set forth at 28 U.S.C. 1746 (declaration under penalty of perjury) or comparable procedure under local law.

If in-person identity verification is required and the Applicant cannot participate in face-to-face registration alone (e.g. because Applicant is a network device, minor, or person not legally competent), then the Applicant may be accompanied by a person already certified by the PKI or who has the required identity credentials for a Certificate of the same type applied for by the Applicant. The person accompanying the Applicant (i.e. the "Sponsor") will present information sufficient for registration at the level of the Certificate being requested, for himself or herself, and for the Applicant.

For in-person identity proofing at Levels 3 and 4, DigiCert may rely on an entity certified by a state, federal, or national entity as authorized to confirm identities may perform the authentication on behalf of the RA. The certified entity should forward the information collected from the applicant directly to the RA in a secure manner.

3.2.3.1. Authentication for Role-based Client Certificates

DigiCert may issue Certificates that identify a specific role that the Subscriber holds, if the role identifies a specific individual within an organization (e.g., *Chief Information Officer* is a unique individual whereas *Program Analyst* is not). These role-based Certificates are used when non-repudiation is desired. DigiCert only issues role-based Certificates to Subscribers who first obtain an individual Subscriber Certificate that is at the same or higher assurance level as the requested role-based Certificate. DigiCert may issue Certificates with the same role to multiple Subscribers. However, DigiCert requires that each Certificate have a unique Key Pair. Individuals may not share their issued role-based Certificates and are required to protect the role-based Certificate in the same manner as individual Certificates.

DigiCert verifies the identity of the individual requesting a role-based Certificate (the sponsor) in accordance with Section 3.2.3 before issuing a role-based Certificate. The sponsor must hold a DigiCert-issued client individual Certificate at the same or higher assurance level as the role-based Certificate. If the Certificate is a pseudonymous Certificate cross-certified with the FBCA that identifies subjects by their organizational roles, then DigiCert or an RA validates that the individual either holds that role or has the authority to sign on behalf of the role.

Regarding the issuance of role-based Certificates, this CPS requires compliance with all provisions of DigiCert's CP regarding key generation, private key protection, and Subscriber obligations.

IGTF Certificates are not issued as role-based Certificates.

3.2.3.2. Authentication for Group Client Certificates

DigiCert issues group Certificates (a Certificate that corresponds to a Private Key that is shared by multiple Subscribers) if several entities are acting in one capacity and if non-repudiation is not required. Direct Address Certificates and Direct Organizational Certificates are used as group Certificates consistent with applicable requirements of the Direct Program. DigiCert or the RA records the information identified in Section 3.2.3 for a sponsor before issuing a group Certificate. The sponsor must be at least an Information Systems Security Officer (ISSO) or of the equivalent rank or greater within the organization.

The sponsor is responsible for ensuring control of the Private Key. The sponsor must maintain and continuously update a list of Subscribers with access to the Private Key and account for the time period during which each Subscriber had control of the key. Group Certificates may list the identity of an individual in the subjectName DN provided that the subjectName DN field also includes a text string, such as "Direct Group Cert," so that the Certificate specifies the subject is a group and not a single individual. Client Certificates issued in this way to an organization are always considered group client Certificates.

3.2.3.3. Authentication of Devices with Human Sponsors

DigiCert issues Level 1, 2, 3 or 4 Client and Federated Device Certificates for use on computing or network devices, provided that the entity owning the device is listed as the subject. In all cases, the device has a human sponsor who provides:

1. Equipment identification (e.g., serial number) or service name (e.g., DNS name),
2. Equipment Public Keys,
3. Equipment authorizations and attributes (if any are to be included in the Certificate), and
4. Contact information.

If the Certificate's sponsor changes, the new sponsor is required to review the status of each device to ensure it is still authorized to receive Certificates. Each sponsor is required to provide proof that the device is still under the sponsor's control or responsibility on request. Sponsors are contractually obligated to notify DigiCert if the equipment is no longer in use, no longer under their control or responsibility, or no longer requires a Certificate. All registration is verified commensurate with the requested certificate type.

3.2.4. Non-verified Subscriber Information

The common name of a Level 1 - Personal Client Certificates is not verified as the legal name of the Subscriber. DV SSL/TLS Server Certificates do not include a verified organizational identity. Any other non-verified information included in a Certificate is designated as such in the Certificate. Unverified information is never included in a Level 2, Level 3, Level 4, Object Signing, EV SSL/TLS Server, or Federated Device Certificate.

3.2.5. Validation of Authority

The authorization of a certificate request is verified as follows:

Certificate	Verification
DV SSL/TLS Server Certificate	The authority of the requester is verified by using one or more of the procedures listed in section 3.2.2.4. of the Baseline Requirements.
OV SSL/TLS Server and Federated Device Certificates	The request is verified using a Reliable Method of Communication, in accordance with section 3.2.5 of the Baseline Requirements.
OSU Server Certificates	DigiCert verifies that the requester is a duly authorized representative of the organization as an employee, partner, member, agent, etc., and is authorized to act on behalf of the organization.
EV Certificates	The request is verified in accordance with section 11.8.3 of the EV Guidelines.
Object Signing Certificates and Adobe Signing	If the Certificate names an organization, the requester's contact information is verified with an authoritative source within the

Certificate	Verification
Certificates	applicant's organization using a Reliable Method of Communication. The contact information is then used to confirm the authenticity of the certificate request.
Level 1 Client Certificates Personal (email Certificates) and Enterprise (email Certificates) issued through the native DigiCert infrastructure	The authority of the request is verified through the email address listed in the Certificate or with a person who has technical or administrative control over the domain or the email address to be listed in the Certificate.
Client Certificates Levels 2, 3 and 4 Certificates issued through the native DigiCert infrastructure	The organization named in the Certificate confirms to DigiCert or an RA that the individual is authorized to obtain the Certificate. The organization is required to request revocation of the Certificate when that affiliation ends.
Class 1-3 Client Certificates issued through the acquired Symantec infrastructure	If the Certificate contains organization information, DigiCert obtains documentation from the organization sufficient to confirm that the individual has an affiliation with the organization named in the Certificate.
Direct Address and Direct Organization Certificates	The entity named in the Certificate authorizes a HISP to order the Certificate and use the related Private Key on the entity's behalf. The HISP ISSO is responsible for tracking access to and ensuring proper use of the Private Key.
IGTF Certificates	An authorized individual approves the certificate request. For device Certificates, the RA retains contact information for each device's registered owner. The device owner is required to notify the RA and request revocation if the device sponsor is no longer authorized to use the device or the FQDN in the Certificate.

An organization may limit who is authorized to request Certificates by sending a request to DigiCert. A request to limit authorized individuals is not effective until approved by DigiCert. DigiCert will respond to an organization's verified request for DigiCert's list of its authorized requesters.

3.3. IDENTIFICATION AND AUTHENTICATION FOR RE-KEY REQUESTS

3.3.1. Identification and Authentication for Routine Re-key

Subscribers may request re-key of a Certificate prior to a Certificate's expiration. After receiving a request for re-key, DigiCert creates a new Certificate with the same certificate contents except for a new Public Key and, optionally, an extended validity period. If the Certificate has an extended validity period, DigiCert may perform some revalidation of the Applicant but may also rely on information previously provided or obtained.

Subscribers re-establish their identity as follows:

Certificate	Routine Re-Key Authentication	Re-Verification Required
DV and OV SSL/TLS Server and Device Certificates	Username and password	According to the Baseline Requirements
EV SSL/TLS Certificates	Username and password	According to the EV Guidelines
Subscriber Code Signing Certificates (Minimum Requirements and EV)	Username and password	At least every 39 months
Signing Authority EV Code Signing Certificates	Username and password	At least every 123 months
Timestamp EV Code Signing Certificates	Username and password	At least every 123 months
Object Signing Certificates	Username and password	At least every six years

Certificate	Routine Re-Key Authentication	Re-Verification Required
(including Adobe Signing Certificates)		
Level 1 Client Certificates issued through the native DigiCert infrastructure	Username and password	At least every nine years
Level 2 Client Certificates issued through the native DigiCert infrastructure	Current signature key or multi-factor authentication meeting NIST SP 800-63 Level 3	At least every nine years
Level 3 and 4 Client Certificates issued through the native DigiCert infrastructure	Current signature key or multi-factor authentication meeting NIST SP 800-63 Level 3	At least every nine years
Class 1-3 Client Certificates issued through the acquired Symantec infrastructure	Challenge phrase	At least every six years
Federated Device and Federated Device-hardware	Current signature key or multi-factor authentication meeting NIST-800-63 Level 3	At least every nine years
IGTF Certificates	Username and password, RA attestation after comparison of identity documents, re-authenticate through an approved IdM, or through associated Private Key	At least every 13 months. However, Certificates associated with a Private Key restricted solely to a hardware token may be rekeyed or renewed for a period of up to 5 years
Authentication-Only Certificates	Username and password or with associated Private Key	None

DigiCert does not re-key a Certificate without additional authentication if doing so would allow the Subscriber to use the Certificate beyond the limits described above.

3.3.2. Identification and Authentication for Re-key After Revocation

If a Certificate was revoked for any reason other than a renewal, update, or modification action, then the Subscriber must undergo the initial registration process prior to rekeying the Certificate.

3.4. IDENTIFICATION AND AUTHENTICATION FOR REVOCATION REQUEST

DigiCert or an RA authenticates all revocation requests. DigiCert may authenticate revocation requests by referencing the Certificate's Public Key, regardless of whether the associated Private Key is compromised.

4. CERTIFICATE LIFE-CYCLE OPERATIONAL REQUIREMENTS

4.1. CERTIFICATE APPLICATION

4.1.1. Who Can Submit a Certificate Application

Either the Applicant or an individual authorized to request Certificates on behalf of the Applicant may submit certificate requests. Applicants are responsible for any data that the Applicant or an agent of the Applicant supplies to DigiCert.

EV Certificate requests must be submitted by an authorized Certificate Requester and approved by a Certificate Approver. The certificate request must be accompanied by a signed (in writing or electronically) Subscriber Agreement from a Contract Signer.

DigiCert does not issue Certificates to entities on a government denied list maintained by the United States or that is located in a country with which the laws of the United States prohibit doing business.

4.1.2. Enrollment Process and Responsibilities

In no particular order, the enrollment process includes:

1. Submitting a certificate application,
2. Generating a Key Pair,
3. Delivering the Public Key of the Key Pair to DigiCert,
4. Agreeing to the applicable Subscriber Agreement, and
5. Paying any applicable fees.

4.2. CERTIFICATE APPLICATION PROCESSING

4.2.1. Performing Identification and Authentication Functions

After receiving a certificate application, DigiCert or an RA verifies the application information and other information in accordance with Section 3.2. Prior to issuing a publicly-trusted SSL/TLS Server Certificate, DigiCert checks the DNS for the existence of a CAA record for each `dNSName` in the `subjectAltName` extension of the certificate to be issued, according to the procedure in RFC 6844. If the Certificate is issued, it will be issued within the TTL of the CAA record, or 8 hours, whichever is greater. DigiCert processes the “issue” and “issuewild” property tags and may not dispatch reports of issuance requests to the contact(s) listed in an “iodef” property tag. CAA checking is optional for Certificates issued by a Technically Constrained Subordinate CA Certificate as set out in Baseline Requirements section 7.1.5.

The Certification Authority CAA identifying domains for CAs within DigiCert’s operational control are “digicert.com”, “digicert.ne.jp”, “cybertrust.ne.jp”, “symantec.com”, “thawte.com”, “geotrust.com”, “rapidssl.com”, “digitalcertvalidation.com” (with reseller-specific licensed prefixes) and any domain containing those identifying domains as suffixes (e.g. example.digicert.com).

If an RA assists in the verification, the RA must create and maintain records sufficient to establish that it has performed its required verification tasks and communicate the completion of such performance to DigiCert. After verification is complete, DigiCert evaluates the corpus of information and decides whether or not to issue the Certificate. As part of this evaluation, DigiCert checks the Certificate against an internal database of previously revoked Certificates and rejected certificate requests to identify suspicious certificate requests. If some or all of the documentation used to support an application is in a language other than English, a DigiCert employee, RA, or agent skilled in the language performs the final cross-correlation and due diligence.

DigiCert considers a source’s availability, purpose, and reputation when determining whether a third party source is reasonably reliable. DigiCert does not consider a database, source, or form of identification reasonably reliable if DigiCert or the RA is the sole source of the information.

4.2.2. Approval or Rejection of Certificate Applications

DigiCert rejects any certificate application that DigiCert or an RA cannot verify. DigiCert does not issue Certificates containing a new gTLD under consideration by ICANN until the gTLD has been approved. DigiCert may also reject a certificate application if DigiCert believes that issuing the Certificate could damage or diminish DigiCert’s reputation or business.

Except for Enterprise EV Certificates, EV Certificate issuance approval requires two separate DigiCert validation specialists. The second validation specialist cannot be the same individual who collected the documentation and originally approved the EV Certificate. The second validation specialist reviews the collected information and documents any discrepancies or details that require further explanation. The second validation specialist may require additional explanations and documents prior to authorizing the Certificate’s issuance. Enterprise RAs may perform the final cross-correlation and due diligence described herein using a single person representing the Enterprise RA. If satisfactory explanations and/or additional

documents are not received within a reasonable time, DigiCert will reject the EV Certificate request and notify the Applicant accordingly.

If the certificate application is not rejected and is successfully validated in accordance with this CPS, DigiCert will approve the certificate application and issue the Certificate. DigiCert is not liable for any rejected Certificate and is not obligated to disclose the reasons for a rejection. Rejected Applicants may re-apply. Subscribers are required to check the Certificate's contents for accuracy prior to using the certificate.

4.2.3. Time to Process Certificate Applications

Under normal circumstances, DigiCert verifies an Applicant's information and issues a digital Certificate within a reasonable time frame. Issuance time frames are greatly dependent on when the Applicant provides the details and documentation necessary to complete validation. For non-EV SSL/TLS Server Certificates, DigiCert will usually complete the validation process and issue or reject a certificate application within two working days after receiving all of the necessary details and documentation from the Applicant, although events outside of the control of DigiCert can delay the issuance process.

4.3. CERTIFICATE ISSUANCE

4.3.1. CA Actions during Certificate Issuance

DigiCert confirms the source of a certificate request before issuance. DigiCert does not issue end entity Certificates directly from its root Certificates. DigiCert logs those SSL/TLS Server Certificates intended to be trusted in Chrome in two or more Certificate Transparency databases. See RFC 6962. Certificate issuance by the Root CA requires an individual authorized by DigiCert (i.e. the CA system operator, system officer, or PKI administrator) to deliberately issue a direct command in order for the Root CA to perform a certificate signing operation. Databases and CA processes occurring during certificate issuance are protected from unauthorized modification. After issuance is complete, the Certificate is stored in a database and sent to the Subscriber.

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

DigiCert may deliver Certificates in any secure manner within a reasonable time after issuance. Generally, DigiCert delivers Certificates via email to the email address designated by the Subscriber during the application process.

4.4. CERTIFICATE ACCEPTANCE

4.4.1. Conduct Constituting Certificate Acceptance

Subscribers are solely responsible for installing the issued Certificate on the Subscriber's computer or hardware security module. Certificates are considered accepted 30 days after the Certificate's issuance, or earlier upon use of the Certificate when evidence exists that the Subscriber used the Certificate.

4.4.2. Publication of the Certificate by the CA

DigiCert publishes all CA Certificates in its repository. DigiCert publishes end-entity Certificates by delivering them to the Subscriber.

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

RAs may receive notification of a Certificate's issuance if the RA was involved in the issuance process.

The FPKIPA will be notified at least two weeks prior to the issuance of a new CA certificate or issuance of new inter-organizational CA cross-certificates. The notification shall assert that the new CA cross-certification does not introduce multiple paths to a CA already participating in the FPKI. In addition, all new artifacts (CA certificates, CRL DP, AIA and/or SIA URLs, etc.) produced as a result of the CA certificate issuance shall be provided to the FPKIPA within 24 hours following issuance.

4.5. KEY PAIR AND CERTIFICATE USAGE

4.5.1. Subscriber Private Key and Certificate Usage

Subscribers are contractually obligated to protect their Private Keys from unauthorized use or disclosure, discontinue using a Private Key after expiration or revocation of the associated Certificate, and use Certificates in accordance with their intended purpose.

4.5.2. Relying Party Public Key and Certificate Usage

Relying Parties may only use software that is compliant with X.509, IETF RFCs, and other applicable standards. DigiCert does not warrant that any third party software will support or enforce the controls and requirements found herein.

A Relying Party should use discretion when relying on a Certificate and should consider the totality of the circumstances and risk of loss prior to relying on a Certificate. If the circumstances indicate that additional assurances are required, the Relying Party must obtain such assurances before using the Certificate. Any warranties provided by DigiCert are only valid if a Relying Party's reliance was reasonable and if the Relying Party adhered to the Relying Party Agreement set forth in the DigiCert repository.

A Relying Party should rely on a digital signature or SSL/TLS handshake only if:

1. the digital signature or SSL/TLS session was created during the operational period of a valid Certificate and can be verified by referencing a valid Certificate,
2. the Certificate is not revoked and the Relying Party checked the revocation status of the Certificate prior to the Certificate's use by referring to the relevant CRLs or OCSP responses, and
3. the Certificate is being used for its intended purpose and in accordance with this CPS.

Before relying on a time-stamp token, a Relying Party must:

1. verify that the time-stamp token has been correctly signed and that the Private Key used to sign the time-stamp token has not been compromised prior to the time of the verification,
2. take into account any limitations on the usage of the time-stamp token indicated by the time-stamp policy, and
3. take into account any other precautions prescribed in this CPS or elsewhere.

4.6. CERTIFICATE RENEWAL

4.6.1. Circumstance for Certificate Renewal

DigiCert may renew a Certificate if:

1. the associated Public Key has not reached the end of its validity period,
2. the Subscriber and attributes are consistent, and
3. the associated Private Key remains uncompromised.

DigiCert may also renew a Certificate if a CA Certificate is re-keyed or as otherwise necessary to provide services to a customer. DigiCert may notify Subscribers prior to a Certificate's expiration date. Certificate renewal requires payment of additional fees.

4.6.2. Who May Request Renewal

Only the certificate subject or an authorized representative of the certificate subject may request renewal of the Subscriber's Certificates. For Certificates cross-certified with the FBCA, renewal requests are only accepted from certificate subjects, PKI sponsors, or RAs. DigiCert may renew a Certificate without a corresponding request if the signing Certificate is re-keyed.

4.6.3. Processing Certificate Renewal Requests

Renewal application requirements and procedures are generally the same as those used during the Certificate's original issuance. DigiCert may elect to reuse previously verified information in its sole discretion but will refresh any information that is older than the periods specified in the Baseline

Requirements or EV Guidelines, as applicable. DigiCert may refuse to renew a Certificate if it cannot verify any rechecked information. If an individual is renewing a client Certificate and the relevant information has not changed, then DigiCert does not require any additional identity vetting. Some device platforms, e.g. Apache, allow renewed use of the Private Key. If the Private Key and domain information have not changed, the Subscriber may renew the SSL/TLS Server Certificate using a previously issued Certificate or provided CSR.

4.6.4. Notification of New Certificate Issuance to Subscriber

DigiCert may deliver the Certificate in any secure fashion, typically by email or by providing the Subscriber a hypertext link to a user id/password-protected location where the subscriber may log in and download the Certificate.

4.6.5. Conduct Constituting Acceptance of a Renewal Certificate

Renewed Certificates are considered accepted 30 days after the Certificate's renewal, or earlier upon use of the Certificate when evidence exists that the Subscriber used the Certificate.

4.6.6. Publication of the Renewal Certificate by the CA

DigiCert publishes a renewed Certificate by delivering it to the Subscriber. All renewed CA Certificates are published in DigiCert's repository.

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

RAs may receive notification of a Certificate's renewal if the RA was involved in the issuance process.

4.7. *CERTIFICATE RE-KEY*

4.7.1. Circumstance for Certificate Rekey

Re-keying a Certificate consists of creating a new Certificate with a new Public Key and serial number while keeping the subject information the same. The new Certificate may have a different validity date, key identifiers, CRL and OCSP distribution points, and signing key. After re-keying a Certificate, DigiCert may revoke the old Certificate but may not further re-key, renew, or modify the previous Certificate. Subscribers requesting re-key should identify and authenticate themselves as permitted by section 3.3.1.

4.7.2. Who May Request Certificate Rekey

DigiCert will only accept re-key requests from the subject of the Certificate or the PKI sponsor. DigiCert may initiate a certificate re-key at the request of the certificate subject or in DigiCert's own discretion.

4.7.3. Processing Certificate Rekey Requests

DigiCert will only accept re-key requests from the subject of the Certificate or the PKI sponsor. If the Private Key and any identity and domain information in a Certificate have not changed, then DigiCert can issue a replacement Certificate using a previously issued Certificate or previously provided CSR. DigiCert re-uses existing verification information unless re-verification and authentication is required under section 3.3.1 or if DigiCert believes that the information has become inaccurate.

4.7.4. Notification of Certificate Rekey to Subscriber

DigiCert notifies the Subscriber within a reasonable time after the Certificate issues.

4.7.5. Conduct Constituting Acceptance of a Rekeyed Certificate

Issued Certificates are considered accepted 30 days after the Certificate is rekeyed, or earlier upon use of the Certificate when evidence exists that the Subscriber used the Certificate.

4.7.6. Publication of the Issued Certificate by the CA

DigiCert publishes rekeyed Certificates by delivering them to Subscribers.

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

RAs may receive notification of a Certificate's rekey if the RA was involved in the issuance process.

4.8. CERTIFICATE MODIFICATION

4.8.1. Circumstances for Certificate Modification

Modifying a Certificate means creating a new Certificate for the same subject with authenticated information that differs slightly from the old Certificate (e.g., changes to email address or non-essential parts of names or attributes) provided that the modification otherwise complies with this CPS. The new Certificate may have the same or a different subject Public Key. After modifying a Certificate that is cross-certified with the FBCA, DigiCert may revoke the old Certificate but will not further re-key, renew, or modify the old Certificate.

4.8.2. Who May Request Certificate Modification

DigiCert modifies Certificates at the request of certain certificate subjects or in its own discretion. DigiCert does not make certificate modification services available to all Subscribers.

4.8.3. Processing Certificate Modification Requests

After receiving a request for modification, DigiCert verifies any information that will change in the modified Certificate. DigiCert will only issue the modified Certificate after completing the verification process on all modified information. DigiCert will not issue a modified Certificate that has a validity period that exceeds the applicable time limits found in section 3.3.1 or 6.3.2.

4.8.4. Notification of Certificate Modification to Subscriber

DigiCert notifies the Subscriber within a reasonable time after the Certificate issues.

4.8.5. Conduct Constituting Acceptance of a Modified Certificate

Modified Certificates are considered accepted 30 days after the Certificate is modified, or earlier upon use of the Certificate when evidence exists that the Subscriber used the Certificate.

4.8.6. Publication of the Modified Certificate by the CA

DigiCert publishes modified Certificates by delivering them to Subscribers.

4.8.7. Notification of Certificate Modification by the CA to Other Entities

RAs may receive notification of a Certificate's modification if the RA was involved in the issuance process.

4.9. CERTIFICATE REVOCATION AND SUSPENSION

4.9.1. Circumstances for Revocation

Revocation of a Certificate permanently ends the operational period of the Certificate prior to the Certificate reaching the end of its stated validity period. Prior to revoking a Certificate, DigiCert verifies the identity and authority of the entity requesting revocation.

DigiCert will revoke a Certificate within 24 hours if one or more of the following occurs:

1. The Subscriber requests in writing that DigiCert revoke the Certificate;
2. The Subscriber notifies DigiCert that the original Certificate request was not authorized and does not retroactively grant authorization;
3. DigiCert obtains evidence that the Subscriber's Private Key corresponding to the Public Key in the Certificate suffered a Key Compromise; or
4. DigiCert obtains evidence that the validation of domain authorization or control for any FDQN or IP address in the Certificate should not be relied upon.

DigiCert may revoke a certificate within 24 hours and will revoke a Certificate within 5 days if one or more of the following occurs:

1. The Certificate no longer complies with the requirements of Sections 6.1.5 and 6.1.6 of the CA/B forum baseline requirements;
2. DigiCert obtains evidence that the Certificate was misused;
3. The Subscriber or the cross-certified CA breached a material obligation under the CP, this CPS, or the relevant agreement;
4. DigiCert confirms any circumstance indicating that use of a FQDN or IP address in the Certificate is no longer legally permitted (e.g. a court or arbitrator has revoked a Domain Name registrant's right to use the Domain Name, a relevant licensing or services agreement between the Domain Name registrant and the Applicant has terminated, or the Domain Name registrant has failed to renew the Domain Name);
5. DigiCert confirms that a Wildcard Certificate has been used to authenticate a fraudulently misleading subordinate FQDN;
6. DigiCert confirms a material change in the information contained in the Certificate;
7. DigiCert confirms that the Certificate was not issued in accordance with the CA/B forum requirements or the DigiCert CP or this CPS;
8. DigiCert determines or confirms that any of the information appearing in the Certificate is inaccurate;
9. DigiCert's right to issue Certificates under the CA/B forum requirements expires or is revoked or terminated, unless DigiCert has made arrangements to continue maintaining the CRL/OCSP Repository;
10. Revocation is required by the DigiCert CP and/or this CPS; or
11. DigiCert confirms a demonstrated or proven method that exposes the Subscriber's Private Key to compromise, methods have been developed that can easily calculate it based on the Public Key (such as a debian weak key, see <http://wiki.debian.org/SSLkeys>), or if there is clear evidence that the specific method used to generate the Private Key was flawed.

DigiCert may revoke any Certificate in its sole discretion, including if DigiCert believes that:

1. Either the Subscriber's or DigiCert's obligations under the CP or this CPS are delayed or prevented by circumstances beyond the party's reasonable control, including computer or communication failure, and, as a result, another entity's information is materially threatened or compromised;
2. DigiCert received a lawful and binding order from a government or regulatory body to revoke the Certificate;
3. DigiCert ceased operations and did not arrange for another Certificate authority to provide revocation support for the Certificates;
4. The technical content or format of the Certificate presents an unacceptable risk to application software vendors, Relying Parties, or others;
5. The Subscriber was added as a denied party or prohibited person to a blacklist or is operating from a destination prohibited under the laws of the United States;
6. For Adobe Signing Certificates, Adobe has requested revocation; or
7. For code-signing Certificates, the Certificate was used to sign, publish, or distribute malware, code that is downloaded without user consent, or other harmful content.

DigiCert always revokes a Certificate if the binding between the subject and the subject's Public Key in the certificate is no longer valid or if an associated Private Key is compromised.

DigiCert will revoke a Subordinate CA Certificate within seven (7) days if one or more of the following occurs:

1. The Subordinate CA requests revocation in writing;

2. The Subordinate CA notifies DigiCert that the original Certificate request was not authorized and does not retroactively grant authorization;
3. DigiCert obtains evidence that the Subordinate CA's Private Key corresponding to the Public Key in the Certificate suffered a key compromise or no longer complies with the requirements of Sections 6.1.5 and 6.1.6 of the CA/B forum baseline requirements;
4. DigiCert obtains evidence that the CA Certificate was misused;
5. DigiCert confirms that the CA Certificate was not issued in accordance with or that Subordinate CA has not complied with this document or the applicable Certificate Policy or Certification Practice Statement;
6. DigiCert determines that any of the information appearing in the CA Certificate is inaccurate or misleading;
7. DigiCert or the Subordinate CA ceases operations for any reason and has not made arrangements for another CA to provide revocation support for the CA Certificate;
8. DigiCert's or the Subordinate CA's right to issue Certificates under the Baseline Requirements expires or is revoked or terminated, unless DigiCert has made arrangements to continue maintaining the CRL/OCSP Repository;
9. Revocation is required by DigiCert's Certificate Policy and/or Certification Practice Statement; or
10. The technical content or format of the CA Certificate presents an unacceptable risk to application software suppliers or Relying Parties.

DigiCert will revoke a cross-Certificate if the cross-certified entity (including DigiCert) no longer meets the stipulations of the corresponding policies, as indicated by policy OIDs listed in the policy mapping extension of the cross-Certificate.

4.9.2. Who Can Request Revocation

Any appropriately authorized party, such as a recognized representative of a subscriber or cross-signed partner, may request revocation of a Certificate. DigiCert may revoke a Certificate without receiving a request and without reason. Third parties may request certificate revocation for problems related to fraud, misuse, or compromise. Certificate revocation requests must identify the entity requesting revocation and specify the reason for revocation.

4.9.3. Procedure for Revocation Request

DigiCert processes a revocation request as follows:

1. DigiCert logs the identity of entity making the request or problem report and the reason for requesting revocation based on the list in section 4.9.1. DigiCert may also include its own reasons for revocation in the log.
2. DigiCert may request confirmation of the revocation from a known administrator, where applicable, via out-of-band communication (e.g., telephone, fax, etc.).
3. If the request is authenticated as originating from the Subscriber, DigiCert revokes the Certificate based on the timeframes listed in 4.9.1 as listed for the reason for revocation.
4. For requests from third parties, DigiCert personnel begin investigating the request within 24 hours after receipt and decide whether revocation is appropriate based on the following criteria:
 - a. the nature of the alleged problem,
 - b. the number of reports received about a particular Certificate or website,
 - c. the identity of the complainants (for example, complaints from a law enforcement official that a web site is engaged in illegal activities have more weight than a complaint from a consumer alleging they never received the goods they ordered), and
 - d. relevant legislation.
5. If DigiCert determines that revocation is appropriate, DigiCert personnel revoke the Certificate and update the CRL.

If DigiCert deems appropriate, DigiCert may forward the revocation reports to law enforcement.

The FPKIPA shall be notified at least two weeks prior to the revocation of a CA certificate, whenever possible. For emergency revocation, CAs shall follow the notification procedures in Section 5.7.

DigiCert maintains a continuous 24/7 ability to internally respond to any high priority revocation requests.

4.9.4. Revocation Request Grace Period

Subscribers are required to request revocation within one day after detecting the loss or compromise of the Private Key. DigiCert may grant and extend revocation grace periods on a case-by-case basis. DigiCert reports the suspected compromise of its CA Private Key and requests revocation to both the policy authority and operating authority of the superior issuing CA within one hour of discovery.

4.9.5. Time within which CA Must Process the Revocation Request

DigiCert will revoke a CA Certificate within one hour after receiving clear instructions from the DCPA.

Within 24 hours after receiving a Certificate problem report, DigiCert investigates the facts and circumstances related to a Certificate problem report and will provide a preliminary report on its findings to both the Subscriber and the entity who filed the Certificate problem report.

After reviewing the facts and circumstances, DigiCert works with the Subscriber and any entity reporting the Certificate problem report or other revocation-related notice to establish whether or not the certificate will be revoked, and if so, a date which DigiCert will revoke the certificate. The period from receipt of the Certificate problem report or revocation-related notice to published revocation must not exceed the time frame set forth in Section 4.9.1. The date selected by DigiCert will consider the following criteria:

1. The nature of the alleged problem (scope, context, severity, magnitude, risk of harm);
2. The consequences of revocation (direct and collateral impacts to Subscribers and Relying Parties);
3. The number of Certificate problem reports received about a particular Certificate or Subscriber;
4. The entity making the complaint (for example, a complaint from a law enforcement official that a Web site is engaged in illegal activities should carry more weight than a complaint from a consumer alleging that she didn't receive the goods she ordered); and
5. Relevant legislation.

Under normal operating circumstances, DigiCert will revoke Certificates as quickly as practical after validating the revocation request following the guidelines of this section and Section 4.9.1, generally within the following time frames:

1. Certificate revocation requests for publicly-trusted Certificates are processed within 18 hours after their receipt,
2. Revocation requests received two or more hours before CRL issuance are processed before the next CRL is published, and
3. Revocation requests received within two hours of CRL issuance are processed before the following CRL is published.

4.9.6. Revocation Checking Requirement for Relying Parties

Prior to relying on information listed in a Certificate, a Relying Party must confirm the validity of each Certificate in the certificate path in accordance with IETF PKIX standards, including checking for certificate validity, issuer-to-subject name chaining, policy and key use constraints, and revocation status through CRLs or OCSP responders identified in each Certificate in the chain.

4.9.7. CRL Issuance Frequency

DigiCert uses its offline root CAs to publish CRLs for its intermediate CAs at least every 6 months. For an offline CA that has been cross-signed by the Federal Bridge CA and only issues CA Certificates, certificate-status-checking certificates, or internal administrative Certificates, DigiCert issues a CRL at least every 31 days. All other CRLs are published at least every 24 hours. If a Certificate is revoked for reason of key compromise, an interim CRL is published as soon as feasible, but no later than 18 hours after receipt of the notice of key compromise.

4.9.8. Maximum Latency for CRLs

CRLs for Certificates issued to end entity subscribers are posted automatically to the online repository within a commercially reasonable time after generation, usually within minutes of generation. Irregular, interim, or emergency CRLs and all CRLs for CAs chaining to the Federal Bridge are posted within four hours after generation. Regularly scheduled CRLs are posted prior to the nextUpdate field in the previously issued CRL of the same scope.

4.9.9. On-line Revocation/Status Checking Availability

DigiCert makes certificate status information available via OCSP for SSL/TLS Server Certificates. OCSP may not be available for other kinds of Certificates. Where OCSP support is required by the applicable CP, OCSP responses are provided within a commercially reasonable time and no later than six seconds after the request is received, subject to transmission latencies over the Internet.

OCSP responses conform to RFC 5019 and/or RFC 6960. OCSP responses either:

1. Are signed by the CA that issued the Certificates whose revocation status is being checked, or
2. Are signed by an OCSP Responder whose Certificate is signed by the CA that issued the Certificate whose revocation status is being checked.

In the latter case, the OCSP signing Certificate contains an extension of type id-pkix-ocsp-nocheck, as defined by RFC 6960.

4.9.10. On-line Revocation Checking Requirements

A relying party must confirm the validity of a Certificate in accordance with section 4.9.6 prior to relying on the Certificate.

DigiCert supports an OCSP capability using the GET method for Certificates issued in accordance with the Baseline Requirements. OCSP Responders under DigiCert's direct control will not respond with a "good" status for a certificate that has not been issued.

4.9.11. Other Forms of Revocation Advertisements Available

No stipulation.

4.9.12. Special Requirements Related to Key Compromise

DigiCert uses commercially reasonable efforts to notify potential Relying Parties if it discovers or suspects the compromise of a Private Key. DigiCert will transition any revocation reason code in a CRL to "key compromise" upon discovery of such reason or as required by an applicable CP. If a Certificate is revoked because of compromise, DigiCert will issue a new CRL within 18 hours after receiving notice of the compromise.

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

Certificate status information is available via CRL and OCSP responder. The serial number of a revoked Certificate remains on the CRL until one additional CRL is published after the end of the Certificate's validity period, except for revoked Code Signing Certificates and EV Code Signing Certificates, which remain on the CRL for at least 10 years following the Certificate's validity period. OCSP information for subscriber Certificates is updated at least every four days. OCSP information for subordinate CA Certificates is updated at least every 12 months and within 24 hours after revoking the Certificate.

4.10.2. Service Availability

Certificate status services are available 24x7 without interruption. This includes the online repository that application software can use to automatically check the current status of all unexpired Certificates issued by DigiCert. DigiCert operates and maintains its CRL and OCSP capability with resources sufficient to provide a response time of ten seconds or less under normal operating conditions.

DigiCert also maintains a continuous 24x7 ability to respond internally to a high-priority Certificate Problem Report, and where appropriate, forward such a complaint to law enforcement authorities, and/or revoke a Certificate that is the subject of such a complaint.

4.10.3. Optional Features

OCSP Responders may not be available for all certificate types.

4.11. END OF SUBSCRIPTION

A Subscriber's subscription service ends if its Certificate expires or is revoked or if the applicable Subscriber Agreement expires without renewal.

4.12. KEY ESCROW AND RECOVERY

4.12.1. Key Escrow and Recovery Policy Practices

DigiCert never escrows CA Private Keys.

DigiCert may escrow Subscriber key management keys to provide key recovery services. DigiCert encrypts and protects escrowed Private Keys using the same or a higher level of security as used to generate and deliver the Private Key. For Certificates cross-certified with the FBCA, third parties are not permitted to hold the Subscriber signature keys in trust.

DigiCert allows Subscribers and other authorized entities to recover escrowed (decryption) Private Keys. DigiCert uses multi-person controls during key recovery to prevent unauthorized access to a Subscriber's escrowed Private Keys. DigiCert accepts key recovery requests:

1. From the Subscriber or Subscriber's organization, if the Subscriber has lost or damaged the private-key token;
2. From the Subscriber's organization, if the Subscriber is not available or is no longer part of the organization that contracted with DigiCert for Private Key escrow;
3. From an authorized investigator or auditor, if the Private Key is part of a required investigation or audit;
4. From a requester authorized by a competent legal authority to access the communication that is encrypted using the key;
5. From a requester authorized by law or governmental regulation; or
6. From an entity contracting with DigiCert for escrow of the Private Key when key recovery is mission critical or mission essential.

Entities using DigiCert's key escrow services are required to:

1. Notify Subscribers that their Private Keys are escrowed;
2. Protect escrowed keys from unauthorized disclosure;
3. Protect any authentication mechanisms that could be used to recover escrowed Private Keys;
4. Release an escrowed key only after making or receiving (as applicable) a properly authorized request for recovery; and
5. Comply with any legal obligations to disclose or keep confidential escrowed keys, escrowed key-related information, or the facts concerning any key recovery request or process.

4.12.2. Session Key Encapsulation and Recovery Policy and Practices

No stipulation.

5. FACILITY, MANAGEMENT, AND OPERATIONAL CONTROLS

5.1. PHYSICAL CONTROLS

5.1.1. Site Location and Construction

DigiCert performs its CA and TSA operations from secure and geographically diverse commercial data centers. The data centers are equipped with logical and physical controls that make DigiCert's CA and TSA operations inaccessible to non-trusted personnel. DigiCert operates under a security policy designed to detect, deter, and prevent unauthorized access to DigiCert's operations.

5.1.2. Physical Access

5.1.2.1. Data Centers

DigiCert protects its equipment (including certificate status servers and CMS equipment) from unauthorized access and implements physical controls to reduce the risk of equipment tampering. The data centers where DigiCert's CA and TSA systems operate have security personnel on duty full time (24 hours per day, 365 days per year). Access to the data centers housing the CA and TSA platforms requires two-factor authentication—the individual must have an authorized access card and pass biometric access control authenticators. These biometric authentication access systems log each use of the access card. DigiCert deactivates and securely stores its CA equipment when not in use. Activation data must either be memorized or recorded and stored in a manner commensurate with the security afforded the cryptographic module. Activation data is never stored with the cryptographic module or removable hardware associated with equipment used to administer DigiCert's Private Keys. Cryptographic hardware includes a mechanism to lock the hardware after a certain number of failed login attempts.

The DigiCert data centers are continuously attended. However, if DigiCert ever becomes aware that a data center is to be left unattended or has been left unattended for an extended period of time, DigiCert personnel will perform a security check of the data center to verify that:

1. DigiCert's equipment is in a state appropriate to the current mode of operation,
2. Any security containers are properly secured,
3. Physical security systems (e.g., door locks) are functioning properly, and
4. The area is secured against unauthorized access.

DigiCert's administrators are responsible for making these checks and must sign off that all necessary physical protection mechanisms are in place and activated. The identity of the individual making the check is logged.

5.1.2.2. RA Operations Areas

DigiCert's RA operations are protected using physical access controls making them accessible only to appropriately authorized individuals. Access to secure areas of buildings requires the use of an "access" or "pass" card. Access card use is logged by the building security system. The exterior and internal passageways of buildings are equipped with motion detecting sensors and video cameras. Similarly, the support and vetting rooms where DigiCert personnel perform identity vetting and other RA functions are

equipped with motion-activated video surveillance cameras. Access card logs and video records are reviewed on a regular basis. DigiCert securely stores all removable media and paper containing sensitive plain-text information related to its CA operations in secure containers.

5.1.2.3. CA Key Generation and Storage

DigiCert securely stores the cryptomodules used to generate and store CA Private Keys. Access to the rooms used for key storage and key generation activities is controlled and logged by the building access card system. When not in use during a key ceremony, CA cryptomodules are locked in a safe that provides two-person physical access control. Access to the safe is manually logged. Access card logs and the manual logs of access to the safe are reviewed on a regular basis.

5.1.3. Power and Air Conditioning

Data centers have primary and secondary power supplies that ensure continuous and uninterrupted access to electric power. Uninterrupted power supplies (UPS) and diesel generators provide redundant backup power. DigiCert monitors capacity demands and makes projections about future capacity requirements to ensure that adequate processing power and storage are available.

DigiCert's data center facilities use multiple load-balanced HVAC systems for heating, cooling, and air ventilation through perforated-tile raised flooring to prevent overheating and to maintain a suitable humidity level for sensitive computer systems.

5.1.4. Water Exposures

The cabinets housing DigiCert's CA and TSA systems are located on raised flooring, and the data centers are equipped with monitoring systems to detect excess moisture.

5.1.5. Fire Prevention and Protection

The data centers are equipped with fire suppression mechanisms.

5.1.6. Media Storage

DigiCert protects its media from accidental damage and unauthorized physical access. Backup files are created on a daily basis. DigiCert's backup files are maintained at locations separate from DigiCert's primary data operations facility.

5.1.7. Waste Disposal

All unnecessary copies of printed sensitive information are shredded on-site before disposal. All electronic media are physically destroyed or are overwritten multiple times to prevent the recovery of the data.

5.1.8. Off-site Backup

DigiCert maintains at least one full backup and makes regular backup copies of any information necessary to recover from a system failure. Backup copies of CA Private Keys and activation data are stored for disaster recovery purposes off-site in safe deposit boxes located inside federally insured financial institutions and are accessible only by trusted personnel.

5.1.9. Certificate Status Hosting, CMS and External RA Systems

All physical control requirements under Section 5.1 apply equally to any Certificate Status Hosting, CMS, or external RA system.

5.2. PROCEDURAL CONTROLS

5.2.1. Trusted Roles

Personnel acting in trusted roles include CA, TSA, and RA system administration personnel, and personnel involved with identity vetting and the issuance and revocation of Certificates. The functions and duties performed by persons in trusted roles are distributed so that one person alone cannot circumvent security measures or subvert the security and trustworthiness of the PKI or TSA operations. Trusted roles are

appointed by senior management. A list of personnel appointed to trusted roles is maintained and reviewed annually.

5.2.1.1. CA Administrators

The CA Administrator installs and configures the CA software, including key generation, key backup, and key management. The CA Administrator performs and securely stores regular system backups of the CA system. Administrators do not issue Certificates to Subscribers.

5.2.1.2. Registration Officers – CMS, RA, Validation and Vetting Personnel

The Registration Officer role is responsible for issuing and revoking Certificates, including enrollment, identity verification, and compliance with required issuance and revocation steps such as managing the certificate request queue and completing certificate approval checklists as identity vetting tasks are successfully completed.

5.2.1.3. System Administrators/ System Engineers (Operator)

The System Administrator / System Engineer installs and configures system hardware, including servers, routers, firewalls, and network configurations. The System Administrator / System Engineer also keeps CA, CMS and RA systems updated with software patches and other maintenance needed for system stability and recoverability.

5.2.1.4. Internal Auditors

Internal Auditors are responsible for reviewing, maintaining, and archiving audit logs and performing or overseeing internal compliance audits to determine if DigiCert, an Issuer CA, or RA is operating in accordance with this CPS or an RA's Registration Practices Statement.

5.2.1.5. RA Administrators

RA Administrators install, configure and manage the RA software, including the assignment of Issuing CAs and certificate profiles to customer accounts.

5.2.2. Number of Persons Required per Task

DigiCert requires that at least two people acting in a trusted role (one the CA Administrator and the other not an Internal Auditor) take action requiring a trusted role, such as activating DigiCert's Private Keys, generating a CA Key Pair, or backing up a DigiCert Private Key. The Internal Auditor may serve to fulfill the requirement of multiparty control for physical access to the CA system but not logical access.

5.2.3. Identification and Authentication for each Role

All personnel are required to authenticate themselves to CA, TSA, and RA systems before they are allowed access to systems necessary to perform their trusted roles.

5.2.4. Roles Requiring Separation of Duties

Roles requiring a separation of duties include:

1. Those performing authorization functions such as the verification of information in certificate applications and approvals of certificate applications and revocation requests,
2. Those performing backups, recording, and record keeping functions;
3. Those performing audit, review, oversight, or reconciliation functions; and
4. Those performing duties related to CA/TSA key management or CA/TSA administration.

To accomplish this separation of duties, DigiCert specifically designates individuals to the trusted roles defined in Section 5.2.1 above. DigiCert appoints individuals to only one of the Registration Officer, Administrator, Operator, or Internal Auditor roles. Individuals designated as Registration Officer or Administrator may perform Operator duties, but an Internal Auditor may not assume any other role. DigiCert's systems identify and authenticate individuals acting in trusted roles, restrict an individual from assuming multiple roles, and prevent any individual from having more than one identity.

5.3. PERSONNEL CONTROLS

5.3.1. Qualifications, Experience, and Clearance Requirements

The DCPA is responsible and accountable for DigiCert's PKI operations and ensures compliance with this CPS and the CP. DigiCert's personnel and management practices provide reasonable assurance of the trustworthiness and competence of its employees and of the satisfactory performance of their duties. All trusted roles for CAs issuing Federated Device Certificates, Client Certificates at Levels 3-US and 4-US (which are intended for interoperability through the Federal Bridge CA at id-fpki-certpcy-mediumAssurance and id-fpki-certpcy-mediumHardware) are held by citizens of the United States. An individual performing a trusted role for an RA may be a citizen of the country where the RA is located. There is no citizenship requirement for personnel performing trusted roles associated with the issuance of other kinds of Certificates.

Management and operational support personnel involved in time-stamp operations possess experience with information security and risk assessment and knowledge of time-stamping technology, digital signature technology, mechanisms for calibration of time stamping clocks with UTC, and security procedures. The DCPA ensures that all individuals assigned to trusted roles have the experience, qualifications, and trustworthiness required to perform their duties under this CPS.

5.3.2. Background Check Procedures

DigiCert verifies the identity of each employee appointed to a trusted role and performs a background check prior to allowing such person to act in a trusted role. DigiCert requires each individual to appear in-person before a human resources employee whose responsibility it is to verify identity. The human resources employee verifies the individual's identity using government-issued photo identification (e.g., passports and/or driver's licenses reviewed pursuant to U.S. Citizenship and Immigration Services Form I-9, Employment Eligibility Verification, or comparable procedure for the jurisdiction in which the individual's identity is being verified). Background checks include employment history, education, character references, social security number, previous residences, driving records and criminal background. Checks of previous residences are over the past three years. All other checks are for the previous five years. The highest education degree obtained is verified regardless of the date awarded. Based upon the information obtained during the background check, the human resources department makes an adjudication decision, with the assistance of legal counsel when necessary, as to whether the individual is suitable for the position to which they will be assigned. Background checks are refreshed and re-adjudication occurs at least every ten years.

5.3.3. Training Requirements

DigiCert provides skills training to all employees involved in DigiCert's PKI and TSA operations. The training relates to the person's job functions and covers:

1. basic Public Key Infrastructure (PKI) knowledge,
2. software versions used by DigiCert,
3. authentication and verification policies and procedures,
4. DigiCert security principles and mechanisms,
5. disaster recovery and business continuity procedures,
6. common threats to the validation process, including phishing and other social engineering tactics, and
7. CA/Browser Forum Guidelines and other applicable industry and government guidelines.

Training is provided via a mentoring process involving senior members of the team to which the employee belongs.

DigiCert maintains records of who received training and what level of training was completed. Registration Officers must have the minimum skills necessary to satisfactorily perform validation duties before being granted validation privileges. All Registration Officers are required to pass an internal examination on the EV Guidelines and the Baseline Requirements prior to validating and approving the issuance of Certificates. Where competence is demonstrated in lieu of training, DigiCert maintains supporting documentation.

5.3.4. Retraining Frequency and Requirements

Employees must maintain skill levels that are consistent with industry-relevant training and performance programs in order to continue acting in trusted roles. DigiCert makes all employees acting in trusted roles aware of any changes to DigiCert's operations. If DigiCert's operations change, DigiCert will provide documented training, in accordance with an executed training plan, to all employees acting in trusted roles.

5.3.5. Job Rotation Frequency and Sequence

No stipulation.

5.3.6. Sanctions for Unauthorized Actions

DigiCert employees and agents failing to comply with this CPS, whether through negligence or malicious intent, are subject to administrative or disciplinary actions, including termination of employment or agency and criminal sanctions. If a person in a trusted role is cited by management for unauthorized or inappropriate actions, the person will be immediately removed from the trusted role pending management review. After management has reviewed and discussed the incident with the employee involved, management may reassign that employee to a non-trusted role or dismiss the individual from employment as appropriate.

5.3.7. Independent Contractor Requirements

Independent contractors who are assigned to perform trusted roles are subject to the duties and requirements specified for such roles in this Section 5.3 and are subject to sanctions stated above in Section 5.3.6.

5.3.8. Documentation Supplied to Personnel

Personnel in trusted roles are provided with the documentation necessary to perform their duties, including a copy of the CP, this CPS, EV Guidelines, and other technical and operational documentation needed to maintain the integrity of DigiCert's CA operations. Personnel are also given access to information on internal systems and security documentation, identity vetting policies and procedures, discipline-specific books, treatises and periodicals, and other information.

5.4. AUDIT LOGGING PROCEDURES

5.4.1. Types of Events Recorded

DigiCert's systems require identification and authentication at system logon with a unique user name and password. Important system actions are logged to establish the accountability of the operators who initiate such actions.

DigiCert enables all essential event auditing capabilities of its CA and TSA applications in order to record the events listed below. If DigiCert's applications cannot automatically record an event, DigiCert implements manual procedures to satisfy the requirements. For each event, DigiCert records the relevant (i) date and time, (ii) type of event, (iii) success or failure, and (iv) user or system that caused the event or initiated the action. DigiCert records the precise time of any significant TSA events. All event records are available to auditors as proof of DigiCert's practices.

Auditable Event
SECURITY AUDIT
Any changes to the audit parameters, e.g., audit frequency, type of event audited
Any attempt to delete or modify the audit logs
AUTHENTICATION TO SYSTEMS
Successful and unsuccessful attempts to assume a role
The value of maximum number of authentication attempts is changed
Maximum number of authentication attempts occur during user login
An administrator unlocks an account that has been locked as a result of unsuccessful authentication attempts

Auditable Event
An administrator changes the type of authenticator, e.g., from a password to a biometric
LOCAL DATA ENTRY
All security-relevant data that is entered in the system
REMOTE DATA ENTRY
All security-relevant messages that are received by the system
DATA EXPORT AND OUTPUT
All successful and unsuccessful requests for confidential and security-relevant information
KEY GENERATION
Whenever a CA generates a key (not mandatory for single session or one-time use symmetric keys)
CA KEY LIFECYCLE MANAGEMENT
Key generation, backup, storage, recovery, archival, and destruction
Cryptographic device lifecycle management events
CA AND SUBSCRIBER CERTIFICATE LIFECYCLE MANAGEMENT
All verification activities stipulated in the Baseline Requirements and this CPS
Date, time, phone number used, persons spoken to, and end results of verification telephone calls
Acceptance and rejection of certificate requests
Issuance of Certificates
Generation of Certificate Revocation Lists and OCSP entries.
PRIVATE KEY LOAD AND STORAGE
The loading of Component Private Keys
All access to certificate subject Private Keys retained within the CA for key recovery purposes
TRUSTED PUBLIC KEY ENTRY, DELETION AND STORAGE
SECRET KEY STORAGE
The manual entry of secret keys used for authentication
PRIVATE AND SECRET KEY EXPORT
The export of private and secret keys (keys used for a single session or message are excluded)
CERTIFICATE REGISTRATION
All certificate requests, including issuance, re-key, renewal, and revocation
Certificate issuance
Verification activities
CERTIFICATE REVOCATION
All certificate revocation requests
CERTIFICATE STATUS CHANGE APPROVAL AND REJECTION
CA CONFIGURATION
Any security-relevant changes to the configuration of a CA system component
ACCOUNT ADMINISTRATION
Roles and users are added or deleted
The access control privileges of a user account or a role are modified
CERTIFICATE PROFILE MANAGEMENT
All changes to the certificate profile
REVOCATION PROFILE MANAGEMENT
All changes to the revocation profile
CERTIFICATE REVOCATION LIST PROFILE MANAGEMENT
All changes to the certificate revocation list profile
Generation of CRLs and OCSP entries
TIME STAMPING
Clock synchronization
MISCELLANEOUS
Appointment of an individual to a Trusted Role
Designation of personnel for multiparty control

Auditable Event
Installation of an Operating System, PKI Application, or Hardware Security Module
Removal or Destruction of HSMs
System Startup
Logon attempts to PKI Application
Receipt of hardware / software
Attempts to set or modify passwords
Backup or restoration of the internal CA database
File manipulation (e.g., creation, renaming, moving)
Posting of any material to a repository
Access to the internal CA database
All certificate compromise notification requests
Loading HSMs with Certificates
Shipment of HSMs
Zeroizing HSMs
Re-key of the Component
CONFIGURATION CHANGES
Hardware
Software
Operating System
Patches
Security Profiles
PHYSICAL ACCESS / SITE SECURITY
Personnel access to secure area housing CA or TSA component
Access to a CA or TSA component
Known or suspected violations of physical security
Firewall and router activities
Entries to and exits from the CA facility, PKI and security system actions performed
ANOMALIES
System crashes and hardware failures
Software error conditions
Software check integrity failures
Receipt of improper messages and misrouted messages
Network attacks (suspected or confirmed)
Equipment failure
Electrical power outages
Uninterruptible Power Supply (UPS) failure
Obvious and significant network service or access failures
Violations of a CPS
Resetting Operating System clock

5.4.2. Frequency of Processing Log

At least once every two months, a DigiCert administrator reviews the logs generated by DigiCert's systems, makes system and file integrity checks, and conducts a vulnerability assessment. The administrator may perform the checks using automated tools. During these checks, the administrator (1) checks whether anyone has tampered with the log, (2) scans for anomalies or specific conditions, including any evidence of malicious activity, and (3) prepares a written summary of the review. Any anomalies or irregularities found in the logs are investigated. The summaries include recommendations to DigiCert's operations management committee and are made available to DigiCert's auditors upon request. DigiCert documents any actions taken as a result of a review.

5.4.3. Retention Period for Audit Log

Audit logs related to publicly trusted SSL/TLS Certificates are retained for at least seven (7) years. DigiCert retains audit logs on-site until after they are reviewed. The individuals who remove audit logs from DigiCert's CA systems are different than the individuals who control DigiCert's signature keys.

5.4.4. Protection of Audit Log

CA audit log information is retained on equipment until after it is copied by a system administrator. DigiCert's CA and TSA systems are configured to ensure that (i) only authorized people have read access to logs, (ii) only authorized people may archive audit logs, and (iii) audit logs are not modified. Audit logs are protected from destruction prior to the end of the audit log retention period and are retained securely on-site until transferred to a backup site. DigiCert's off-site storage location is a safe and secure location that is separate from the location where the data was generated.

DigiCert makes time-stamping records available when required to prove in a legal proceeding that DigiCert's time-stamping services are operating correctly. Audit logs are made available to auditors upon request.

5.4.5. Audit Log Backup Procedures

DigiCert makes regular backup copies of audit logs and audit log summaries and saves a copy of the audit log to a secure, off-site location on at least a monthly basis.

5.4.6. Audit Collection System (internal vs. external)

Automatic audit processes begin on system startup and end at system shutdown. If an automated audit system fails and the integrity of the system or confidentiality of the information protected by the system is at risk, DigiCert's Administrators and the DCPA shall be notified and the DCPA will consider suspending the CA's or RA's operations until the problem is remedied.

5.4.7. Notification to Event-causing Subject

No stipulation.

5.4.8. Vulnerability Assessments

DigiCert performs annual risk assessments that identify and assess reasonably foreseeable internal and external threats that could result in unauthorized access, disclosure, misuse, alteration, or destruction of any certificate data or certificate issuance process. DigiCert also routinely assesses the sufficiency of the policies, procedures, information systems, technology, and other arrangements that DigiCert has in place to control such risks. DigiCert's Internal Auditors review the security audit data checks for continuity. DigiCert's audit log monitoring tools alert the appropriate personnel of any events, such as repeated failed actions, requests for privileged information, attempted access of system files, and unauthenticated responses.

5.5. RECORDS ARCHIVAL

DigiCert complies with all record retention policies that apply by law. DigiCert includes sufficient detail in all archived records to show that a Certificate or time-stamp token was issued in accordance with this CPS.

5.5.1. Types of Records Archived

DigiCert retains the following information in its archives (as such information pertains to DigiCert's CA / TSA operations):

1. Accreditations of DigiCert,
2. CP and CPS versions,
3. Contractual obligations and other agreements concerning the operation of the CA / TSA,
4. System and equipment configurations, modifications, and updates,
5. Rejection or acceptance of a certificate request,
6. Certificate issuance, rekey, renewal, and revocation requests,
7. Sufficient identity authentication data to satisfy the identification requirements of Section 3.2, including information about telephone calls made for verification purposes,
8. Any documentation related to the receipt or acceptance of a Certificate or token,

9. Subscriber Agreements,
10. Issued Certificates,
11. A record of certificate re-keys,
12. CRLs for CAs cross-certified with the Federal Bridge CA,
13. Data or applications necessary to verify an archive's contents,
14. Compliance auditor reports,
15. Changes to DigiCert's audit parameters,
16. Any attempt to delete or modify audit logs,
17. CA Key generation and destruction,
18. Access to Private Keys for key recovery purposes,
19. Changes to trusted Public Keys,
20. Export of Private Keys,
21. Approval or rejection of a revocation request,
22. Appointment of an individual to a trusted role,
23. Destruction of a cryptographic module,
24. Certificate compromise notifications,
25. Remedial action taken as a result of violations of physical security, and
26. Violations of the CP or CPS.

5.5.2. Retention Period for Archive

DigiCert retains archived data associated with Level 3 or Level 4, and federated device Certificates for at least 10.5 years. DigiCert, or the RA supporting issuance, archives data for other certificate types for at least 7.5 years.

5.5.3. Protection of Archive

Archive records are stored at a secure off-site location and are maintained in a manner that prevents unauthorized modification, substitution, or destruction. Archives are not released except as allowed by the DCPA or as required by law. DigiCert maintains any software application required to process the archive data until the data is either destroyed or transferred to a newer medium.

If DigiCert needs to transfer any media to a different archive site or equipment, DigiCert will maintain both archived locations and/or pieces of equipment until the transfer are complete. All transfers to new archives will occur in a secure manner.

5.5.4. Archive Backup Procedures

On at least an annual basis, DigiCert creates an archive disk of the data listed in section 5.5.1 by grouping the data types together by source into separate, compressed archive files. Each archive file is hashed to produce checksums that are stored separately for integrity verification at a later date. DigiCert stores the archive disk in a secure off-site location for the duration of the set retention period. RAs create and store archived records in accordance with the applicable documentation retention policy.

5.5.5. Requirements for Time-stamping of Records

DigiCert automatically time-stamps archived records with system time (non-cryptographic method) as they are created. DigiCert synchronizes its system time at least every eight hours using a real time value distributed by a recognized UTC(k) laboratory or National Measurement Institute.

5.5.6. Archive Collection System (internal or external)

Archive information is collected internally by DigiCert.

5.5.7. Procedures to Obtain and Verify Archive Information

Details concerning the creation and storage of archive information are found in section 5.5.4. After receiving a request made for a proper purpose by a Customer, its agent, or a party involved in a dispute over a transaction involving the DigiCert PKI, DigiCert may elect to retrieve the information from archival. The integrity of archive information is verified by comparing a hash of the compressed archive file with the file

checksum originally stored for that file, as described in Section 5.5.4. DigiCert may elect to transmit the relevant information via a secure electronic method or courier, or it may also refuse to provide the information in its discretion and may require prior payment of all costs associated with the data.

5.6. KEY CHANGEOVER

Key changeover procedures enable the smooth transition from expiring CA Certificates to new CA Certificates. Towards the end of a CA Private Key's lifetime, DigiCert ceases using the expiring CA Private Key to sign Certificates and uses the old Private Key only to sign CRLs and OCSP responder Certificates. A new CA signing Key Pair is commissioned and all subsequently issued Certificates and CRLs are signed with the new private signing key. Both the old and the new Key Pairs may be concurrently active. This key changeover process helps minimize any adverse effects from CA certificate expiration. The corresponding new CA Public Key Certificate is provided to subscribers and relying parties through the delivery methods detailed in Section 6.1.4. Where DigiCert has cross-certified another CA that is in the process of a key rollover, DigiCert obtains a new CA Public Key (PKCS#10) or new CA Certificate from the other CA and distributes a new CA cross Certificate following the procedures described above.

5.7. COMPROMISE AND DISASTER RECOVERY

5.7.1. Incident and Compromise Handling Procedures

DigiCert maintains incident response procedures to guide personnel in response to security incidents, natural disasters, and similar events that may give rise to system compromise. DigiCert reviews, tests, and updates its incident response plans and procedures on at least an annual basis.

For CAs that are cross-certified with the FBCA, DigiCert will notify the FPKIPA within 24 hours and provide preliminary remediation analysis of the following:

- suspected or detected compromise of the CA systems;
- physical or electronic attempts to penetrate CA systems;
- denial of service attacks on CA components; or
- any incident preventing the CA from issuing a CRL within 24 hours of the time specified in the next update field of its currently valid CRL.

Within 10 business days of incident resolution, DigiCert will post a notice on its public web page identifying the incident and provide notification to the FPKIPA. The public notice shall include the following:

1. Which CA components were affected by the incident
2. DigiCert's interpretation of the incident.
3. Who is impacted by the incident
4. When the incident was discovered
5. A complete list of all certificates that were either issued erroneously or not compliant with the CP/CPS as a result of the incident
6. A statement that the incident has been fully remediated

The notification provided directly to the FPKIPA shall also include detailed measures taken to remediate the incident.

5.7.2. Computing Resources, Software, and/or Data Are Corrupted

DigiCert makes regular system backups on at least a weekly basis and maintains backup copies of its Private Keys, which are stored in a secure, off-site location. If DigiCert discovers that any of its computing resources, software, or data operations have been compromised, DigiCert assesses the threats and risks that the compromise presents to the integrity or security of its operations or those of affected parties. If DigiCert determines that a continued operation could pose a significant risk to Relying Parties or Subscribers, DigiCert suspends such operation until it determines that the risk is mitigated.

5.7.3. Entity Private Key Compromise Procedures

If DigiCert suspects that one of its Private Keys has been comprised or lost then an emergency response team will convene and assess the situation to determine the degree and scope of the incident and take appropriate action. Specifically, DigiCert will:

1. Collect information related to the incident;
2. Begin investigating the incident and determine the degree and scope of the compromise;
3. Have its incident response team determine and report on the course of action or strategy that should be taken to correct the problem and prevent reoccurrence;
4. If appropriate, contact government agencies, law enforcement, and other interested parties and activate any other appropriate additional security measures;
5. If the compromise involves a Private Key used to sign time-stamp tokens, provide a description of the compromise to Subscribers and Relying Parties;
6. Notify any cross-certified entities of the compromise so that they can revoke their cross-Certificates;
7. Make information available that can be used to identify which Certificates and time-stamp tokens are affected, unless doing so would breach the privacy of a DigiCert user or the security of DigiCert's services;
8. Monitor its system, continue its investigation, ensure that data is still being recorded as evidence, and make a forensic copy of data collected;
9. Isolate, contain, and stabilize its systems, applying any short-term fixes needed to return the system to a normal operating state;
10. Prepare and circulate an incident report that analyzes the cause of the incident and documents the lessons learned; and
11. Incorporate lessons learned into the implementation of long term solutions and the Incident Response Plan.

DigiCert may generate a new Key Pair and sign a new Certificate. If a disaster physically damages DigiCert's equipment and destroys all copies of DigiCert's signature keys then DigiCert will provide notice to affected parties at the earliest feasible time.

5.7.4. Business Continuity Capabilities after a Disaster

To maintain the integrity of its services, DigiCert implements data backup and recovery procedures as part of its Business Continuity Management Plan (BCMP). Stated goals of the BCMP are to ensure that certificate status services be only minimally affected by any disaster involving DigiCert's primary facility and that DigiCert be capable of maintaining other services or resuming them as quickly as possible following a disaster. DigiCert reviews, tests, and updates the BCMP and supporting procedures at least annually.

DigiCert's systems are redundantly configured at its primary facility and are mirrored at a separate, geographically diverse location for failover in the event of a disaster. If a disaster causes DigiCert's primary CA or TSA operations to become inoperative, DigiCert will re-initiate its operations at its secondary location giving priority to the provision of certificate status information and time stamping capabilities, if affected.

5.8. CA OR RA TERMINATION

Before terminating its CA or TSA activities, DigiCert will:

1. Provide notice and information about the termination by sending notice by email to its customers, Application Software Vendors, and cross-certifying entities and by posting such information on DigiCert's web site; and
2. Transfer all responsibilities to a qualified successor entity.

If a qualified successor entity does not exist, DigiCert will:

1. transfer those functions capable of being transferred to a reliable third party and arrange to preserve all relevant records with a reliable third party or a government, regulatory, or legal body with appropriate authority;
2. revoke all Certificates that are still un-revoked or un-expired on a date as specified in the notice and publish final CRLs;
3. destroy all Private Keys; and

4. make other necessary arrangements that are in accordance with this CPS.

DigiCert has made arrangements to cover the costs associated with fulfilling these requirements in case DigiCert becomes bankrupt or is unable to cover the costs. Any requirements of this section that are varied by contract apply only the contracting parties.

Whenever possible, the FPKIPA shall be notified at least two weeks prior to the termination of any CA cross-certified with the FBCA. For emergency termination, the CA shall follow the notification procedures in Section 5.7.

6. TECHNICAL SECURITY CONTROLS

6.1. KEY PAIR GENERATION AND INSTALLATION

6.1.1. Key Pair Generation

All keys must be generated using a FIPS-approved method or equivalent international standard.

DigiCert's CA Key Pairs are generated by multiple trusted individuals acting in trusted roles and using a cryptographic hardware device as part of scripted key generation ceremony. The cryptographic hardware is evaluated to FIPS 140-1 Level 3 and EAL 4+. Activation of the hardware requires the use of two-factor authentication tokens. DigiCert creates auditable evidence during the key generation process to prove that the CPS was followed and role separation was enforced during the key generation process. DigiCert requires that an external auditor witness the generation of any CA keys to be used as publicly trusted root Certificates or to sign EV Certificates. For other CA key pair generation ceremonies, an Internal Auditor, external auditor, or independent third party attends the ceremony, or an external auditor examines the signed and documented record of the key generation ceremony, as allowed by applicable policy.

Subscribers must generate their keys in a manner that is appropriate for the certificate type. DigiCert never creates key pairs for publicly trusted SSL/TLS Server Certificates. Certificates issued at Level 3 Hardware or at Level 4 Biometric must be generated on validated hardware cryptographic modules using a FIPS-approved method. For Adobe Signing Certificates, Subscribers must generate their Key Pairs in a medium that prevents exportation or duplication and that meets or exceeds FIPS 140-1 Level 2 certification standards.

6.1.2. Private Key Delivery to Subscriber

If DigiCert, a CMS, or an RA generates a key for a Subscriber, then it must deliver the Private Key securely to the Subscriber. Keys may be delivered electronically (such as through secure email or stored in a cloud-based system) or on a hardware cryptographic module. In all cases:

1. Except where escrow/backup services are authorized and permitted, the key generator must not retain access to the Subscriber's Private Key after delivery,
2. The key generator must protect the Private Key from activation, compromise, or modification during the delivery process,
3. The Subscriber must acknowledge receipt of the Private Key(s), typically by having the Subscriber use the related Certificate, and
4. The key generator must deliver the Private Key in a way that ensures that the correct tokens and activation data are provided to the correct Subscribers, including:
 - a. For hardware modules, the key generator maintaining accountability for the location and state of the module until the Subscriber accepts possession of it and
 - b. For electronic delivery of Private Keys, the key generator encrypting key material using a cryptographic algorithm and key size at least as strong as the Private Key. The key generator shall deliver activation data using a separate secure channel.

The entity assisting the Subscriber with key generation shall maintain a record of the Subscriber's acknowledgement of receipt of the device containing the Subscriber's Key Pair. A CMS or RA providing key delivery services is required to provide a copy of this record to DigiCert.

6.1.3. Public Key Delivery to Certificate Issuer

Subscribers generate Key Pairs and submit the Public Key to DigiCert in a CSR as part of the certificate request process. The Subscriber's signature on the request is authenticated prior to issuing the Certificate.

6.1.4. CA Public Key Delivery to Relying Parties

DigiCert's Public Keys are provided to Relying Parties as specified in a certificate validation or path discovery policy file, as trust anchors in commercial browsers and operating system root store, and/or as roots signed by other CAs. All accreditation authorities supporting DigiCert Certificates and all application software providers are permitted to redistribute DigiCert's root anchors.

DigiCert may also distribute Public Keys that are part of an updated signature Key Pair as a self-signed Certificate, as a new CA Certificate, or in a key roll-over Certificate. Relying Parties may obtain DigiCert's self-signed CA Certificates from DigiCert's web site or by email.

6.1.5. Key Sizes

DigiCert generally follows the NIST timelines in using and retiring signature algorithms and key sizes. Accordingly, DigiCert is phasing out its use of the SHA-1 hash algorithm. Currently, DigiCert generates and uses at least the following minimum key sizes, signature algorithms, and hash algorithms for signing Certificates, CRLs, and certificate status server responses for policy OID arcs of 2.16.840.1.114412.1, 2.16.840.1.114412.2, or 2.16.840.1.114412.4 (for FBCA Certificates):

2048-bit RSA Key or

384-bit ECDSA Key with Secure Hash Algorithm version 2 (SHA-256) or a hash algorithm that is equally or more resistant to a collision attack). Certificates that do not assert these certificate policies (see other policies listed in Section 1.2) may also be signed using the SHA-1 hash algorithm, provided that its use otherwise complies with requirements of the CA/Browser Forum or the relevant CP. Signatures on CRLs, OCSP responses, and OCSP responder Certificates that provide status information for Certificates that were generated using SHA-1 may continue to be generated using the SHA-1 algorithm. All other signatures on CRLs, OCSP responses, and OCSP responder Certificates must use the SHA-256 hash algorithm or one that is equally or more resistant to collision attack.

DigiCert requires end-entity Certificates to contain a key size that is at least 2048 bits for RSA, DSA, or Diffie-Hellman and 224 bits for elliptic curve algorithms.

DigiCert may require higher bit keys in its sole discretion.

Any Certificates (whether CA or end-entity) expiring after 12/31/2030 must be at least 3072-bit for RSA and 256-bit for ECDSA.

DigiCert and Subscribers may fulfill the transmission security requirements under the CP and this CPS using TLS or another protocol that provides similar security, provided the protocol requires at least AES 128 bits or equivalent for the symmetric key and at least 2048-bit RSA or equivalent for the asymmetric keys (and at least 3072 bit RSA or equivalent for asymmetric keys after 12/31/2030).

6.1.6. Public Key Parameters Generation and Quality Checking

DigiCert uses a cryptomodule that conforms to FIPS 186-2 and provides random number generation and on-board generation of up to 4096-bit RSA Public Keys and a wide range of ECC curves. The value of this public exponent equates to an odd number equal to three or more.

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

DigiCert's Certificates include key usage extension fields that specify the intended use of the Certificate and technically limit the Certificate's functionality in X.509v3-compliant software.

The use of a specific key is determined by the key usage extension in the X.509 Certificate.

Private Keys corresponding to Root CA Certificates are not used to sign Certificates except in the following cases:

1. Self-signed Certificates to represent the Root CA itself;
2. Certificates for Subordinate CAs and Cross Certificates;
3. Certificates for infrastructure purposes (e.g. administrative role certificates, internal CA operational device certificates; and
4. Certificates for OCSP Response verification

Subscriber Certificates assert key usages based on the intended application of the Key Pair. In particular, Certificates to be used for digital signatures (including authentication) set the digitalSignature and/or nonRepudiation bits. Certificates to be used for key or data encryption shall set the keyEncipherment and/or dataEncipherment bits. Certificates to be used for key agreement shall set the keyAgreement bit.

Key usage bits and extended key usages are specified in the certificate profile for each type of Certificate. DigiCert's CA Certificates have at least two key usage bits set: keyCertSign and cRLSign, and for signing OCSP responses, the digitalSignature bit is also set.

Except for legacy applications requiring a single key for dual use with both encryption and signature, DigiCert does not issue Certificates with key usage for both signing and encryption. Instead, DigiCert issues Subscribers two Key Pairs—one for key management and one for digital signature and authentication. For Certificates at Levels 1, 2 and 3 that are used for signing and encryption in support of legacy applications, they must:

1. be generated and managed in accordance with their respective signature certificate requirements, except where otherwise noted in this CPS,
2. never assert the non-repudiation key usage bit, and
3. not be used for authenticating data that will be verified on the basis of the dual-use Certificate at a future time.

No Level 4 Certificates may have such dual-use Key Pairs.

6.2. PRIVATE KEY PROTECTION AND CRYPTOGRAPHIC MODULE ENGINEERING CONTROLS

6.2.1. Cryptographic Module Standards and Controls

DigiCert's cryptographic modules for all of its CA and OCSP responder Key Pairs are validated to the FIPS 140 Level 3. IGTF Certificate Subscribers must protect their Private Keys in accordance with the applicable Guidelines on Private Key Protection, including the use of strong pass phrases to protect Private Keys.

Cryptographic module requirements for subscribers and registration authorities are shown in the table below.

Assurance Level	Subscriber	Registration Authority
EV Code Signing	FIPS 140 Level 2 (Hardware)	FIPS 140 Level 2 (Hardware)
Adobe Signing	FIPS 140 Level 2 (Hardware)	FIPS 140 Level 2 (Hardware)
Rudimentary	N/A	FIPS 140 Level 1 (Hardware or Software)

Basic, LOA2, and LOA3	FIPS 140 Level 1 (Hardware or Software)	FIPS 140 Level 1 (Hardware or Software)
Medium	FIPS 140 Level 1 (Software) FIPS 140 Level 2 (Hardware)	FIPS 140 Level 2 (Hardware)
Medium Hardware, Biometric /Hardware Authentication	FIPS 140 Level 2 (Hardware)	FIPS 140 Level 2 (Hardware)

DigiCert ensures that the Private Key of an EV Code Signing Certificate is properly generated, used, and stored in a cryptomodule that meets or exceeds the requirements of FIPS 140 level 2 by (i) shipping conforming cryptomodules with preinstalled Key Pairs, (ii) communicating via PKCS#11 crypto APIs of cryptomodules that DigiCert has verified meet or exceed requirements, or (iii) obtaining an IT audit from the Subscriber that indicates compliance with FIPS 140-2 level 2 or the equivalent.

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

DigiCert's authentication mechanisms are protected securely when not in use and may only be accessed by actions of multiple trusted persons.

Backups of CA Private Keys are securely stored off-site and require two-person access. Re-activation of a backed-up CA Private Key (unwrapping) requires the same security and multi-person control as when performing other sensitive CA Private Key operations.

6.2.3. Private Key Escrow

DigiCert does not escrow its signature keys. Subscribers may not escrow their private signature keys. DigiCert may provide escrow services for other types of Certificates in order to provide key recovery as described in section 4.12.1.

6.2.4. Private Key Backup

DigiCert's Private Keys are generated and stored inside DigiCert's cryptographic module, which has been evaluated to at least FIPS 140 Level 3 and EAL 4+. When keys are transferred to other media for backup and disaster recovery purposes, the keys are transferred and stored in an encrypted form. DigiCert's CA Key Pairs are backed up by multiple trusted individuals using a cryptographic hardware device as part of scripted and video-recorded key backup process.

DigiCert may provide backup services for Private Keys that are not required to be kept on a hardware device. Access to back up Certificates is protected in a manner that only the Subscriber can control the Private Key. Backed up keys are never stored in a plain text form outside of the cryptographic module.

6.2.5. Private Key Archival

DigiCert does not archive Private Keys.

6.2.6. Private Key Transfer into or from a Cryptographic Module

All keys must be generated by and in a cryptographic module. Private Keys are exported from the cryptographic module into backup tokens only for HSM transfer, offline storage, and backup purposes. The Private Keys are encrypted when transferred out of the module and never exist in plaintext form. When transported between cryptographic modules, DigiCert encrypts the Private Key and protects the keys used for encryption from disclosure. Private Keys used to encrypt backups are securely stored and require two-person access. If DigiCert becomes aware that a Subordinate CA's Private Key has been communicated to an unauthorized person or an organization not affiliated with the Subordinate CA, then DigiCert will revoke all certificates that include the Public Key corresponding to the communicated Private Key.

6.2.7. Private Key Storage on Cryptographic Module

DigiCert's Private Keys are generated and stored inside DigiCert's cryptographic module, which has been evaluated to at least FIPS 140 Level 3 and EAL 4+. Root Private Keys are stored offline in cryptographic modules or backup tokens as described above in Sections 6.2.2, 6.2.4, and 6.2.6.

6.2.8. Method of Activating Private Keys

DigiCert's Private Keys are activated according to the specifications of the cryptographic module manufacturer. Activation data entry is protected from disclosure.

Subscribers are solely responsible for protecting their Private Keys. Subscribers should use a strong password or equivalent authentication method to prevent unauthorized access or use of the Subscriber's Private Key. At a minimum, Subscribers are required to authenticate themselves to the cryptographic module before activating their Private Keys. *See also* Section 6.4.

6.2.9. Method of Deactivating Private Keys

DigiCert's Private Keys are deactivated via logout procedures on the applicable HSM device when not in use. DigiCert never leaves its HSM devices in an active unlocked or unattended state.

Subscribers should deactivate their Private Keys via logout and removal procedures when not in use.

6.2.10. Method of Destroying Private Keys

DigiCert personnel, acting in trusted roles, destroy CA, RA, and status server Private Keys when no longer needed. Subscribers shall destroy their Private Keys when the corresponding Certificate is revoked or expired or if the Private Key is no longer needed.

DigiCert may destroy a Private Key by deleting it from all known storage partitions. DigiCert also zeroizes the HSM device and associated backup tokens according to the specifications of the hardware manufacturer. This reinitializes the device and overwrites the data with binary zeros. If the zeroization or re-initialization procedure fails, DigiCert will crush, shred, and/or incinerate the device in a manner that destroys the ability to extract any Private Key.

6.2.11. Cryptographic Module Rating

See Section 6.2.1.

6.3. OTHER ASPECTS OF KEY PAIR MANAGEMENT

6.3.1. Public Key Archival

DigiCert archives copies of Public Keys in accordance with Section 5.5.

6.3.2. Certificate Operational Periods and Key Pair Usage Periods

DigiCert Certificates have maximum validity periods of:

Type	Private Key Use	Certificate Term
Root CA	20 years	25 years
Sub CA*	12 years	15 years
FBCA-Cross-certified Sub CAs	6 years (period of key use for signing Certificates)	10 years (key still signs CRLs, OCSP responses, and OCSP responder Certificates)
IGTF Cross-certified Sub CA*	6 years	15 years
CRL and OCSP responder signing	3 years	31 days [†]
OV SSL/TLS Server	No stipulation	825 days
EV SSL/TLS Server	No stipulation	825 days
Time Stamping Authority	15 months	135 months
Object Signing Certificate and Document	No stipulation [‡]	123 months

Type	Private Key Use	Certificate Term
Signing		
Code Signing Certificate issued to Subscriber under the Minimum Requirements for Code Signing Certificates or the EV Code Signing Guidelines	No stipulation	39 months
EV Code Signing Certificate issued to Signing Authority	123 months	123 months
Adobe Signing Certificate	39 months	5 years
FBCA and IGTF End Entity Client used for signatures	36 months	36 months
FBCA and IGTF Client used for key management.	36 months	36 months
End Entity Client for all other purposes (FBCA or IGTF compliant)	36 months	36 months
End Entity / Client for all other purposes (non-FBCA and non-IGTF certs)	No Stipulation	60 months
IGTF on hardware	60 months	13 months
Hotspot 2.0 OSU Server Certificates	No stipulation	2 years

* IGTF signing Certificates have a lifetime that is at least twice the maximum lifetime of an end entity Certificate.

‡ Code and content signers cross-certified with FBCA may use their Private Keys for three years; the lifetime of the associated Public Keys shall not exceed eight years.

Relying parties may still validate signatures generated with these keys after expiration of the Certificate. Private Keys associated with self-signed root Certificates that are distributed as trust anchors are used for a maximum of 20 years.

DigiCert may voluntarily retire its CA Private Keys before the periods listed above to accommodate key changeover processes. DigiCert does not issue Subscriber Certificates with an expiration date that is past the Issuer CA's public key expiration date or that exceeds the routine re-key identification requirements specified in Section 3.1.1.

6.4. ACTIVATION DATA

6.4.1. Activation Data Generation and Installation

DigiCert activates the cryptographic module containing its CA Private Keys according to the specifications of the hardware manufacturer. This method has been evaluated as meeting the requirements of FIPS 140-2 Level 3. The cryptographic hardware is held under two-person control as explained in Section 5.2.2 and elsewhere in this CPS. DigiCert will only transmit activation data via an appropriately protected channel and at a time and place that is distinct from the delivery of the associated cryptographic module.

All DigiCert personnel and Subscribers are instructed to use strong passwords and to protect PINs and passwords. If DigiCert uses passwords as activation data for a signing key, DigiCert will change the activation data change upon rekey of the CA Certificate.

6.4.2. Activation Data Protection

DigiCert protects data used to unlock Private Keys from disclosure using a combination of cryptographic and physical access control mechanisms. Protection mechanisms include keeping activation mechanisms secure using role-based physical control. All DigiCert personnel are instructed to memorize and not to write down their password or share it with another individual. DigiCert locks accounts used to access secure CA processes if a certain number of failed password attempts occur.

6.4.3. Other Aspects of Activation Data

No stipulation.

6.5. *COMPUTER SECURITY CONTROLS*

6.5.1. Specific Computer Security Technical Requirements

DigiCert secures its CA systems and authenticates and protects communications between its systems and trusted roles. DigiCert's CA servers and support-and-vetting workstations run on trustworthy systems that are configured and hardened using industry best practices. All CA systems are scanned for malicious code and protected against spyware and viruses.

DigiCert's CA systems, including any remote workstations, are configured to:

1. authenticate the identity of users before permitting access to the system or applications,
2. manage the privileges of users and limit users to their assigned roles,
3. generate and archive audit records for all transactions,
4. enforce domain integrity boundaries for security critical processes, and
5. support recovery from key or system failure.

All Certificate Status Servers:

1. authenticate the identity of users before permitting access to the system or applications,
2. manage privileges to limit users to their assigned roles,
3. enforce domain integrity boundaries for security critical processes, and
4. support recovery from key or system failure.

DigiCert enforces multi-factor authentication on any account capable of directly causing Certificate issuance.

6.5.2. Computer Security Rating

No stipulation.

6.6. *LIFE CYCLE TECHNICAL CONTROLS*

6.6.1. System Development Controls

DigiCert has mechanisms in place to control and monitor the acquisition and development of its CA systems. Change requests require the approval of at least one administrator who is different from the person submitting the request. DigiCert only installs software on CA systems if the software is part of the CA's operation. CA hardware and software are dedicated to performing operations of the CA.

Vendors are selected based on their reputation in the market, ability to deliver quality product, and likelihood of remaining viable in the future. Management is involved in the vendor selection and purchase decision process. Non-PKI hardware and software is purchased without identifying the purpose for which the component will be used. All hardware and software are shipped under standard conditions to ensure delivery of the component directly to a trusted employee who ensures that the equipment is installed without opportunity for tampering.

Some of the PKI software components used by DigiCert are developed in-house or by consultants using standard software development methodologies. All such software is designed and developed in a controlled environment and subjected to quality assurance review. Other software is purchased commercial off-the-shelf (COTS). Quality assurance is maintained throughout the process through testing and documentation or by purchasing from trusted vendors as discussed above.

Updates of equipment and software are purchased or developed in the same manner as the original equipment or software and are installed and tested by trusted and trained personnel. All hardware and software essential to DigiCert's operations is scanned for malicious code on first use and periodically thereafter.

6.6.2. Security Management Controls

DigiCert has mechanisms in place to control and monitor the security-related configurations of its CA systems. When loading software onto a CA system, DigiCert verifies that the software is the correct version and is supplied by the vendor free of any modifications. DigiCert verifies the integrity of software used with its CA processes at least once a week.

6.6.3. Life Cycle Security Controls

No stipulation.

6.7. NETWORK SECURITY CONTROLS

DigiCert documents and controls the configuration of its systems, including any upgrades or modifications made. DigiCert's CA system is connected to one internal network and is protected by firewalls and Network Address Translation for all internal IP addresses (e.g., 192.168.x.x). DigiCert's customer support and vetting workstations are also protected by firewall(s) and only use internal IP addresses. Root Keys are kept offline and brought online only when necessary to sign Certificate-issuing subordinate CAs, OCSP Responder Certificates, or periodic CRLs. Firewalls and boundary control devices are configured to allow access only by the addresses, ports, protocols and commands required for the trustworthy provision of PKI services by such systems.

DigiCert's security policy is to block all ports and protocols and open only ports necessary to enable CA functions. All CA equipment is configured with a minimum number of services and all unused network ports and services are disabled. DigiCert's network configuration is available for review on-site by its auditors and consultants under an appropriate non-disclosure agreement.

6.8. TIME-STAMPING

The system time on DigiCert's computers is updated using the Network Time Protocol (NTP) to synchronize system clocks at least once every eight hours (Windows default). All times are traceable to a real time value distributed by a UTC(k) laboratory or National Measurement Institute and are updated when a leap second occurs as notified by the appropriate body. DigiCert maintains an internal NTP server that synchronizes with cellular telephone networks and maintains the accuracy of its clock within one second or less. For each timestamp request the internal NTP server is queried for the current time. However, Relying Parties should be aware that all times included in a time-stamp token are synchronized with UTC within the accuracy defined in the time-stamp token itself, if present.

DigiCert will not issue a time-stamp token using any clock that is detected as inaccurate. All clocks used for time-stamping are housed in the DigiCert's secure facilities and are protected against threats that could result in an unexpected change to the clock's time. DigiCert's facilities automatically detect and report any clock that drifts or jumps out of synchronization with UTC. Clock adjustments are auditable events.

Some aspects of RFC 3161 time stamps differ from Microsoft Authenticode time stamps. For RFC 3161-compliant timestamps, DigiCert includes a unique integer for each newly generated time-stamp token. DigiCert only time-stamps hash representations of data, not the data itself. Information can be hashed for time-stamping using SHA-1 or SHA-256 with RSA encryption and either 1024 or 2048 bit key size for signature creation. (SHA-1, SHA-256, SHA-384, SHA-512, MD5, MD4, and MD2 are supported for RFC 3161-based requests.) DigiCert does not examine the imprint being time-stamped other than to check the imprint's length. DigiCert also does not include any identification of the Time Stamp Token Requester (TST Requester) in the time-stamp token. All time-stamp tokens are signed using a key generated exclusively for that purposes and have the property of the key indicated in the Certificate.

TST Requesters request time-stamp tokens by sending a request to DigiCert. After the TST Requester receives a response from DigiCert, it must verify the status error returned in the response. If an error was not returned, the TST Requester must then verify the fields contained in the time-stamp token and the validity of the time-stamp token's digital signature. In particular, the TST Requester must verify that the time-stamped data corresponds to what was requested and that the time-stamp token contains the correct certificate

identifier, the correct data imprint, and the correct hash algorithm OID. The TST Requester must also verify the timeliness of the response by verifying the response against a local trusted time reference. The TST Requester is required to notify DigiCert immediately if any information cannot be verified.

Time Stamp Verifiers shall verify the digital signature on the time-stamp token and confirm that the data corresponds to the hash value in the time-stamp token.

7. CERTIFICATE, CRL, AND OCSP PROFILES

DigiCert uses the ITU X.509, version 3 standard to construct digital Certificates for use within the DigiCert PKI. DigiCert adds certain certificate extensions to the basic certificate structure for the purposes intended by X.509v3 as per Amendment 1 to ISO/IEC 9594-8, 1995. DigiCert generates non-sequential Certificate serial numbers (positive numbers greater than zero) that contain at least 64 bits of output from a CSPRNG.

7.1. CERTIFICATE PROFILE

7.1.1. Version Number(s)

All Certificates are X.509 version 3 Certificates.

7.1.2. Certificate Extensions

IGTF Certificates comply with the Grid Certificate Profile as defined by the Open Grid Forum GFD.125.

Subordinate CA Certificates created after January 1, 2019 for publicly trusted certificates, with the exception of cross-certificates that share a private key with a corresponding root certificate: will contain an EKU extension; and cannot include the anyExtendedKeyUsage KeyPurposeId; DigiCert no longer includes both the id-kp-serverAuth and id-kp-emailProtection KeyPurposeIds in the same certificate.

DigiCert's Technically Constrained Subordinate CA Certificates include an Extended Key Usage (EKU) extension specifying all extended key usages for which the Subordinate CA Certificate is authorized to issue certificates. The anyExtendedKeyUsage KeyPurposeId does not appear in the EKU extension of publicly trusted certificates.

7.1.3. Algorithm Object Identifiers

DigiCert Certificates are signed using one of the following algorithms:

sha-1WithRSAEncryption	[iso(1) member-body(2) us(840) rsadsi(113549) pkcs(1) pkcs-1(1) 5]
sha256WithRSAEncryption	[iso(1) member-body(2) us(840) rsadsi(113549) pkcs(1) pkcs-1(1) 11]
ecdsa-with-sha384	[iso(1) member-body(2) us(840) ansi-X9-62(10045) signatures (4) ecdsa-with-SHA2 (3) 3]

DigiCert does not currently sign Certificates using RSA with PSS padding. SSL/TLS Server Certificates and OCSP Certificates are not signed with sha-1WithRSAEncryption.

DigiCert and Subscribers may generate Key Pairs using the following:

id-dsa	[iso(1) member-body(2) us(840) x9-57(10040) x9cm(4) 1]
RsaEncryption	[iso(1) member-body(2) us(840) rsadsi(113549) pkcs(1) pkcs-1(1) 1]
Dhpublicnumber	[iso(1) member-body(2) us(840) ansi-x942(10046) number-type(2) 1]
id-keyExchangeAlgorithm	[joint-iso-ccitt(2) country(16) us(840) organization(1) gov(101) dod(2) infosec(1) algorithms(1) 22]
id-ecPublicKey	[iso(1) member-body(2) us(840) ansi-X9-62(10045) id-publicKeyType(2) 1]

Elliptic curve Public Keys submitted to DigiCert for inclusion in end entity Certificates should all be based on NIST "Suite B" curves.

DigiCert does not issue publicly trusted SSL/TLS Certificates to a Reserved IP address or Internal Name.

7.1.4. Name Forms

Each Certificate includes a unique serial number that is never reused. Optional subfields in the subject of an SSL Certificate must either contain information verified by DigiCert or be left empty. SSL/TLS Server Certificates cannot contain metadata such as ' ', '-' and '' characters or any other indication that the field is not applicable. DigiCert logically restricts OU fields from containing Subscriber information that has not been verified in accordance with Section 3.

For CA certificates, the commonName attribute is present and the contents is an identifier that uniquely identifies the CA and distinguishes it from other CAs.

The content of the Certificate Issuer Distinguished Name field matches the Subject DN of the Issuer CA to support name chaining as specified in RFC 5280, section 4.1.2.4.

The contents of the fields in EV Certificates must meet the requirements in Section 8.1 of the EV Guidelines.

7.1.5. Name Constraints

DigiCert may include name constraints in the nameConstraints field when appropriate.

7.1.5.1. Name-Constrained serverAuth CAs

If the Subordinate CA Certificate includes the id-kp-serverAuth extended key usage, then a technically constrained Subordinate CA Certificate includes the Name Constraints X.509v3 extension with constraints on dNSName, iPAddress and DirectoryName as follows:

- (a) For each dNSName in permittedSubtrees, the DigiCert confirms that the Applicant has registered the dNSName or has been authorized by the domain registrant to act on the registrant's behalf in line with the verification practices of Baseline Requirements section 3.2.2.4.
- (b) For each iPAddress range in permittedSubtrees, DigiCert confirms that the Applicant has been assigned the iPAddress range or has been authorized by the assigner to act on the assignee's behalf.
- (c) For each DirectoryName in permittedSubtrees the DigiCert confirms the Applicant's and/or Subsidiary's Organizational name(s) and location(s) such that end entity certificates issued from the subordinate CA Certificate will comply with section 7.1.2.4 and 7.1.2.5 of the Baseline Requirements. If the Subordinate CA Certificate is not allowed to issue certificates with an iPAddress, then the Subordinate CA Certificate specifies the entire IPv4 and IPv6 address ranges in excludedSubtrees. The Subordinate CA Certificate includes within excludedSubtrees an iPAddress GeneralName of 8 zero octets (covering the IPv4 address range of 0.0.0.0/0). The Subordinate CA Certificate also includes within excludedSubtrees an iPAddress GeneralName of 32 zero octets (covering the IPv6 address range of ::0/0). Otherwise, the Subordinate CA Certificate includes at least one iPAddress in permittedSubtrees.

If the Subordinate CA is not allowed to issue certificates with dNSNames, then the Subordinate CA Certificate includes a zero-length dNSName in excludedSubtrees. Otherwise, the Subordinate CA Certificate includes at least one dNSName in permittedSubtrees.

7.1.5.2. Name-Constrained emailProtection CAs

If the technically constrained Subordinate CA certificate includes the id-kp-emailProtection extended key usage, it also includes the Name Constraints X.509v3 extension with constraints on rfc822Name, with at least one name in permittedSubtrees, each such name having its ownership validated according to section 3.2.2.4 of the Baseline Requirements.

7.1.6. Certificate Policy Object Identifier

An object identifier (OID) is a unique number that identifies an object or policy. The OIDs used by DigiCert are listed in Section 1.2.

7.1.7. Usage of Policy Constraints Extension

Not applicable.

7.1.8. Policy Qualifiers Syntax and Semantics

DigiCert includes brief statements in Certificates about the limitations of liability and other terms associated with the use of a Certificate in the Policy Qualifier field of the Certificates Policy extension.

7.1.9. Processing Semantics for the Critical Certificate Policies Extension

No stipulation.

7.2. CRL PROFILE

7.2.1. Version number(s)

DigiCert issues version 2 CRLs that contain the following fields:

Field	Value
Issuer Signature Algorithm	sha-1WithRSAEncryption [1 2 840 113549 1 1 5] OR sha-256WithRSAEncryption [1 2 840 113549 1 1 11] OR ecdsa-with-sha384 [1 2 840 10045 4 3 3]
Issuer Distinguished Name	DigiCert
thisUpdate	CRL issue date in UTC format
nextUpdate	Date when the next CRL will issue in UTC format.
Revoked Certificates List	List of revoked Certificates, including the serial number and revocation date
Issuer's Signature	[Signature]

7.2.2. CRL and CRL Entry Extensions

CRLs have the following extensions:

Extension	Value
CRL Number	Never repeated monotonically increasing integer
Authority Key Identifier	Same as the Authority Key Identifier listed in the Certificate
Invalidity Date	Optional date in UTC format
Reason Code	Optional reason for revocation

7.3. OCSP PROFILE

7.3.1. Version Number(s)

DigiCert's OCSP responders conform to version 1 of RFC 6960.

7.3.2. OCSP Extensions

No stipulation.

8. COMPLIANCE AUDIT AND OTHER ASSESSMENTS

The practices in this CPS are designed to meet or exceed the requirements of generally accepted industry standards, including the latest versions of the WebTrust Programs for Certification Authorities. For purposes of interoperation with the U.S. Government, compliance can be determined by reference to any current auditor letter of compliance meeting FPKIPA Audit Requirements. (Note: For business purposes, cross-signed CAs operated by third parties in Europe, who operate under their own CPSs, are audited in accordance with ETSI audit criteria.)

8.1. FREQUENCY OR CIRCUMSTANCES OF ASSESSMENT

DigiCert receives an annual period in time audit by an independent external auditor to assess DigiCert's compliance with this CPS, referenced requirements, any applicable CPs, FPKIPA Audit Requirements, and the WebTrust for CA programs criteria. The audit covers DigiCert's RA systems, Sub CAs, and OCSP Responders.

8.2. IDENTITY/QUALIFICATIONS OF ASSESSOR

WebTrust auditors must meet the requirements of Section 8.2 of the Baseline Requirements.

8.3. ASSESSOR'S RELATIONSHIP TO ASSESSED ENTITY

DigiCert's WebTrust / Federal PKI auditor does not have a financial interest, business relationship, or course of dealing that could foreseeably create a significant bias for or against DigiCert.

8.4. TOPICS COVERED BY ASSESSMENT

The audit covers DigiCert's business practices disclosure, the integrity of DigiCert's PKI operations, and DigiCert's compliance with this CPS and referenced requirements. The audit verifies that DigiCert is compliant with the CP, this CPS, and any MOA between it and any other PKI.

8.5. ACTIONS TAKEN AS A RESULT OF DEFICIENCY

If an audit reports a material noncompliance with applicable law, this CPS, the CP, or any other contractual obligations related to DigiCert's services, then (1) the auditor will document the discrepancy, (2) the auditor will promptly notify DigiCert, and (3) DigiCert will develop a plan to cure the noncompliance. DigiCert will submit the plan to the DCPA for approval and to any third party that DigiCert is legally obligated to satisfy. The DCPA may require additional action if necessary to rectify any significant issues created by the non-compliance, including requiring revocation of affected Certificates.

8.6. COMMUNICATION OF RESULTS

The results of each audit are reported to the DCPA and to any third party entities which are entitled by law, regulation, or agreement to receive a copy of the audit results. Copies of DigiCert's WebTrust for CAs audit reports can be found at: <https://www.digicert.com/webtrust-audits>. On an annual basis and within three months of completion, DigiCert submits copies of relevant audit compliance reports to various parties, such as Mozilla, Adobe, the Federal PKI Policy Authority, CA licensing bodies, etc.

8.7. SELF-AUDITS

On at least a quarterly basis, DigiCert performs regular internal audits against a randomly selected sample of at least three percent of its SSL/TLS Server Certificates and EV Code Signing Certificates issued since the last internal audit. Self-audits on server and code signing Certificates are performed in accordance with Guidelines adopted by the CA / Browser Forum.

9. OTHER BUSINESS AND LEGAL MATTERS

9.1. FEES

9.1.1. Certificate Issuance or Renewal Fees

DigiCert charges fees for certificate issuance and renewal. DigiCert may change its fees at any time in accordance with the applicable customer agreement.

9.1.2. Certificate Access Fees

DigiCert may charge a reasonable fee for access to its certificate databases.

9.1.3. Revocation or Status Information Access Fees

DigiCert does not charge a certificate revocation fee or a fee for checking the validity status of an issued Certificate using a CRL. DigiCert may charge a fee for providing certificate status information via OCSP.

9.1.4. Fees for Other Services

No stipulation.

9.1.5. Refund Policy

Subscribers must request refunds, in writing, within 30 days after a Certificate issues. After receiving the refund request, DigiCert may revoke the Certificate and refund the amount paid by the Applicant, minus any applicable application processing fees.

9.2. *FINANCIAL RESPONSIBILITY*

9.2.1. Insurance Coverage

DigiCert maintains Commercial General Liability insurance with a policy limit of at least \$2 million in coverage and Professional Liability/Errors & Omissions insurance with a policy limit of at least \$5 million in coverage. Insurance is carried through companies rated no less than A- as to Policy Holder's Rating in the current edition of Best's Insurance Guide (or with an association of companies, each of the members of which are so rated).

9.2.2. Other Assets

No stipulation.

9.2.3. Insurance or Warranty Coverage for End-Entities

DigiCert provides a warranty to Subscribers according to the terms of the Netsure Extended Warranty Protection Plan. DigiCert provides a limited warranty to Relying Parties in DigiCert's Relying Party Agreement.

9.3. *CONFIDENTIALITY OF BUSINESS INFORMATION*

9.3.1. Scope of Confidential Information

The following information is considered confidential and protected against disclosure using a reasonable degree of care:

1. Private Keys;
2. Activation data used to access Private Keys or to gain access to the CA system;
3. Business continuity, incident response, contingency, and disaster recovery plans;
4. Other security practices used to protect the confidentiality, integrity, or availability of information;
5. Information held by DigiCert as private information in accordance with Section 9.4;
6. Audit logs and archive records; and
7. Transaction records, financial audit records, and external or internal audit trail records and any audit reports (with the exception of an auditor's letter confirming the effectiveness of the controls set forth in this CPS).

9.3.2. Information Not Within the Scope of Confidential Information

Any information not listed as confidential is considered public information. Published Certificate and revocation data is considered public information.

9.3.3. Responsibility to Protect Confidential Information

DigiCert's employees, agents, and contractors are responsible for protecting confidential information and are contractually obligated to do so. Employees receive training on how to handle confidential information.

9.4. *PRIVACY OF PERSONAL INFORMATION*

9.4.1. Privacy Plan

DigiCert follows the privacy policy posted on its website when handling personal information. Personal information is only disclosed when the disclosure is required by law or when requested by the subject of the personal information.

9.4.2. Information Treated as Private

DigiCert treats all personal information about an individual that is not publicly available in the contents of a Certificate or CRL as private information. DigiCert protects private information using appropriate safeguards and a reasonable degree of care.

9.4.3. Information Not Deemed Private

Private information does not include Certificates, CRLs, or their contents.

9.4.4. Responsibility to Protect Private Information

DigiCert employees and contractors are expected to handle personal information in strict confidence and meet the requirements of US and European law concerning the protection of personal data. All sensitive information is securely stored and protected against accidental disclosure.

9.4.5. Notice and Consent to Use Private Information

Personal information obtained from an applicant during the application or identity verification process is considered private information if the information is not included in a Certificate. DigiCert will only use private information after obtaining the subject's consent or as required by applicable law or regulation. All Subscribers must consent to the global transfer and publication of any personal data contained in a Certificate.

9.4.6. Disclosure Pursuant to Judicial or Administrative Process

DigiCert may disclose private information, without notice, if DigiCert believes the disclosure is required by law or regulation.

9.4.7. Other Information Disclosure Circumstances

No stipulation.

9.5. *INTELLECTUAL PROPERTY RIGHTS*

DigiCert and/or its business partners own the intellectual property rights in DigiCert's services, including the Certificates, trademarks used in providing the services, and this CPS. "DigiCert" is a registered trademark of DigiCert, Inc.

Certificate and revocation information are the property of DigiCert. DigiCert grants permission to reproduce and distribute Certificates on a non-exclusive and royalty-free basis, provided that they are reproduced and distributed in full. DigiCert does not allow derivative works of its Certificates or products without prior written permission. Private and Public Keys remain the property of the Subscribers who rightfully hold them. All secret shares (distributed elements) of the DigiCert Private Keys are the property of DigiCert.

9.6. *REPRESENTATIONS AND WARRANTIES*

9.6.1. CA Representations and Warranties

Except as expressly stated in this CPS or in a separate agreement with a Subscriber, DigiCert does not make any representations regarding its products or services. DigiCert represents, to the extent specified in this CPS, that:

1. DigiCert complies, in all material aspects, with the CP, this CPS, and all applicable laws and regulations,
2. DigiCert publishes and updates CRLs and OCSP responses on a regular basis,
3. All Certificates issued under this CPS will be verified in accordance with this CPS and meet the minimum requirements found herein and in the Baseline Requirements,
4. DigiCert will maintain a repository of public information on its website, and
5. Information published on a qualified Certificate meets the requirements specified in EU law.

To the extent allowed under EU law, DigiCert:

1. Does not warrant the accuracy, authenticity, completeness, or fitness of any unverified information, including name verification for (1) Certificates intended for email and intranet use, (2) Multi-SAN Certificates, and (3) other Certificates issued to individuals and intranets.
2. Is not responsible for information contained in a Certificate except as stated in this CPS,
3. Does not warrant the quality, function, or performance of any software or hardware device, and
4. Is not responsible for failing to comply with this CPS because of circumstances outside of DigiCert's control.

For EV Certificates, DigiCert represents to Subscribers, Subjects, Application Software Vendors that distribute DigiCert's root Certificates, and Relying Parties that use a DigiCert Certificate while the Certificate is valid that DigiCert followed the EV Guidelines when verifying information and issuing EV Certificates.

This representation is limited solely to DigiCert's compliance with the EV Guidelines (e.g., DigiCert may rely on erroneous information provided in an attorney's opinion or accountant's letter that is checked in accordance with the Guidelines).

9.6.2. RA Representations and Warranties

RAs represent that:

1. The RA's certificate issuance and management services conform to the DigiCert CP and this CPS,
2. Information provided by the RA does not contain any false or misleading information,
3. Translations performed by the RA are an accurate translation of the original information, and
4. All Certificates requested by the RA meet the requirements of this CPS.

DigiCert's agreement with the RA may contain additional representations.

9.6.3. Subscriber Representations and Warranties

Prior to being issued and receiving a Certificate, subscribers are solely responsible for any misrepresentations they make to third parties and for all transactions that use Subscriber's Private Key, regardless of whether such use was authorized. Subscribers are required to notify DigiCert and any applicable RA if a change occurs that could affect the status of the Certificate.

DigiCert requires, as part of the Subscriber Agreement or Terms of Use, that the Applicant make the commitments and warranties in this section for the benefit of DigiCert and the Certificate Beneficiaries. Prior to the issuance of a Certificate, DigiCert will obtain, for the express benefit of DigiCert and the Certificate Beneficiaries, either:

1. The Applicant's agreement to the Subscriber Agreement with DigiCert, or
2. The Applicant's acknowledgement of the Terms of Use.

Subscribers represent to DigiCert, Application Software Vendors, and Relying Parties that, for each Certificate, the Subscriber will:

1. Securely generate its Private Keys and protect its Private Keys from compromise,
2. Provide accurate and complete information when communicating with DigiCert,
3. Confirm the accuracy of the certificate data prior to using the Certificate,
4. Promptly (i) request revocation of a Certificate, cease using it and its associated Private Key, and notify DigiCert if there is any actual or suspected misuse or compromise of the Private Key associated with the Public Key included in the certificate, and (ii) request revocation of the Certificate, and cease using it, if any information in the Certificate is or becomes incorrect or inaccurate,
5. Ensure that individuals using Certificates on behalf of an organization have received security training appropriate to the Certificate,
6. Use the Certificate only for authorized and legal purposes, consistent with the certificate purpose, this CPS, any applicable CP, and the relevant Subscriber Agreement, including only installing SSL/TLS Server Certificates on servers accessible at the domain listed in the Certificate and not using code

signing Certificates to sign malicious code or any code that is downloaded without a user's consent, and

7. Promptly cease using the Certificate and related Private Key after the Certificate's expiration.

9.6.4. Relying Party Representations and Warranties

Each Relying Party represents that, prior to relying on a DigiCert Certificate, it:

1. Obtained sufficient knowledge on the use of digital Certificates and PKI,
2. Studied the applicable limitations on the usage of Certificates and agrees to DigiCert's limitations on liability related to the use of Certificates,
3. Has read, understands, and agrees to the DigiCert Relying Party Agreement and this CPS,
4. Verified both the DigiCert Certificate and the Certificates in the certificate chain using the relevant CRL or OCSP,
5. Will not use a DigiCert Certificate if the Certificate has expired or been revoked, and
6. Will take all reasonable steps to minimize the risk associated with relying on a digital signature, including only relying on a DigiCert Certificate after considering:
 - a) applicable law and the legal requirements for identification of a party, protection of the confidentiality or privacy of information, and enforceability of the transaction;
 - b) the intended use of the Certificate as listed in the certificate or this CPS,
 - c) the data listed in the Certificate,
 - d) the economic value of the transaction or communication,
 - e) the potential loss or damage that would be caused by an erroneous identification or a loss of confidentiality or privacy of information in the application, transaction, or communication,
 - f) the Relying Party's previous course of dealing with the Subscriber,
 - g) the Relying Party's understanding of trade, including experience with computer-based methods of trade, and
 - h) any other indicia of reliability or unreliability pertaining to the Subscriber and/or the application, communication, or transaction.

Any unauthorized reliance on a Certificate is at a party's own risk.

9.6.5. Representations and Warranties of Other Participants

No stipulation.

9.7. DISCLAIMERS OF WARRANTIES

EXCEPT AS EXPRESSLY STATED IN SECTION 9.6.1, ALL CERTIFICATES AND ANY RELATED SOFTWARE AND SERVICES ARE PROVIDED "AS IS" AND "AS AVAILABLE". TO THE MAXIMUM EXTENT PERMITTED BY LAW, DIGICERT DISCLAIMS ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING ALL WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. DIGICERT DOES NOT WARRANT THAT ANY SERVICE OR PRODUCT WILL MEET ANY EXPECTATIONS OR THAT ACCESS TO CERTIFICATES WILL BE TIMELY OR ERROR-FREE. DigiCert does not guarantee the availability of any products or services and may modify or discontinue any product or service offering at any time. A fiduciary duty is not created simply because an entity uses DigiCert's services.

9.8. LIMITATIONS OF LIABILITY

NOTHING HEREIN LIMITS LIABILITY RELATED TO (I) DEATH OR PERSONAL INJURY RESULTING FROM DIGICERT'S NEGLIGENCE OR (II) FRAUD COMMITTED BY DIGICERT. EXCEPT AS STATED ABOVE, ANY ENTITY USING A DIGICERT CERTIFICATE OR SERVICE WAIVES ALL LIABILITY OF DIGICERT RELATED TO SUCH USE, PROVIDED THAT DIGICERT HAS MATERIALLY COMPLIED WITH THIS CPS IN PROVIDING THE CERTIFICATE OR SERVICE. DIGICERT'S LIABILITY FOR CERTIFICATES AND SERVICES THAT DO NOT MATERIALLY COMPLY WITH THIS CPS IS LIMITED AS SET FORTH IN THE NETSURE EXTENDED WARRANTY PROTECTION PLAN AND THE DIGICERT RELYING PARTY AGREEMENT.

All liability is limited to actual and legally provable damages. DigiCert is not liable for:

1. Any indirect, consequential, special, or punitive damages or any loss of profit, revenue, data, or opportunity, even if DigiCert is aware of the possibility of such damages;

2. Liability related to fraud or willful misconduct of the Applicant;
3. Liability related to use of a Certificate that exceeds the limitations on use, value, or transactions as stated either in the Certificate or this CPS;
4. Liability related to the security, usability, or integrity of products not supplied by DigiCert, including the Subscriber's and Relying Party's hardware; or
5. Liability related to the compromise of a Subscriber's Private Key.

The limitations in this section apply to the maximum extent permitted by law and apply regardless of (i) the reason for or nature of the liability, including tort claims, (ii) the number of claims of liability, (iii) the extent or nature of the damages, (iv) whether DigiCert failed to follow any provision of this CPS, or (v) whether any provision of this CPS was proven ineffective.

The disclaimers and limitations on liabilities in this CPS are fundamental terms to the use of DigiCert's Certificates and services.

9.9. INDEMNITIES

9.9.1. Indemnification by DigiCert

DigiCert shall indemnify each Application Software Vendor against any claim, damage, or loss suffered by an Application Software Vendor related to an EV Certificate issued by DigiCert, regardless of the cause of action or legal theory involved, except where the claim, damage, or loss suffered by the Application Software Vendor was directly caused by the Application Software Vendor's software displaying either (1) a valid and trustworthy EV Certificate as not valid or trustworthy or (2) displaying as trustworthy (i) an EV Certificate that has expired or (ii) a revoked EV Certificate where the revocation status is available online but the Application Software Vendor's software failed to check or ignored the status.

9.9.2. Indemnification by Subscribers

To the extent permitted by law, each Subscriber shall indemnify DigiCert, its partners, and any cross-signed entities, and their respective directors, officers, employees, agents, and contractors against any loss, damage, or expense, including reasonable attorney's fees, related to (i) any misrepresentation or omission of material fact by Subscriber, regardless of whether the misrepresentation or omission was intentional or unintentional; (ii) Subscriber's breach of the Subscriber Agreement, this CPS, or applicable law; (iii) the compromise or unauthorized use of a Certificate or Private Key caused by the Subscriber's negligence or intentional acts; or (iv) Subscriber's misuse of the Certificate or Private Key.

9.9.3. Indemnification by Relying Parties

To the extent permitted by law, each Relying Party shall indemnify DigiCert, its partners, and any cross-signed entities, and their respective directors, officers, employees, agents, and contractors against any loss, damage, or expense, including reasonable attorney's fees, related to the Relying Party's (i) breach of the Relying Party Agreement, an End-User License Agreement, this CPS, or applicable law; (ii) unreasonable reliance on a Certificate; or (iii) failure to check the Certificate's status prior to use.

9.10. TERM AND TERMINATION

9.10.1. Term

This CPS and any amendments to the CPS are effective when published to DigiCert's online repository and remain in effect until replaced with a newer version.

9.10.2. Termination

This CPS and any amendments remain in effect until replaced by a newer version.

9.10.3. Effect of Termination and Survival

DigiCert will communicate the conditions and effect of this CPS's termination via the DigiCert Repository. The communication will specify which provisions survive termination. At a minimum, all responsibilities related

to protecting confidential information will survive termination. All Subscriber Agreements remain effective until the Certificate is revoked or expired, even if this CPS terminates.

9.11. INDIVIDUAL NOTICES AND COMMUNICATIONS WITH PARTICIPANTS

DigiCert accepts notices related to this CPS at the locations specified in Section 2.2. Notices are deemed effective after the sender receives a valid and digitally signed acknowledgment of receipt from DigiCert. If an acknowledgment of receipt is not received within five days, the sender must resend the notice in paper form to the street address specified in Section 2.2 using either a courier service that confirms delivery or via certified or registered mail with postage prepaid and return receipt requested. DigiCert may allow other forms of notice in its Subscriber Agreements.

DigiCert will notify the FPKIPA at least two weeks prior to implementation of any planned change to the infrastructure that has the potential to affect the FPKI operational environment, and all new artifacts (CA certificates, CRL DP, AIA and/or SIA URLs, etc.) produced as a result of the change will be provided to the FPKIPA within 24 hours following implementation.

DigiCert will notify Adobe a month in advance of any updates or changes with the potential to affect compliance with the AATL program, including:

1. Additions of Root CAs and Subordinate CAs
2. Additional CPs at the Root CA level
3. Changes in Certificate issuance procedures
4. Terminations or transition of ownership of Root CAs or Subordinate CAs.

9.12. AMENDMENTS

9.12.1. Procedure for Amendment

This CPS is reviewed annually. Amendments are made by posting an updated version of the CPS to the online repository. Controls are in place to reasonably ensure that this CPS is not amended and published without the prior authorization of the DCPA.

9.12.2. Notification Mechanism and Period

DigiCert posts CPS revisions to its website. DigiCert does not guarantee or set a notice-and-comment period and may make changes to this CPS without notice and without changing the version number. Major changes affecting accredited Certificates are announced and approved by the accrediting agency prior to becoming effective. The DCPA is responsible for determining what constitutes a material change of the CPS.

9.12.3. Circumstances under which OID Must Be Changed

The DCPA is solely responsible for determining whether an amendment to the CPS requires an OID change.

9.13. DISPUTE RESOLUTION PROVISIONS

Parties are required to notify DigiCert and attempt to resolve disputes directly with DigiCert before resorting to any dispute resolution mechanism, including adjudication or any type of alternative dispute resolution.

9.14. GOVERNING LAW

The national law of the relevant member state governs any dispute involving Qualified Certificates. Except for disputes involving Qualified Certificates, the laws of the state of Utah govern the interpretation, construction, and enforcement of this CPS and all proceedings related to DigiCert's products and services, including tort claims, without regard to any conflicts of law principles. The state of Utah has non-exclusive venue and jurisdiction over any proceedings related to the CPS or any DigiCert product or service.

9.15. COMPLIANCE WITH APPLICABLE LAW

This CPS is subject to all applicable laws and regulations, including United States restrictions on the export of software and cryptography products. Subject to section 9.4.5's Notice and Consent to Use Private Information

contained in Certificates, DigiCert meets the requirements of the European data protection laws and has established appropriate technical and organization measures against unauthorized or unlawful processing of personal data and against the loss, damage, or destruction of personal data.

9.16. MISCELLANEOUS PROVISIONS

9.16.1. Entire Agreement

DigiCert contractually obligates each RA to comply with this CPS and applicable industry guidelines. DigiCert also requires each party using its products and services to enter into an agreement that delineates the terms associated with the product or service. If an agreement has provisions that differ from this CPS, then the agreement with that party controls, but solely with respect to that party. Third parties may not rely on or bring action to enforce such agreement.

9.16.2. Assignment

Any entities operating under this CPS may not assign their rights or obligations without the prior written consent of DigiCert. Unless specified otherwise in a contract with a party, DigiCert does not provide notice of assignment.

9.16.3. Severability

If any provision of this CPS is held invalid or unenforceable by a competent court or tribunal, the remainder of the CPS will remain valid and enforceable. Each provision of this CPS that provides for a limitation of liability, disclaimer of a warranty, or an exclusion of damages is severable and independent of any other provision.

9.16.4. Enforcement (attorneys' fees and waiver of rights)

DigiCert may seek indemnification and attorneys' fees from a party for damages, losses, and expenses related to that party's conduct. DigiCert's failure to enforce a provision of this CPS does not waive DigiCert's right to enforce the same provision later or right to enforce any other provision of this CPS. To be effective, waivers must be in writing and signed by DigiCert.

9.16.5. Force Majeure

DigiCert is not liable for any delay or failure to perform an obligation under this CPS to the extent that the delay or failure is caused by an occurrence beyond DigiCert's reasonable control. The operation of the Internet is beyond DigiCert's reasonable control.

9.17. OTHER PROVISIONS

No stipulation.

APPENDIX A: SAMPLE OPINION LETTER

[Date]

To: DigiCert, Inc.
2801 N. Thanksgiving Way
Suite 500
Lehi, UT 84043
Email: support@digicert.com
Fax: 801-705-0481

Re: Digital Certificate for [Exact company name of client – see footnote 1] (“Client”)

This firm represents Client, who asked that I, as its [accountant, lawyer, solicitors, barrister, advocate, etc.], attest to the following information solely as related to the Client’s application for a digital certificate.

After reviewing the Client’s records and based on my investigation, my professional opinion is that:

1. Client is a duly formed [corporation, LLC, etc.] under the laws of the [state/province] of [name of governing jurisdiction where Client is incorporated or registered]; is “active,” “valid,” “current,” or the equivalent; and is not under any known legal disability.
2. [If applicable] The Romanized transliteration of Client’s formal legal name is: [Romanized name].
3. [If applicable] Client conducts business under the [assumed/DBA/trade] name of [assumed name of Client]. Client has a currently valid registration of the name with the government agency that has jurisdiction over the place of business listed below.
4. The address where [Client, Client’s parent, or Client’s subsidiary – select one] conducts business operations is:
[Insert place of business – this should match the address on the certificate application]
5. A main telephone number at Client’s place of business is:
[Insert primary telephone number of business]
6. [Name of Client’s Representative – see footnote 2] is an individual (or are individuals) with the authority to act on behalf of Client to:
 - a) Provide information about the Client contained in the referenced application,
 - b) Request one or more digital certificates and designate other persons to request digital certificates, and
 - c) Agree to the contractual obligations contained in DigiCert’s agreements.
7. [Name and title of Client’s Representative], who is Client’s [Title of Client Representative], can be contacted at:
Email: [Email address of Client Representative]
Phone: [Phone number of Client Representative]
8. Client has either operated as a business for three or more years or has an active deposit account held at a bank or other financial institution where funds deposited are payable on demand.

Although we did not find any exceptions to the above identification procedures, these procedures do not constitute an audit or opinion of Client’s application for a digital certificate. We are not expressing an opinion

on Client's digital certificate application and have provided this letter solely for the benefit of DigiCert in connection with Client's application for a digital certificate. No other person or entity may rely on this letter without my express written consent. This letter shall not be quoted in whole or in part, used, published or otherwise referred to or relied upon in any manner, including, without limitation, in any financial statement or other document.

Signature: _____
Print Accountant/Attorney Name: _____
Phone Number: _____
Email: _____
Firm Name: _____
Licensed in: _____
License number, if any: _____
Contact information for licensing agency where this accountant's/attorney's license information may be verified: _____

Note 1: This must be the Client's exact corporate name as registered with the relevant Incorporating Agency in the Client's Jurisdiction of Incorporation.

Note 2: A Power of Attorney from an officer of the Client who has the power to delegate authority is sufficient to establish the Client Representative's actual authority. Multiple representatives may be listed.

Note 3: In-house counsel of the Client may submit this letter if permitted by the rules of your jurisdiction.

Note 4: This letter may be submitted by mail, fax, or email.