

# CrossCert

# Certification Practices Statement

Version 3.11.1



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## **CrossCert Certification Practices Statement**

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### **Important – Acquisition Notice**

On October 31, 2017, DigiCert, Inc. completed the acquisition of Symantec Corporation’s Website Security business unit. As a result, DigiCert is now the registered owner of this Certification Practices Statement document and the PKI Services described within this document.

However, a hybrid of references to “VeriSign,” “Symantec” and “DigiCert” shall be evident within this document for a period of time until it is operationally practical to complete the re-branding of the Certification Authorities and services. Any references to VeriSign or Symantec as a corporate entity should be strictly considered to be legacy language that solely reflects the history of ownership.

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# 1. INTRODUCTION

This document is the CrossCert Certification Practices Statement (“CPS”). It states the practices within the Symantec Trust Network (“STN”) that CrossCert certification authorities (“CAs”) employ in providing certification services that include, but are not limited to, issuing, managing, revoking, and renewing certificates in accordance with the specific requirements of the DigiCert Certificate Policy for Symantec Trust Network (“CP”).

The CP is the principal statement of policy governing the STN. It establishes the business, legal, and technical requirements for approving, issuing, managing, using, revoking, and renewing, digital Certificates within the STN and providing associated trust services. These requirements, called the “STN Standards,” protect the security and integrity of the STN, apply to all STN Participants including CrossCert, and thereby provide assurances of uniform trust throughout the STN. More information concerning the STN and STN Standards is available in the CP.

CrossCert has authority over a portion of the STN called its “Sub-domain” of the STN. CrossCert’s Sub-domain includes entities subordinate to it such as its Customers, Subscribers, and Relying Parties.

While the CP sets forth requirements that STN Participants must meet, this CPS describes how CrossCert meets these requirements within CrossCert’s Sub-domain of the STN. More specifically, this CPS describes the practices that CrossCert employs for:

- securely managing the core infrastructure that supports the STN, and
- issuing, managing, revoking, and renewing STN Certificates

within CrossCert’s Sub-domain of the STN, in accordance with the requirements of the CP and its STN Standards.

This CPS conforms to the Internet Engineering Task Force (IETF) RFC 3647 for Certificate Policy and Certification Practice Statement construction. CAs within the Symantec Trust Network hierarchy conform to the current version of the CA/Browser Forum (CABF) requirements including Baseline Requirements for the Issuance and Management of Publicly-Trusted Certificates published at [www.cabforum.org](http://www.cabforum.org). In the event of any inconsistency between this document and those Requirements, those Requirements take precedence over this document.

At this time, DigiCert-issued, Symantec-branded Domain-Validated (DV) and Organization-Validated (OV) SSL Certificates<sup>1</sup> issued by DigiCert CAs under this CP conform with the CABF Requirements. Such DV and OV certificates are issued containing the corresponding policy identifier(s) specified in section 1.2 of the CP indicating adherence to and conformance with these requirements. CrossCert CAs assert that all Certificates issued containing these policy identifier(s) are issued and managed in conformance with the CABF Requirements.

Management may make exceptions to this policy on a case-by-case basis to mitigate material, imminent impacts to customers, partners, relying parties, and/or others within the certificate ecosystem where practical workarounds do not exist. Any such management exceptions are documented, tracked, and reported as part of the audit process.

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<sup>1</sup> Additionally, DigiCert issues organizational Client (non-SSL) certificates that are not subject to the CA Browser Forum Baseline Requirements. In addition to practices pertaining exclusively to the CA Browser Forum (i.e., for OV SSL certificates), this CPS describes practices that pertain to any Class 2 or Class 3 certificate that is issued to an organization and contains organization information. Such certificates are referred to throughout this CPS as “organizational certificates”.

DigiCert does not issue SSL inspection intermediate CAs from roots that are publicly trusted. Only roots with no current or previous trust in Application Software Supplier products (private roots) may be used to create intermediate CAs used for SSL inspection.

**Note:** As of the dates indicated, the following root certificates are excluded from the scope of this document:

- As of December 1, 2015:  
**VeriSign Class 3 Public Primary Certification Authority**  
Country = US  
Organization = VeriSign, Inc.  
Organizational Unit = Class 3 Public Primary Certification Authority
- As of March 27, 2015:  
**VeriSign Class 3 Public Primary Certification Authority – G2**  
Country = US  
Organization = VeriSign, Inc.  
Organizational Unit = Class 3 Public Primary Certification Authority - G2  
Organizational Unit = (c) 1998 VeriSign, Inc. - For authorized use only  
Organizational Unit = VeriSign Trust Network

Any references to PCAs or Class 3 PCAs in this CPS no longer apply to these root certificates. These root certificates are only intended to be used for private purposes and should be disabled in browsers' trusted root lists. The CP and CPS for the Symantec Trust Network no longer govern the use of these root certificates and any of their subordinate services.

## 1.1 Overview

CrossCert is a "Processing Center," as described in CP § 1.1, which means CrossCert has established a secure facility housing, among other things, CA systems, including the cryptographic modules holding the private keys used for the issuance of Certificates. CrossCert acts as a CA in the STN and performs all Certificate lifecycle services of issuing, managing, revoking, and renewing Certificates. It also provides CA key management and Certificate lifecycle services on behalf of its Enterprise Customers or the Enterprise Customers of the Service Centers subordinate to CrossCert. CrossCert also offers Certificates in all three lines of business, Consumer (Class 1 and 2 client Retail Certificates), and Enterprise (providing Managed PKI services). The practices relating to services provided by Affiliates or services provided by DigiCert to Affiliates are beyond the scope of this CPS.

This CPS is specifically applicable to:

- DigiCert's Public Primary Certification Authorities (PCAs),
- CrossCert Infrastructure CAs, and CrossCert Administrative CAs<sup>2</sup> supporting the Symantec Trust Network
- CrossCert's Public CAs and the CAs of Enterprise Customers, who issue Certificates within CrossCert's sub-domain of the STN.

More generally, the CPS also governs the use of STN services within CrossCert's sub-domain of the STN by all individuals and entities within CrossCert's Sub-domain (collectively, CrossCert

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<sup>2</sup> DigiCert operates both public and private/internal Class 3 hierarchies within the scope of this CPS. The Class 3 Internal CA hierarchy is distinguished by a private PCA and the specified OID value as stipulated in section 1.2 of the CP. The private PCA certificate is configured to explicitly exclude "Server Authentication" and "Code Signing" from the certificate intended purposes.



Sub-domain Participants”). Unless specifically noted within this CPS, Private CAs and hierarchies managed by CrossCert are outside the scope of this CPS. The CAs managed by Affiliates are also outside the scope of this CPS.

The STN includes four classes of Certificates, Classes 1-4. The CP is a single document that defines these certificate policies, one for each of the Classes, and sets STN Standards for each Class.

CrossCert currently offers three Classes of Certificates within its Sub-domain of the STN. This CPS describes how CrossCert meets the CP requirements for each Class within its Sub-domain. Thus, the CPS, as a single document, covers practices and procedures concerning the issuance and management of all three Certificate Classes.

CrossCert may publish Certification Practices Statements that are supplemental to this CPS in order to conform with the specific policy requirements of Government, or other industry standards and requirements.

These supplemental certificate policies shall be made available to subscribers for the certificates issued under the supplemental policies and their relying parties.

The CPS is only one of a set of documents relevant to CrossCert’s Sub-domain of the STN. Other documents include:

- Ancillary confidential security and operational documents<sup>3</sup> that supplement the CP and CPS by providing more detailed requirements.
- Ancillary agreements imposed by CrossCert. These agreements bind Customers, Subscribers, and Relying Parties of CrossCert. Among other things, the agreements flow down STN Standards to these STN Participants and, in some cases, state specific practices for how they must meet STN Standards.

In many instances, the CPS refers to these ancillary documents for specific, detailed practices implementing STN Standards where including the specifics in the CPS could compromise the security of CrossCert’s Sub-domain of the STN.

## **1.2 Document Name and Identification**

This document is the CrossCert Certification Practices Statement (CPS). STN Certificates contain object identifier values corresponding to the applicable STN Class of Certificate as listed in section 1.2 of the STN CP. Therefore, CrossCert has not assigned this CPS an object identifier value. Certificate Policy Object Identifiers are used in accordance with Section 7.1.6.

Domain-validated and organization-validated SSL Certificates contain the corresponding OID value in section 1.2 of the STN CP that indicates adherence to and compliance with the CA / Browser Forum Baseline Requirements.

## **1.3 PKI Participants**

### **1.3.1 Certification Authorities**

The term Certification Authority (CA) is an umbrella term that refers to all entities authorized to issue public key certificates within the STN. The CA term encompasses a subcategory of issuers

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<sup>3</sup> Although these documents are not publicly available, their specifications are included in DigiCert’s Annual WebTrust for Certification authorities audit and may be made available to customer under special Agreement.

called Primary Certification Authorities (PCA). PCAs act as roots of four domains<sup>4</sup>, one for each class of Certificate. Each PCA is a DigiCert entity. Subordinate to the PCAs are Certification Authorities that issue Certificates to end-user Subscribers or other CAs.

DigiCert also operates the Symantec Class 3 Internal Administrator CA hierarchy that is limited to DigiCert internal administrative uses.

DigiCert also operates the “Symantec Universal Root Certification Authority” and the “Symantec ECC Universal Root Certification Authority”. The Universal Root CAs issue Class 3 and selected Class 2 Subordinate CAs.

CrossCert enterprise customers may operate their own CAs as subordinate CAs to a CrossCert PCA. Such a customer enters into a contractual relationship with CrossCert to abide by all the requirements of the STN CP and the CrossCert CPS. These subordinate CAs may, however implement more restrictive practices based on their internal requirements.

### **1.3.2 Registration Authorities**

A Registration Authority is an entity that performs identification and authentication of certificate applicants for end-user certificates, initiates or passes along revocation requests for certificates for end-user certificates, and approves applications for renewal or re-keying certificates on behalf of a STN CA. CrossCert may act as an RA for certificates it issues. DigiCert does not delegate domain or IP address validation to external RAs or third parties.

Third parties, who enter into a contractual relationship with CrossCert, may operate their own RA and authorize the issuance of certificates by a CrossCert CA based on initial and periodically renewed validation by DigiCert compliant with CA/Browser Forum data reuse rules. Third party RAs must abide by all the requirements of the STN CP, the CrossCert CPS and the terms of their enterprise services agreement with CrossCert. RAs may, however implement more restrictive practices based on their internal requirements.<sup>5</sup>

### **1.3.3 Subscribers**

Subscribers under the STN include all end users (including entities) of certificates issued by a STN CA. A subscriber is the entity named as the end-user Subscriber of a certificate. End-user Subscribers may be individuals, organizations, or infrastructure components such as firewalls, routers, trusted servers or other devices used to secure communications within an Organization.

In some cases certificates are issued directly to individuals or entities for their own use. However, there commonly exist other situations where the party requiring a certificate is different from the subject to whom the credential applies. For example, an organization may require certificates for its employees to allow them to represent the organization in electronic transactions/business. In such situations the entity subscribing for the issuance of certificates (i.e. paying for them, either through subscription to a specific service, or as the issuer itself) is different from the entity which is the subject of the certificate (generally, the holder of the credential). Two different terms are used in this CPS to distinguish between these two roles: "Subscriber", is the entity which contracts with CrossCert for the issuance of credentials and; "Subject", is the person to whom the credential is bound. The Subscriber bears ultimate responsibility for the use of the credential but the Subject is the individual that is authenticated when the credential is presented.

When 'Subject' is used, it is to indicate a distinction from the Subscriber. When "Subscriber" is used it may mean just the Subscriber as a distinct entity but may also use the term to embrace the two. The context of its use in this CPS will invoke the correct understanding.

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<sup>4</sup> Class 4 certificates are not currently issued by the STN.

<sup>5</sup>. An example of a third party RA is a customer of Managed PKI services customer.

CAs are technically also subscribers of certificates within the STN, either as a PCA issuing a self-signed Certificate to itself, or as a CA issued a Certificate by a superior CA. References to “end entities” and “subscribers” in this CPS, however, apply only to end-user Subscribers.

### 1.3.4 Relying Parties

A Relying Party is an individual or entity that acts in reliance of a certificate and/or a digital signature issued under the STN. A Relying party may, or may not also be a Subscriber within the STN.

### 1.3.5 Other Participants

Not applicable

## 1.4 Certificate Usage

### 1.4.1 Appropriate Certificate Usages

#### 1.4.1.1 Certificates Issued to Individuals

Individual Certificates are normally used by individuals to sign and encrypt e-mail and to authenticate to applications (client authentication). While the most common usages for individual certificates are included in Table 1 below, an individual certificate may be used for other purposes, provided that a Relying Party is able to reasonably rely on that certificate and the usage is not otherwise prohibited by law, the STN CP, the CPS under which the certificate has been issued and any agreements with Subscribers.

Certificate Class	Assurance Level			Usage		
	Low assurance level	Medium assurance level	High assurance level	Signing	Encryption	Client Authentication
Class 1 Certificates	✓			✓	✓	✓
Class 2 Certificates		✓		✓	✓	✓
Class 3 Certificates			✓	✓	✓	✓

Table 1. Individual Certificate Usage

#### 1.4.1.2 Certificates Issued to Organizations

Organizational Certificates are issued to organizations after authentication that the Organization legally exists and that other Organization attributes included in the certificate (excluding non-verified subscriber information) are authenticated e.g. ownership of an Internet or e-mail domain. It is not the intent of this CPS to limit the types of usages for Organizational Certificates. While the most common usages are included in Table 2 below, an Organizational Certificate may be used for other purposes, provided that a Relying Party is able to reasonably rely on that certificate and the usage is not otherwise prohibited by law, by the STN CP, by any CPS under which the certificate has been issued and any agreements with Subscribers.

Certificate Class	Assurance Level				Usage			
	Medium	High with Extended Validation	High with CABF OV Validation	High	Code/Content Signing	Secure SSL/TLS-sessions	Authen-tication	Signing and Encryption
Class 3 Certificates				✓	✓	✓	✓	✓

Table 2. Organizational Certificate Usage<sup>6</sup>

### 1.4.1.3 Assurance levels

**Low assurance certificates** are certificates that should not be used for authentication purposes or to support Non-repudiation. The digital signature provides modest assurances that the e-mail originated from a sender with a certain e-mail address. The Certificate, however, provides no proof of the identity of the Subscriber. The encryption application enables a Relying Party to use the Subscriber's Certificate to encrypt messages to the Subscriber, although the sending Relying Party cannot be sure that the recipient is in fact the person named in the Certificate.

**Medium assurance certificates** are certificates that are suitable for securing some inter- and intra-organizational, commercial, and personal e-mail requiring a medium level of assurances of the Subscriber identity, in relation to Class 1 and 3.

**High assurance certificates** are individual and organizational certificates Class 3 Certificates that provide a high level of assurance of the identity of the Subscriber in comparison with Class 1 and 2.

### 1.4.2 Prohibited Certificate Uses

Certificates shall be used only to the extent the use is consistent with applicable law, and in particular shall be used only to the extent permitted by applicable export or import laws.

DigiCert and CrossCert Certificates are not designed, intended, or authorized for use or resale as control equipment in hazardous circumstances or for uses requiring fail-safe performance such as the operation of nuclear facilities, aircraft navigation or communication systems, air traffic control systems, or weapons control systems, where failure could lead directly to death, personal injury, or severe environmental damage. Also, Class 1 Certificates shall not be used as proof of identity or as support of non-repudiation of identity or authority. Client Certificates are intended for client applications and shall not be used as server or organizational Certificates.

CA Certificates may not be used for any functions except CA functions. In addition, end-user Subscriber Certificates shall not be used as CA Certificates.

The STN and CrossCert do not issue any certificate that can be used for man-in-the-middle (MITM) or traffic management of domain names or IP addresses that the certificate holder does not legitimately own or control. Such certificate usage is expressly prohibited.

DigiCert and CrossCert periodically rekeys Intermediate CAs. Third party applications or platforms that have an Intermediate CA embedded as a root certificate may not operate as designed after the Intermediate CA has been rekeyed. CrossCert therefore does not warrant the use of Intermediate CAs as root certificates and recommends that Intermediate CAs not be

<sup>6</sup> "In limited circumstances Class 2 certificates may be issued by a Managed PKI customer to an affiliated organization (and not an individual within the organization). Such certificate may be used for organization authentication and application signing only. Except as expressly authorized by DigiCert through an Enterprise Service Agreement imposing authentication and practice requirements consistent with the security standards of this CPS, Subscribers are prohibited from using this certificate for code and content signing, SSL encryption and S/mime signing and such key usage will be disabled for these certificates."

embedded into applications and/or platforms as root certificates. CrossCert recommends the use of PCA Roots as root certificates.

## **1.5 Policy Administration**

### **1.5.1 Organization Administering the Document**

CrossCert  
7F, Halim building, Seocho Daero 320(1674-4, SeochoDong)  
Seocho-gu, Seoul, 137-725 Korea

Attn: Practices Development – CPS  
CrossCert phone number : +82-2-3019-5500  
CrossCert fax number : +82-2-3019-5656  
[sm@crosscert.com](mailto:sm@crosscert.com)

### **1.5.2 Contact Person**

The Certificate Policy Manager / Security Manager  
DigiCert Policy Authority  
CrossCert

CrossCert  
7F, Halim building, Seocho Daero 320(1674-4, SeochoDong)  
Seocho-gu, Seoul, 137-725 Korea

Attn: Practices Development – CPS  
CrossCert phone number : +82-2-3019-5500  
CrossCert fax number : +82-2-3019-5656  
[sm@crosscert.com](mailto:sm@crosscert.com)

Contact information for the CA/Browser Forum is available here:  
<https://cabforum.org/leadership/>

#### **1.5.2.1 Revocation Reporting Contact Person**

Attn: CrossCert Technical Support  
7F, Halim building Seocho Daero 320(1674-4, SeochoDong)  
Seocho-gu, Seoul, 137-725 Korea  
CrossCert phone number : +82-2-3019-5500  
CrossCert fax number : +82-2-3019-5656  
[ps@crosscert.com](mailto:ps@crosscert.com)

To request that a Certificate be revoked, please email [ps@crosscert.com](mailto:ps@crosscert.com). Entities submitting certificate revocation requests must list their identity and explain the reason for requesting revocation. CrossCert will authenticate and log each revocation request according to Section 4.9 of the DigiCert CP, the CrossCert CPS. CrossCert 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, CrossCert or an RA will investigate the alleged basis for the revocation request prior to taking action in accordance with Sections 4.9.1 and 4.9.3.

### **1.5.3 Person Determining CP Suitability for the Policy**

The DigiCert Policy Authority (DCPA) determines the suitability and applicability of this CPS.

### **1.5.4 CPS Approval Procedure**

Approval of this CPS and subsequent amendments shall be made by the DCPA. Amendments shall either be in the form of a document containing an amended form of the CPS or an update notice. Amended versions or updates shall be linked to the Practices Updates and Notices section of the CrossCert Repository located at: <https://www.crosscert.com/repository/updates>. Updates supersede any designated or conflicting provisions of the referenced version of the CPS. The DCPA shall determine whether changes to the CPS require a change in the Certificate policy object identifiers of the Certificate policies corresponding to each Class of Certificate.

### **1.6 Definitions and Acronyms**

See Appendix A for a table of acronyms and definitions.

## **2. Publication and Repository Responsibilities**

### **2.1 Repositories**

CrossCert is responsible for the repository functions for its own CAs and the CAs of its Enterprise Customers (Managed PKI customers). CrossCert issuing Certificates to end-user Subscribers publish Certificates they issue in the repository in accordance with CPS § 2.6.

Upon revocation of an end-user Subscriber's Certificate, CrossCert publishes notice of such revocation in the repository. CrossCert issues CRLs for its own CAs and the CAs of Service Centers and Enterprise Customers within its Sub-domain, pursuant to the provisions of this CPS. In addition, Enterprise Customers who have contracted for Online Certificate Status Protocol ("OCSP") services, CrossCert provides OCSP services pursuant to the provisions of this CPS.

### **2.2 Publication of Certificate Information**

CrossCert maintains a web-based repository that permits Relying Parties to make online inquiries regarding revocation and other Certificate status information. CrossCert provides Relying Parties with information on how to find the appropriate repository to check Certificate status and, if OCSP (Online Certificate Status Protocol) is available, how to find the right OCSP responder.

CrossCert publishes the Certificates it issues on behalf of its own CAs, and the CAs of Client Service Centers in their Sub-domain. Upon revocation of an end-user Subscriber's Certificate, CrossCert shall publish notice of such revocation in the repository. In addition, CrossCert issues Certificate Revocation Lists (CRLs) and, if available, provides OCSP services (Online Certificate Status Protocol) for its own CAs and the CAs of Service Centers within its Sub-domain.

CrossCert will at all times publish a current version of:

- The DigiCert STN CP
- This CrossCert CPS,
- Subscriber Agreements,
- Relying Party Agreements

CrossCert is responsible for the repository function for CrossCert CAs and Enterprise Customers' CAs that issue Certificates within CrossCert's Sub-domain of the STN.

CrossCert publishes certain CA information in the repository section of CrossCert's web site at <http://www.crosscert.com/repository/> as described below.

CrossCert publishes the STN CP, this CPS, Subscriber Agreements, and Relying Party Agreements in the repository section of CrossCert's web site.

CrossCert publishes Certificates in accordance with Table 3 below.

<b>Certificate Type</b>	<b>Publication Requirements</b>
STN PCA and STN Issuing Root CA Certificates	Available to Relying Parties through inclusion in current browser software and as part of a Certificate Chain that can be obtained with the end-user Subscriber Certificate through the query functions described below.
CrossCert Issuing CA Certificates	Available to Relying Parties as part of a Certificate Chain that can be obtained with the end-user Subscriber Certificate through the query functions described below.
Certificate of the CrossCert CA supporting Managed PKI Lite Certificates and CA Certificates of Managed PKI Customers	Available through query of the CrossCert LDAP directory server at <i>directory.crosscert.com</i> .
Symantec OCSP Responder Certificates	Available through query of the CrossCert LDAP directory server at <i>directory. Crosscert.com</i> .
End-User Subscriber Certificates with exceptions for certain Class 3 Certificates depending on usage.	Optionally published and available to relying parties through query functions in the CrossCert repository at: <a href="https://www.crosscert.com/repository">https://www.crosscert.com/repository</a> and query of the Symantec LDAP directory server at <i>directory.verisign.com</i> except for Class 3 SSL and Code Signing Certificates which are available through query functions in the CrossCert repository at: <a href="https://www.crosscert.com/repository">https://www.crosscert.com/repository</a> .
End-User Subscriber Certificates issued through Managed PKI Customers	Made available through the query functions listed above, although at the discretion of the Managed PKI Customer, the Certificate may be accessible only via a search using the Certificate's serial number.

**Table 3 – Certificate Publication Requirements**

### **2.3 Time or Frequency of Publication**

Updates to this CPS are published in accordance with Section 9.12. Updates to Subscriber Agreements and Relying Party Agreements are published as necessary. CA information is published promptly after it is made available to the CA. The STN offers CRLs showing the revocation of STN Certificates and offers status checking services through the DigiCert and CrossCert repositories. CRLs for end-user Subscriber Certificates are issued at least once per day. CRLs for CAs that only issue CA Certificates are issued at least annually, and also whenever a CA Certificate is revoked. If a Certificate listed in a CRL expires, it may be removed from later issued CRLs after the Certificate's expiration.

### **2.4 Access Controls on Repositories**

Information published in the repository portion of the CrossCert web site is publicly-accessible information. Read-only access to such information is unrestricted. CrossCert requires persons to agree to a Relying Party Agreement as a condition to accessing Certificates, Certificate status information, or CRLs. CrossCert has implemented logical and physical security measures to prevent unauthorized persons from adding, deleting, or modifying repository entries. CrossCert makes the repository publicly available in a read-only manner, and specifically at the link stated in section 1.5.4.

### 3. Identification and Authentication

#### 3.1 Naming

Unless where indicated otherwise in this STN CP, this CPS or the content of the digital certificate, names appearing in Certificates issued under STN are authenticated.

##### 3.1.1 Type of Names

*While the STN is currently owned by DigiCert, Inc., legacy certificates have been issued in the name of the former owner. Any legacy certificate that indicates the Organization (O) as “Symantec Corporation”, “VeriSign, Inc.” and Organizational Unit (OU) as “VeriSign Trust Network” shall mean DigiCert, Inc. and the Symantec Trust Network, respectively. Any legacy certificate that indicates the Organization (O) as “VeriSign Japan K.K.” or “Symantec Japan Inc” shall mean DigiCert Japan G.K., and any legacy certificate that indicates the Organization (O) as “VeriSign Australia” shall mean DigiCert, Inc.*

CrossCert CA Certificates contain an X.501 Distinguished Name (DN) in the Issuer and Subject fields. CrossCert CA Distinguished Names consist of the components specified in Table 4 below.

<b>Attribute</b>	<b>Value</b>
Country (C) =	“KR”, “US” or not used.
Organization (O) =	“ Symantec Corporation”, “CrossCert” or <organization name> <sup>7</sup>
Organizational Unit (OU) =	CrossCert CA Certificates may contain multiple OU attributes. Such attributes may contain one or more of the following: <ul style="list-style-type: none"> <li>• CA Name</li> <li>• Symantec Trust Network</li> <li>• A statement referencing the applicable Relying Party Agreement governing terms of use of the Certificate</li> <li>• A copyright notice.</li> <li>• Text to describe the type of Certificate.</li> </ul>
State or Province (S) =	Not used.
Locality (L) =	Not used except for the Symantec Commercial Software Publishers CA, which uses “Internet.”
Common Name (CN) =	This attribute includes the CA Name (if the CA Name is not specified in an OU attribute) or is not used.

**Table 4 – Distinguished Name Attributes in CA Certificates**

End-user Subscriber Certificates contain an X.501 DN in the Subject name field and consist of the components specified in Table 5 below.

<b>Attribute</b>	<b>Value</b>
Country (C) =	“KR” or not used
Organization (O) =	The Organization attribute is used as follows: <ul style="list-style-type: none"> <li>• “CrossCert” for CrossCert OCSP Responder and optionally for individual Certificates that do not have an organization affiliation.</li> <li>• Subscriber organizational name for web server Certificates and individual Certificates that have an organization affiliation.</li> </ul>
Organizational Unit (OU) =	CrossCert end-user Subscriber Certificates may contain multiple OU attributes. Such attributes may contain one or more of the following: <ul style="list-style-type: none"> <li>• Subscriber organizational unit (for organizational Certificates and individual Certificates that have an organization affiliation)</li> <li>• Symantec Trust Network</li> <li>• A statement referencing the applicable Relying Party Agreement governing terms of use of the Certificate</li> <li>• A copyright notice</li> </ul>

<sup>7</sup>For a CA dedicated to a customer organization, the (o=) component shall be the legal name of the organization.



<b>Attribute</b>	<b>Value</b>
	<ul style="list-style-type: none"> <li>• “Authenticated by CrossCert” and “Member, Symantec Trust Network” in Certificates whose applications were authenticated by Symantec</li> <li>• “Persona Not Validated” for Class 1 Individual Certificates</li> <li>• “Domain Validated”, where appropriate</li> <li>• Text to describe the type of Certificate.</li> <li>• “No organization affiliation” (for code signing certificates issued to individuals)</li> </ul>
State or Province (S) =	Indicates the Subscriber’s State or Province (State is not a required field in certificates issued to individuals).
Locality (L) =	Indicates the Subscriber’s Locality (Locality is not a required field in certificates issued to individuals).
Common Name (CN) =	This attribute includes: <ul style="list-style-type: none"> <li>• The OCSP Responder Name (for OCSP Responder Certificates)</li> <li>• Domain name or public IP address (for web server Certificates)</li> <li>• Organization name (for code/object signing Certificates)</li> <li>• Person’s name (for individual Certificates or code-signing certificates issued to individuals)</li> <li>• “Persona Not Validated” for Class 1 individual Certificates <sup>12</sup></li> <li>• Class 1 Individual Certificates may omit this attribute</li> </ul>
E-Mail Address (E) =	E-mail address for Class 1 individual Certificates and generally for MPKI Subscriber Certificates

**Table 5 – Distinguished Name Attributes in End User Subscriber Certificates**

The Common Name (CN=) component of the Subject distinguished name of end-user Subscriber Certificates is authenticated in the case of Class 2-3 Certificates. The Common Name is either omitted or may contain “Persona Not Validated” for Class 1 Certificates.

- The authenticated Common Name value included in the Subject DN of Organizational Certificates is a domain name or the legal name of the organization or unit within the organization.
- The Common Name value included in the Subject DN of individual Certificates represents the individual’s generally accepted personal name.
- For all web server certificates, the subjectAltName extension is populated with the authenticated value in the Common Name field of the subject DN (domain name or public IPAddress). The subjectAltName extension may contain additional domain names or public IPAddresses which will be authenticated in the same way as the Common Name value. For internationalized domain names, the Common Name will be represented as a Unicode encoded U-label value designed for human comprehension and that Common Name will be represented in the Subject Alternative Name extension as a puny-coded A-label value designed for automated comprehension. These different encodings of the same name are treated as equal values for the purposes of Common Name to Subject Alternative Name duplication requirements.

### 3.1.1.1 CABF Naming Requirements

Domain validated and organization validated SSL Certificates conform to the CA / Browser Forum Baseline requirements.

The following naming attributes shall be used to populate the Issuer in Certificates issued under this CP:

#### **Issuer CountryName (required)**

The *countryName* (C=) component is required and contains the two-letter ISO 3166-1 country code for the country in which the issuer’s place of business is located.

**Issuer organizationName (required)**

The *organizationName* (O=) field is required and contains the Issuer organization name (or abbreviation thereof), trademark, or other meaningful identifier for the CA, that accurately identifies the CA. The field must not contain a generic designation such as “Root” or “CA1”.

**Issuer commonName (optional)**

If the Issuer *commonName* (CN=) field is present, it must contain a name that accurately identifies the Issuing CA.

The following naming attributes shall be used to populate the Subject in Certificates issued under this CP:

**subjectAlternativeName (required)**

The *subjectAlternativeName* extension is required and contains at least one entry. Each entry is either a *dnsName* containing the Fully-Qualified Domain Name or an *iPAddress* containing the IP address of a server. The CrossCert CA confirms that the Applicant controls the Fully-Qualified Domain Name (FQDN) or IP address or has been granted the right to use it by the Domain Name Registrant or IP address assignee, as appropriate. Wildcard FQDNs are permitted.

Prior to the issuance of a Certificate with a *subjectAlternativeName* extension or Subject *commonName* field containing a Reserved IP Address or Internal Server Name, the CrossCert CA notifies the Applicant that the use of such Certificates has been deprecated by the CA / Browser Forum and that the practice will be eliminated by October 2016. Also, as of July 1 2012, the CrossCert CA shall not issue a certificate with an Expiry Date later than 1 November 2015 with a *subjectAlternativeName* extension or Subject *commonName* field containing a Reserved IP Address or Internal Server Name. Effective 1 October 2016, CrossCert CAs shall revoke all unexpired Certificates whose *subjectAlternativeName* extension or Subject *commonName* field contains a Reserved IP Address or Internal Server Name.

**CountryName (optional)**

If present, the *countryName* (C=) component shall be the two-letter ISO 3166-1 country code. If present, CrossCert CAs shall verify the country associated with the Subject in accordance with section 3.2.2.

**OrganizationName (optional)**

If the *organizationName* (O=) field is present, the field contains the Subject’s name or DBA and the required address fields contain a location of the Subject as verified in accordance with section 3.2.2.

If the Subject is a natural person, because Subject name attributes for individuals (e.g. *givenName* and surname) are not broadly supported by application software, the CA may use the *organizationName* field to convey the Subject’s name or DBA (see 3.2.2.1 *Verification of Individual Applicant*).

If the fields include discrepancies that the CA considers minor, such as common variations and abbreviations, then the CA shall document the discrepancy and shall use locally accepted abbreviations when abbreviating the organization name (e.g., if the official record shows “Company Name Incorporated”, the CA may include “Company Name, Inc.”). The *organizationName* field may include a verified DBA or tradename of the Subject.

If *organizationName* is present, then *localityName*, *stateOrProvinceName* (where applicable), and *countryName* shall also be required and *countryName* shall also be required and *streetAddress* and *postalCode* are optional. If *organizationName* is absent, then the Certificate shall not contain a *streetAddress*, *localityName*, *stateOrProvinceName*, or *postalCode* attribute. The CA may

include the Subject's *countryName* field without including other Subject Identity Information pursuant to *countryName* requirements above.

#### **OrganizationalUnitName (optional)**

The *OrganizationalUnitName* (OU=) component, when present, may contain information that has not been verified by the CA. Metadata such as '.', '-', and ' ' (i.e. space) characters, and/or any other indication that the value is absent, incomplete, or not applicable, shall not be used.

CrossCert implements a process that prevents an OU attribute from including a name, DBA, tradename, trademark, address, location, or other text that refers to a specific natural person or Legal Entity unless CrossCert has verified this information in accordance with section 3.2.2 and the Certificate also contains subject:*organizationName*, subject:*localityName*, and subject:*countryName* attributes, also verified in accordance with section 3.2.2.

When an OU value is submitted in a Request, the value is subjected to a search of various high risk lists as per section 3.2.2.1, *High Risk Requests*. If a match is found, the value is reviewed by the RA to ensure that the value is accurate and not misleading. If the OU value identifies the name of a legal entity, the value is verified in accordance with section 3.2.2.1, *Verification of Subject Identity comprised of Country Name and Other Identity Information*.

#### **commonName (optional)**

The *commonName* (CN=) component is deprecated (discouraged, but not prohibited). If present, *commonName* contains a single IP address or Fully-Qualified Domain Name that is also one of the values contained in the Certificate's *subjectAlternativeName* extension.

#### **domainComponent (optional)**

The *domainComponent* (dc=) component is optional. If present, *domainComponent* contains all components of the subject's Registered Domain Name in ordered sequence, with the most significant component, closest to the root of the namespace, written last.

#### **Other Subject Attributes**

Optional attributes, when present in the subject field, must contain information that has been verified by the CA. Metadata such as '.', '-', and ' ' (i.e. space) characters, and/or any other indication that the value is absent, incomplete, or not applicable, shall not be used.

CrossCert shall not include Fully-Qualified Domain Names in Subject attributes except as specified for *subjectAlternativeName* and *CommonName* above.

### **3.1.2 Need for Names to be Meaningful**

Class 2 and 3 end-user Subscriber Certificates contain names with commonly understood semantics permitting the determination of the identity of the individual or organization that is the Subject of the Certificate.

CrossCert CA certificates contain names with commonly understood semantics permitting the determination of the identity of the CA that is the Subject of the Certificate.

### **3.1.3 Anonymity or Pseudonymity of Subscribers**

The identity of Class 1 individual Subscribers is not authenticated. Class 1 subscribers may use pseudonyms. Unless when required by law or requested by a State or Government authority to protect the identity of certain end user subscribers (e.g., minors, or sensitive government employee information), Class 2 and 3 Subscribers are not permitted to use pseudonyms (names other than a Subscriber's true personal or organizational name). Each request for anonymity in a

certificate will be evaluated on its merits by the DCPA and, if allowed the certificate will indicate that identity has been authenticated but is protected.

### **3.1.4 Rules for Interpreting Various Name Forms**

No stipulation

### **3.1.5 Uniqueness of Names**

CrossCert ensures that Subject Distinguished Name (DN) of the Subscriber is unique within the domain of a specific CA through automated components of the Subscriber enrollment process. It is possible for a Subscriber to have two or more certificates with the same Subject DN.

### **3.1.6 Recognition, Authentication, and Role of Trademarks**

Certificate Applicants are prohibited from using names in their Certificate Applications that infringe upon the Intellectual Property Rights of others. CrossCert, however, does not verify whether a Certificate Applicant has Intellectual Property Rights in the name appearing in a Certificate Application or arbitrate, mediate, or otherwise resolve any dispute concerning the ownership of any domain name, trade name, trademark, or service mark. CrossCert is entitled, without liability to any Certificate Applicant, to reject or suspend any Certificate Application because of such dispute.

## **3.2 Initial Identity Validation**

### **3.2.1 Method to Prove Possession of Private Key**

The certificate applicant must demonstrate that it rightfully holds the private key corresponding to the public key to be listed in the Certificate. The method to prove possession of a private key shall be PKCS #10, another cryptographically equivalent demonstration, or another CrossCert-approved method. This requirement does not apply where a key pair is generated by a CA on behalf of a Subscriber, for example where pre-generated keys are placed on smart cards.

### **3.2.2 Authentication of Organization Identity and Domain Control**

Whenever a certificate contains an organization name, the identity of the organization and other enrollment information provided by Certificate Applicants (except for Non-verified Subscriber Information) is confirmed in accordance with the procedures set forth in set forth in section 3.2.2 of the DigiCert Certificate Policy and in the CrossCert Certification Practices Statement, version 3.9.1, or higher, available at <https://www.crosscert.com/repository/updates>.

At a minimum CrossCert shall:

- Determine that the organization exists by using at least one third party identity proofing service or database, or alternatively, organizational documentation issued by or filed with the applicable government agency or competent authority that confirms the existence of the organization as per the requirements in the DigiCert CP section 3.2,
- Confirm by telephone, confirmatory postal mail, or comparable procedure to the Certificate Applicant certain information about the organization, that the organization has authorized the Certificate Application, and that the person submitting the Certificate Application on behalf of the Certificate Applicant is authorized to do so.

When a certificate includes the name of an individual as an authorized representative of the Organization, the employment of that individual and his/her authority to act on behalf of the Organization shall also be confirmed.

Where a domain name or e-mail address is included in the certificate CrossCert authenticates the Organization's right to use that domain name either as a fully qualified Domain name or an e-mail domain. For Organization Validated (OV) and Domain Validation (DV) Certificates domain validation is completed in all cases along with Organizational validation. Validation of domain ownership or control is confirmed in accordance with the procedures set forth in set forth in section 3.2.2 of the DigiCert Certificate Policy and in the DigiCert Certification Practices Statement, version 4.14, or higher, available at <https://www.digicert.com/CPS>.

Additional checks necessary to satisfy United States export regulations and licenses issued by the United States Department of Commerce Bureau of Industry and Science ("BIS") are performed by DigiCert and Affiliates when required.

Additional procedures are performed for specific types of Certificates as described in Table 6 below.

<b>Certificate Type</b>	<b>Additional Procedures</b>
<b>Organization Validated (OV) and Domain Validated (DV) Certificates</b>	DigiCert's procedures for issuing OV and DV certificates, distinguished throughout the CPS as 'CABF requirements for OV and DV certificates' are described in Appendix B to this CPS.
<b>Hardware Protected SSL Certificate</b>	DigiCert verifies that the key pair was generated on FIPS 140 certified hardware
<b>Managed PKI for Intranet SSL Certificate</b>	DigiCert verifies that the host name or IP address assigned to a Device is not accessible from the Internet (publicly facing), and is owned by the Certificate Subscriber. The use of Certificates with a subjectAlternativeName extension or Subject commonName field containing a Reserved IP Address or Internal Name has been deprecated by the CA / Browser Forum and was terminated by October 2016.

**Table 6 – Specific Authentication Procedures**

### **3.2.2.1 CABF Verification Requirements for Organization Applicants**

Domain validated and organization validated SSL Certificates conform to the CA / Browser Forum Baseline requirements.

#### **Authorization of Domain Name Registrant**

CrossCert CAs shall confirm that, as of the date the Certificate was issued, the Applicant either had the right to use, or had control of, the Fully-Qualified Domain Name(s) and IP address(es) listed in the Certificate, or was authorized by a person having such right or control (e.g. under a Principal-Agent or Licensor-Licensee relationship) to obtain a Certificate containing the Fully-Qualified Domain Name(s) and IP address(es).

If the CA relies on a confirmation of the right to use or control the Registered Domain Name(s) from a Domain Name Registrar, and the top-level Domain is a two-letter country code (ccTLD), the CA shall obtain the confirmation directly from the Domain Name Registrar for the Domain Name level to which the rules of the ccTLD apply. For example, if the requested FQDN is www.mysite.users.example.co.uk, then the CA shall obtain confirmation from the Domain Name Registrant of the Domain Name example.co.uk, because applications for Domain Names immediately subordinate to .co.uk are governed by the rules of the .uk registry.

If the CA uses the Internet mail system to confirm that the Applicant has authorization from the Domain Name Registrant to obtain a Certificate for the requested Fully-Qualified Domain Name, the CA shall use a mail system address formed in one of the following ways:

1. Supplied by the Domain Name Registrar;

2. Taken from the Domain Name Registrant's "registrant", "technical", or "administrative" contact information, as it appears in the Domain's WHOIS record; or;
3. By pre-pending a local part to a Domain Name as follows:
  - a. Local part - One of the following: 'admin', 'administrator', 'webmaster', 'hostmaster', or 'postmaster'; and
  - b. Domain Name – Formed by pruning zero or more components from the Registered Domain Name or the requested Fully-Qualified Domain Name.

If the Domain Name Registrant has used a private, anonymous, or proxy registration service, and the CA relies upon a Domain Authorization as an alternative to the foregoing, the Domain Authorization must be received directly from the private, anonymous, or proxy registration service identified in the WHOIS record for the Registered Domain Name. The document must contain the letterhead of the private, anonymous, or proxy registration service, the signature of the General Manager, or equivalent, or an authorized representative of such officer, dated on or after the certificate request date, and the Fully-Qualified Domain Name(s) to be included in the Certificate.

If the WHOIS record identifies the private, anonymous, or proxy registration service as the Domain Name Registrant, then the Domain Authorization must contain a statement granting the Applicant the right to use the Fully-Qualified Domain Name in a Certificate. The CA shall contact the private, anonymous, or proxy registration service directly, using contact information obtained from a reliable, independent, third-party data source, and obtain confirmation from the Domain Name Registrant that the Domain Authorization is authentic.

#### **Verification of Subject Identity comprised of only Country Name**

If the Applicant requests a Certificate that will contain Subject Identity Information comprised only of the *countryName* field, then the CA shall verify the country associated with the Subject using one of the following:

- 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 two-letter country code (ccTLD) of the requested Domain Name;
- c) information provided by the Domain Name Registrar; or
- d) a method identified in the "*Verification of Subject Identity comprised of Country Name and other Identity Information*" section.

The CA should implement a process to screen proxy servers in order to prevent reliance upon IP addresses assigned in countries other than where the Applicant is actually located.

#### **Verification of Subject Identity comprised of Country Name and other Identity information**

If the Applicant requests a Certificate that will contain the *countryName* field and other Subject Identity Information, then the CA shall verify the identity of the Applicant, and the authenticity of the Applicant Representative's certificate request using a verification process meeting the following sets of requirements. The CA shall inspect any document relied upon under this Section for alteration or falsification.

##### ***A. Name or Address Identity Verification Option***

If the Subject Identity Information is to include the name or address of an organization, the CA shall verify the identity and address of the organization and that the address is the Applicant's address of existence or operation. The CA shall verify the identity and address of the Applicant using documentation provided by, or through communication with, at least one of the following:

- 1) A government agency (e.g, Secretary of State) in the jurisdiction of the Applicant's legal creation, existence, or recognition;

- 2). An external third party database (e.g. Dun and Bradstreet database) that is periodically updated, which CrossCert has evaluated in accordance with Data Source Accuracy (below);
- 3). A site visit by the CrossCert CA or a third party who is acting as an agent for the CA; or
- 4) An Attestation Letter.

The CA may use the same documentation or communication described in 1 through 4 above to verify both the Applicant's identity and address.

Alternatively, the CA may verify the address of the Applicant (but not the identity of the Applicant) using a utility bill, bank statement, credit card statement, government-issued tax document, or other form of identification that meets the requirements of Data Source Accuracy (below).

#### ***B. DBA/Tradename Identity Verification Option***

If the Subject Identity Information includes a DBA or tradename, the CA shall verify the Applicant's right to use the DBA/tradename using at least one of the following:

1. Documentation provided by, or communication with, a government agency in the jurisdiction of the Applicant's legal creation, existence, or recognition;
2. Documentation or communication provided by a third party source that meets the requirements of Data Source Accuracy (below);
3. Communication with a government agency responsible for the management of such DBAs or tradenames;
4. An Attestation Letter accompanied by documentary support that meets the requirements of Data Source Accuracy (below); or
5. A utility bill, bank statement, credit card statement, government-issued tax document, or other form of identification that meets the requirements of Data Source Accuracy (below)

#### **Reliable Method of Communication**

If the Applicant for a Certificate containing Subject Identity Information is an organization, CrossCert uses a Reliable Method of Communication to verify the authenticity of the Applicant Representative's certificate request including: email, postal services and telephone.

The CA may use the sources listed for Name or Address Identity Verification (above) to verify the Reliable Method of Communication. Provided that the CA uses a Reliable Method of Communication, the CA may establish the authenticity of the certificate request directly with the Applicant Representative or with an authoritative source within the Applicant's organization, such as the Applicant's main business offices, corporate offices, human resource offices, information technology offices, or other department that the CA deems appropriate.

In addition, the CA has a process that allows an Applicant to specify the individuals who may request Certificates. If an Applicant specifies, in writing, the individuals who may request a Certificate, then the CA shall not accept any certificate requests that are outside this specification. The CA shall provide an Applicant with a list of its authorized certificate requesters upon the Applicant's verified written request.

#### **Verification of Individual Applicant**

If an Applicant is a natural person then the CrossCert CA shall verify the Applicant's name, Applicant's address, and the authenticity of the certificate request (also see 3.1.1.1 *OrganizationName*).

The CA shall verify the Applicant's name using 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). The CA shall inspect the copy for any indication of alteration or falsification.

The CA shall verify the Applicant's address using a form of identification that meets "*Data Source Accuracy*" requirements, such as a government ID, utility bill, or bank or credit card statement. The CA may rely on the same government-issued ID that was used to verify the Applicant's name.

The CA shall verify the certificate request with the Applicant using a Reliable Method of Communication.

#### **Age of Certificate Data**

The CA shall not use any data or document to validate a certificate request if the data or document was obtained more than thirty-nine (39) months prior to the Certificates' issuance.

#### **Denied List**

The CA shall maintain an internal database of all previously revoked Certificates and previously rejected certificate requests due to suspected phishing or other fraudulent usage or concerns, for at least seven (7) years in accordance with documentation retention requirements (section 5.5.2 of this CPS).

The CA shall use this information to identify subsequent suspicious certificate requests.

#### **High Risk Requests**

CrossCert shall identify high risk certificate requests, and conduct such additional verification activity, and take such additional precautions, as are reasonably necessary to ensure that such requests are properly verified under these Requirements.

The CA may identify high risk requests by checking appropriate lists of organization names that are most commonly targeted in phishing and other fraudulent schemes, and by automatically flagging certificate requests that match these lists for further scrutiny before issuance. Examples of such lists include: internal databases maintained by the CA that include previously revoked Certificates and previously rejected certificate requests due to suspected phishing or other fraudulent usage.

The CA shall use information identified by the CA's high-risk criteria to flag suspicious certificate requests. The CA shall follow a documented procedure for performing additional verification of any certificate request flagged as suspicious or high risk.

#### **Data Source Accuracy**

Before relying on a data source to verify Subject Identity Information, the CA shall evaluate the data source's accuracy and reliability. The CA shall not use a data source to verify Subject Identity Information if the CA's evaluation determines that the data source is not reasonably accurate or reliable.

#### **3.2.2.2 Mozilla Verification Requirements for Organization Applicants**

For requests for internationalized domain names (IDNs) in Certificates, DigiCert performs domain name owner verification to detect cases of homographic spoofing of IDNs.

DigiCert actively participates in the CA/Browser Forum providing input to the standards for IDN Certificates and conforms to standards ratified by that body.

#### **3.2.2.3 Domain Validation**

For STN certificates, DigiCert uses the methods of vetting a domain name that are documented in the DigiCert Certification Practices Statement, <https://www.digicert.com/CPS>.



### 3.2.3 Authentication of Individual Identity

Authentication of individual identity differs according to the Class of Certificate. The minimum authentication standard for each class of STN certificate is explained in Table 7 below.

Certificate Class	Authentication of Identity
<b>Class 1</b>	No identity authentication.
<b>Class 2</b>	<p>Authenticate identity by matching the identity provided by the Subscriber to:</p> <ul style="list-style-type: none"> <li>○ Manual check performed by the enterprise administrator customer for each subscriber requesting a certificate, “in which the subscriber receives the certificate via an email sent to the address provided during enrollment”, or</li> <li>○ Passcode-based authentication where a randomly-generated passcode is delivered out-of-band by the enterprise administrator customer to the subscriber entitled to enroll for the certificate, and the subscriber provides this passcode at enrollment time, or</li> <li>○ Comparing information provided by the subscriber to information contained in business records or databases (customer directories such as Active Directory or LDAP)</li> </ul> <p>■</p>
<b>Class 3</b>	<p>The authentication of Class 3 individual Certificates is based on the personal (physical) presence of the Certificate Applicant before an agent of the CA or RA, or before a notary public or other official with comparable authority within the Certificate Applicant’s jurisdiction. The agent, notary or other official shall check the identity of the Certificate Applicant against a well-recognized form of government-issued photographic identification, such as a passport or driver’s license and one other identification credential.</p> <p>The authentication of Class 3 Administrator certificates is based on authentication of the organization and a confirmation from the organization of the identity and authorization of the person to act as Administrator.</p> <p>CrossCert may also have occasion to approve Certificate Applications for their own Administrators. Administrators are “Trusted Persons” within an organization. In this case, authentication of their Certificate Applications shall be based on confirmation of their identity in connection with their employment or retention as an independent contractor and background checking procedures.<sup>8</sup></p> <p>Email address validation – For Class 3 Organizational Email certificates, CrossCert verifies that the subscriber owns the base domain using method 1 or 3 from Section 3.2.2.4, and allows the subscriber to put in the certificate any email address from that verified domain.</p>

**Table 7. Authentication of individual identity**

<sup>8</sup> CrossCert may approve Administrator Certificates to be associated with a non-human recipient such as a device, or a server. Authentication of a Class 3 Administrator Certificate Applications for a non-human recipient shall include:

- Authentication of the existence and identity of the service named as the Administrator in the Certificate Application
- Authentication that the service has been securely implemented in a manner consistent with it performing an Administrative function
- Confirmation of the identity and authorization of the person enrolling for the Administrator certificate for the service named as Administrator in the Certificate Application.

### **3.2.4 Non-Verified Subscriber information**

Non-verified subscriber information includes:

- Organization Unit (OU) with certain exceptions<sup>9</sup>
- Subscriber's name in Class 1 certificates
- Any other information designated as non-verified in the certificate.

### **3.2.5 Validation of Authority**

DigiCert and CrossCert will take reasonable steps to establish that a Certificate request made on behalf of an Organization is legitimate and properly authorized. Affirmation of authority is typically derived from the Applicant's actions in confirming the right to use or control the requested domain names using procedures listed in Section 3.2.2 of the CrossCert CPS. To prove that a Certificate is duly authorized by the Organization in other situations, CrossCert will typically request the name of a contact person who is employed by or is an officer of the Organization.

Whenever an individual's name is associated with an Organization name in a certificate in such a way to indicate the individual's affiliation or authorization to act on behalf of the Organization the CrossCert or a RA:

- determines that the Organization exists by using at least one third party identity proofing service or database, or alternatively, organizational documentation issued by or filed with the applicable government that confirms the existence of the organization, and
- Uses information contained in the business records or databases of business information (employee or customer directories) of an RA approving certificates to its own affiliated individuals or confirms by telephone, confirmatory postal mail, or comparable procedure to the organization, the employment with the Organization of the individual submitting the Certificate Application and, when appropriate, his/her authority to act on behalf of the Organization.

### **3.2.6 Criteria for Interoperation**

- No stipulation.

## **3.3 Identification and Authentication for Re-key Requests**

Prior to the expiration of an existing Subscriber's Certificate, it is necessary for the Subscriber to obtain a new certificate to maintain continuity of Certificate usage. CrossCert generally requires that the Subscriber generate a new key pair to replace the expiring key pair (technically defined as "rekey") However, in certain cases (i.e., for web server certificates) Subscribers may request a new certificate for an existing key pair (technically defined as "renewal").

Generally speaking, both "Rekey" and "Renewal" are commonly described as "Certificate Renewal", focusing on the fact that the old Certificate is being replaced with a new Certificate and not emphasizing whether or not a new key pair is generated. For all Classes and Types of CrossCert Certificates, except for Class 3 Server Certificates, this distinction is not important as a new key pair is always generated as part of CrossCert's end-user Subscriber Certificate replacement process. However, for Class 3 Server Certificates, because the Subscriber key pair is generated on the web server and most web server key generation tools permit the creation of a new Certificate Request for an existing key pair, there is a distinction between "rekey" and "renewal."

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<sup>9</sup> Domain-validated and organization-validated certificates that attest compliance with CA/Browser Forum guidelines may contain Organizational Unit values that are validated.

### **3.3.1 Identification and Authentication for Routine Re-key**

Re-key procedures ensure that the person or organization seeking to rekey an end-user Subscriber Certificate is in fact the Subscriber of the Certificate.

One acceptable procedure is through the use of a Challenge Phrase (or the equivalent thereof), or proof of possession of the private key. Subscribers choose and submit with their enrollment information a Challenge Phrase. Upon renewal of a Certificate, if a Subscriber correctly submits the Subscriber's Challenge Phrase (or the equivalent thereof) with the Subscriber's reenrollment information, and the enrollment information (including Corporate and Technical contact information) has not changed and the previous validations were performed within the allowable data reuse limits specified in the CA/Browser Forum Baseline Requirements and EV Guidelines, a renewal Certificate is automatically issued. As an alternative to using a challenge phrase (or equivalent) DigiCert may send an e-mail message to the e-mail address associated with the verified corporate contact for the certificate being renewed, requesting confirmation of the Certificate renewal order and authorization to issue the Certificate. Upon receipt of confirmation authorizing issuance of the Certificate, DigiCert will issue the Certificate if the enrollment information (including Corporate and Technical contact information<sup>10</sup>) has not changed.

After rekeying or renewal in this fashion, and on at least alternative instances of subsequent rekeying or renewal thereafter, CrossCert or the RA reconfirms the identity of the Subscriber in accordance with the identification and authentication requirements of an original Certificate Application.

In particular, for retail Class 3 Organizational certificates through [www.crosscert.com](http://www.crosscert.com), CrossCert re-authenticates the Organization name and domain name included in the certificate at intervals described in section 6.3.2. In circumstances where:

- The challenge phrase is correctly used for the subsequent renewal certificate and;
- The certificate Distinguished Name has not been changed, and
- The Corporate and Technical Contact information remains unchanged from that which was previously verified,

CrossCert will not have to reconfirm by telephone, confirmatory postal mail, or comparable procedure to the Certificate Applicant certain information about the organization, that the organization has authorized the Certificate Application, and that the person submitting the Certificate Application on behalf of the Certificate Applicant is authorized to do so.

Rekey after 30-days from expiration of the Certificate are re-authenticated as an original Certificate Application and are not automatically issued.

### **3.3.2 Identification and Authentication for Re-key After Revocation**

Re-key/renewal after revocation is not permitted if the revocation occurred because:

- the Certificate (other than a Class 1 Certificate) was issued to a person other than the one named as the Subject of the Certificate, or
- the Certificate (other than a Class 1 Certificate) was issued without the authorization of the person or entity named as the Subject of such Certificate, or
- the entity approving the Subscriber's Certificate Application discovers or has reason to believe that a material fact in the Certificate Application is false. or
- For any other reason deemed necessary by DigiCert or CrossCert to protect the STN

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<sup>10</sup> If contact information has changed via an approved formal contact change procedure the certificate shall still qualify for automated renewal.

Subject to the foregoing paragraph, renewal of an Organizational or CA Certificate following revocation of the Certificate is permissible as long as renewal procedures ensure that the Organization or CA seeking renewal is in fact the Subscriber of the Certificate. Renewed Organizational Certificates shall contain the same Subject DN as the Subject DN of the Organizational Certificate being renewed.

Renewal of an individual Certificate following revocation, in allowed circumstances, must ensure that the person seeking renewal is, in fact, the Subscriber. One acceptable procedure is the use of a Challenge Phrase (or the equivalent thereof). Other than this procedure or another CrossCert-approved procedure, the requirements for the identification and authentication of an original Certificate Application shall be used for renewing a Certificate following revocation.

### **3.4 Identification and Authentication for Revocation Request**

Prior to the revocation of a Certificate, DigiCert verifies that the revocation has been requested by the Certificate's Subscriber, the entity that approved the Certificate Application.

Acceptable procedures for authenticating the revocation requests of a Subscriber include:

- Having the Subscriber for certain certificate types submit the Subscriber's Challenge Phrase (or the equivalent thereof), and revoking the Certificate automatically if it matches the Challenge Phrase (or the equivalent thereof) on record, (Note that this option may not be available to all customers.)
- Receiving a message from the Subscriber that requests revocation and contains a digital signature verifiable with reference to the Certificate to be revoked,
- Communication with the Subscriber providing reasonable assurances in light of the Class of Certificate that the person or organization requesting revocation is, in fact the Subscriber. Such communication, depending on the circumstances, may include one or more of the following: telephone, facsimile, e-mail, postal mail, or courier service.

CrossCert Administrators are entitled to request the revocation of end-user Subscriber Certificates within CrossCert's sub-domain. CrossCert authenticates the identity of Administrators via access control using SSL and client authentication before permitting them to perform revocation functions, or another STN-approved procedure.

RAs using an Automated Administration Software Module may submit bulk revocation requests to CrossCert. Such requests shall be authenticated via a digitally signed request signed with the private key in the RA's Automated Administration hardware token.

The requests to revoke a CA Certificate shall be authenticated by CrossCert to ensure that the revocation has in fact been requested by the CA.

## **4. Certificate Life-Cycle Operational Requirements**

### **4.1 Certificate Application**

#### **4.1.1 Who Can Submit a Certificate Application?**

Below is a list of people who may submit certificate applications:

- Any individual who is the subject of the certificate,
- Any authorized representative of an Organization or entity,
- Any authorized representative of a CA,
- Any authorized representative of an RA.

## **4.1.2 Enrollment Process and Responsibilities**

### **4.1.2.1 End-User Certificate Subscribers**

All end-user Certificate Subscribers shall manifest assent to the relevant Subscriber Agreement that contains representations and warranties described in Section 9.6.3 and undergo an enrollment process consisting of:

- completing a Certificate Application and providing true and correct information,
- generating, or arranging to have generated, a key pair,
- delivering his, her, or its public key, directly or through an RA, to CrossCert
- demonstrating possession and/or exclusive control of the private key corresponding to the public key delivered to CrossCert.

### **4.1.2.2 CABF Certificate Application Requirements**

Domain validated and organization validated SSL Certificate conform to the CA / Browser Forum Baseline requirements.

Prior to the issuance of a Certificate, the CA shall obtain the following documentation from the Applicant:

1. A certificate request, which may be electronic; and
2. An executed Subscriber Agreement, which may be electronic.

The CA should obtain any additional documentation the CA determines necessary to meet these Requirements.

Prior to the issuance of a Certificate, the CA shall obtain from the Applicant a certificate request in a form prescribed by the CA and that complies with these Requirements. One certificate request may suffice for multiple Certificates to be issued to the same Applicant, subject to the aging and updating requirement in Section 3.2.2.1, *Age of Certificate Data*, provided that each Certificate is supported by a valid, current certificate request signed by the appropriate Applicant Representative on behalf of the Applicant. The certificate request may be made, submitted and/or signed electronically.

#### **Request and Certification**

The certificate request must contain a request from, or on behalf of, the Applicant for the issuance of a Certificate, and a certification by, or on behalf of, the Applicant that all of the information contained therein is correct.

#### **Information Requirements**

The certificate request may include all factual information about the Applicant to be included in the Certificate, and such additional information as is necessary for the CA to obtain from the Applicant in order to comply with these Requirements and the CA's Certificate Policy and/or Certification Practice Statement. In cases where the certificate request does not contain all the necessary information about the Applicant, the CrossCert CA shall obtain the remaining information from the Applicant or, having obtained it from a reliable, independent, third-party data source, confirm it with the Applicant.

Applicant information must include, but not be limited to, at least one Fully-Qualified Domain Name or IP address to be included in the Certificate's *SubjectAltName* extension.

#### **Subscriber Private Key**

Parties other than the Subscriber shall not archive the Subscriber Private Key.

If the CA or any of its designated RAs generated the Private Key on behalf of the Subscriber, then the CA shall encrypt the Private Key for transport to the Subscriber.

If the CA or any of its designated RAs become aware that a Subscriber's Private Key has been communicated to an unauthorized person or an organization not affiliated with the Subscriber, then the CA shall revoke all certificates that include the Public Key corresponding to the communicated Private Key.

### **Subscriber and Agreement**

Prior to the issuance of a Certificate, the CA shall obtain, for the express benefit of the CA and the Certificate Beneficiaries, the Applicant's agreement to the Subscriber Agreement with the CA.

The CA shall implement a process to ensure that each Subscriber Agreement is legally enforceable against the Applicant. In either case, the Agreement must apply to the Certificate to be issued pursuant to the certificate request.

The CA uses an electronic or "click-through" Agreement; such agreements are legally enforceable. A separate Agreement may be used for each certificate request, or a single Agreement may be used to cover multiple future certificate requests and the resulting Certificates, so long as each Certificate that the CA issues to the Applicant is clearly covered by that Subscriber Agreement.

#### **4.1.2.3 CA and RA Certificates**

Subscribers of CA and RA Certificates enter into a contract with CrossCert. CA and RA Applicants shall provide their credentials to demonstrate their identity and provide contact information during the contracting process. During this contracting process or, at the latest, prior to the Key Generation Ceremony to create a CA or RA key pair, the applicant shall cooperate with CrossCert to determine the appropriate distinguished name and the content of the Certificates to be issued by the applicant.<sup>11</sup>

## **4.2 Certificate Application Processing**

### **4.2.1 Performing Identification and Authentication Functions**

CrossCert or an RA shall perform identification and authentication of all required Subscriber information in terms of Section 3.2.

### **4.2.2 Approval or Rejection of Certificate Applications**

CrossCert or an RA will approve an application for a certificate if the following criteria are met:

- Successful identification and authentication of all required Subscriber information in terms of Section 3.2
- Payment has been received

CrossCert or an RA will reject a certificate application if:

- Identification and authentication of all required Subscriber information in terms of Section 3.2 cannot be completed, or
- The Subscriber fails to furnish supporting documentation upon request, or

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<sup>11</sup> On an exceptional basis there may be instances where subscriber certificates will be issued directly from the root. This exception shall only be used in the event of a subscriber certificate with a key pair size and length that is 2048 bit or less

- The Subscriber fails to respond to notices within a specified time, or
- Payment has not been received, or
- The RA believes that issuing a certificate to the Subscriber may bring the STN into disrepute.

#### **4.2.3 Time to Process Certificate Applications**

CrossCert begins processing certificate applications within a reasonable time of receipt. There is no time stipulation to complete the processing of an application unless otherwise indicated in the relevant Subscriber Agreement, CPS or other Agreement between STN participants. A certificate application remains active until rejected.

#### **4.2.4 Certificate Authority Authorization (CAA)**

As of September 8, 2017, CAA issue and issuewild records are checked either within 8 hours of issuance or the CAA record's Time to Live (TTL), whichever is greater, except where CAA was similarly checked prior to the creation of a Certificate Transparency pre-certificate that was logged in at least 2 public CT log servers. CAA checking may be omitted for technically-constrained subordinate CAs.

DNS access failure is treated as permission to issue when the failure is proven to be outside DigiCert infrastructure, was retried at least once, and the domain zone does not have a DNSSEC validation chain to the ICANN root.

DigiCert logs actions taken based on CAA records, and documents issuance prevented by CAA for feedback to the CA/Browser Forum.

The Symantec Trust Network and all its brands recognize any and all of the following Issuer Domain Names as permission to issue: symantec.com, thawte.com, geotrust.com, rapidssl.com, and FQDNs terminating in the base domain name digitalcertvalidation.com with reseller-specific licensed prefixes.

### **4.3 Certificate Issuance**

#### **4.3.1 CA Actions during Certificate Issuance**

A Certificate is created and issued following the approval of a Certificate Application by CrossCert or following receipt of an RA's request to issue the Certificate. CrossCert creates and issues to a Certificate Applicant a Certificate based on the information in a Certificate Application following approval of such Certificate Application.

#### **4.3.2 Notifications to Subscriber by the CA of Issuance of Certificate**

CrossCert shall, either directly or through an RA, notify Subscribers that they have created such Certificates, and provide Subscribers with access to the Certificates by notifying them that their Certificates are available. Certificates shall be made available to end-user Subscribers, either by allowing them to download them from a web site or via a message sent to the Subscriber containing the Certificate.

#### **4.3.3 CABF Requirement for Certificate Issuance by a Root CA**

Domain validated and organization validated SSL Certificates conform to the CA / Browser Forum Baseline requirements.

CrossCert's Root CA Private Keys shall not be used to sign Subscriber Certificates. CrossCert's Root CA Private Keys shall be used to sign Certificates under only 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 OCSP Response verification Certificates).

Certificate issuance by the Root CA shall require an individual authorized by the CA (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. Additional controls for Certificate issuance by the Root CA are described in section 5.6, Key Changeover and section 6.1, Key Pair Generation.

#### **4.4 Certificate Acceptance**

##### **4.4.1 Conduct Constituting Certificate Acceptance**

The following conduct constitutes certificate acceptance:

- Downloading a Certificate or installing a Certificate from a message attaching it constitutes the Subscriber's acceptance of the Certificate.
- Failure of the Subscriber to object to the certificate or its content constitutes certificate acceptance.

##### **4.4.2 Publication of the Certificate by the CA**

CrossCert publishes the Certificates it issues in a publicly accessible repository.

##### **4.4.3 Notification of Certificate Issuance by the CA to Other Entities**

RAs may receive notification of the issuance of certificates they approve.

#### **4.5 Key Pair and Certificate Usage**

##### **4.5.1 Subscriber Private Key and Certificate Usage**

Use of the Private Key corresponding to the public key in the certificate shall only be permitted once the Subscriber has agreed to the Subscriber Agreement and accepted the certificate. The certificate shall be used lawfully in accordance with CrossCert's Subscriber Agreement the terms of the STN CP and this CPS. Certificate use must be consistent with the *KeyUsage* field extensions included in the certificate (e.g., if Digital Signature is not enabled then the certificate must not be used for signing).

Subscribers shall protect their private keys from unauthorized use and shall discontinue use of the private key following expiration or revocation of the certificate. Parties other than the Subscriber shall not archive the Subscriber Private Key except as set forth in section 4.12.

##### **4.5.2 Relying Party Public Key and Certificate Usage**

Relying parties shall assent to the terms of the applicable Relying Party Agreement as a condition of relying on the certificate.



Reliance on a certificate must be reasonable under the circumstances. If the circumstances indicate a need for additional assurances, the Relying Party must obtain such assurances for such reliance to be deemed reasonable.

Before any act of reliance, Relying Parties shall independently assess:

- the appropriateness of the use of a Certificate for any given purpose and determine that the Certificate will, in fact, be used for an appropriate purpose that is not prohibited or otherwise restricted by this CPS. CrossCert is not responsible for assessing the appropriateness of the use of a Certificate.
- That the certificate is being used in accordance with the *KeyUsage* field extensions included in the certificate (e.g., if Digital Signature is not enabled then the certificate may not be relied upon for validating a Subscriber's signature).
- The status of the certificate and all the CAs in the chain that issued the certificate. If any of the Certificates in the Certificate Chain have been revoked, the Relying Party is solely responsible to investigate whether reliance on a digital signature performed by an end-user Subscriber Certificate prior to revocation of a Certificate in the Certificate chain is reasonable. Any such reliance is made solely at the risk of the Relying party.

Assuming that the use of the Certificate is appropriate, Relying Parties shall utilize the appropriate software and/or hardware to perform digital signature verification or other cryptographic operations they wish to perform, as a condition of relying on Certificates in connection with each such operation. Such operations include identifying a Certificate Chain and verifying the digital signatures on all Certificates in the Certificate Chain.

## **4.6 Certificate Renewal**

Certificate renewal is the issuance of a new certificate to the subscriber without changing the public key or any other information in the certificate. Certificate renewal is supported for Class 3 certificates where the key pair is generated on a web server as most web server key generation tools permit the creation of a new Certificate Request for an existing key pair.

### **4.6.1 Circumstances for Certificate Renewal**

Prior to the expiration of an existing Subscriber's Certificate, it is necessary for the Subscriber to renew a new certificate to maintain continuity of Certificate usage. A certificate may also be renewed after expiration.

### **4.6.2 Who May Request Renewal**

Only the subscriber for an individual certificate or an authorized representative for an Organizational certificate may request certificate renewal.

### **4.6.3 Processing Certificate Renewal Requests**

Renewal procedures ensure that the person or organization seeking to renew an end-user Subscriber Certificate is in fact the Subscriber (or authorized by the Subscriber) of the Certificate. One acceptable procedure is through the use of a Challenge Phrase (or the equivalent thereof), or proof of possession of the private key. Subscribers choose and submit with their enrollment information a Challenge Phrase (or the equivalent thereof). Upon renewal of a Certificate, if a Subscriber correctly submits the Subscriber's Challenge Phrase (or the equivalent thereof) with the Subscriber's reenrollment information, and the enrollment information (including Corporate and Technical contact information<sup>12</sup>) has not changed, a renewal Certificate is automatically

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<sup>12</sup> If contact information has changed via an approved formal contact change procedure the certificate shall still qualify for automated renewal.

issued. As an alternative to using a challenge phrase (or equivalent) CrossCert may send an e-mail message to the e-mail address associated with the verified corporate contact for the certificate being renewed, requesting confirmation of the Certificate renewal order and authorization to issue the Certificate. Upon receipt of confirmation authorizing issuance of the Certificate, CrossCert will issue the Certificate if the enrollment information (including corporate and technical contact information<sup>13</sup>) has not changed.

After renewal in this fashion, and on at least alternative instances of subsequent renewal thereafter, CrossCert or an RA shall reconfirm the identity of the Subscriber in accordance with the requirements specified in this CPS for the authentication of an original Certificate Application.

In particular, for retail Class 3 Organizational certificates through [www.crosscert.com](http://www.crosscert.com), CrossCert re-authenticates the Organization name and domain name included in the certificate at intervals described in section 6.3.2. In circumstances where:

- The challenge phrase is correctly used for the subsequent renewal certificate and;
- The certificate Distinguished Name has not been changed, and
- The Corporate and Technical Contact information remains unchanged from that which was previously verified,

CrossCert will not have to reconfirm by telephone, confirmatory postal mail, or comparable procedure to the Certificate Applicant certain information about the organization, that the organization has authorized the Certificate Application, and that the person submitting the Certificate Application on behalf of the Certificate Applicant is authorized to do so.

Other than this procedure or another CrossCert -approved procedure, the requirements for the authentication of an original Certificate Application shall be used for renewing an end-user Subscriber Certificate.

#### **4.6.4 Notification of New Certificate Issuance to Subscriber**

Notification of issuance of certificate renewal to the Subscriber is in accordance with Section 4.3.2

#### **4.6.5 Conduct Constituting Acceptance of a Renewal Certificate**

Conduct constituting Acceptance of a renewed certificate is in accordance with Section 4.4.1

#### **4.6.6 Publication of the Renewal Certificate by the CA**

CrossCert publishes the Certificates it issues in a publicly accessible repository.

#### **4.6.7 Notification of Certificate Issuance by the CA to Other Entities**

RAs may receive notification of the issuance of certificates they approve.

### **4.7 Certificate Re-Key**

Certificate rekey is the application for the issuance of a new certificate that certifies the new public key. Certificate rekey is supported for all certificate Classes.

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<sup>13</sup> If contact information has changed via an approved formal contact change procedure the certificate shall still qualify for automated renewal.

#### **4.7.1 Circumstances for Certificate Re-Key**

Prior to the expiration of an existing Subscriber's Certificate, it is necessary for the Subscriber to re-key the certificate to maintain continuity of Certificate usage. A certificate may also be re-keyed after expiration.

#### **4.7.2 Who May Request Certification of a New Public Key**

Only the subscriber for an individual certificate or an authorized representative for an Organizational certificate may request certificate renewal

#### **4.7.3 Processing Certificate Re-Keying Requests**

Re-key procedures ensure that the person or organization seeking to renew an end-user Subscriber Certificate is in fact the Subscriber (or authorized by the Subscriber) of the Certificate.

One acceptable procedure is through the use of a Challenge Phrase (or the equivalent thereof), or proof of possession of the private key. Subscribers choose and submit with their enrollment information a Challenge Phrase (or the equivalent thereof). Upon renewal of a Certificate, if a Subscriber correctly submits the Subscriber's Challenge Phrase (or the equivalent thereof) with the Subscriber's reenrollment information, and the enrollment information (including contact information<sup>14</sup>) has not changed, a renewal Certificate is automatically issued. Subject to the provisions of Section 3.3.1, after re-keying in this fashion, and on at least alternative instances of subsequent re-keying thereafter, CrossCert or an RA shall reconfirm the identity of the Subscriber in accordance with the requirements specified in this CPS for the authentication of an original Certificate Application.

Other than this procedure or another Symantec-approved procedure, the requirements for the authentication of an original Certificate Application shall be used for re-keying an end-user Subscriber Certificate.

#### **4.7.4 Notification of New Certificate Issuance to Subscriber**

Notification of issuance of a re-keyed certificate to the Subscriber is in accordance with Section 4.3.2

#### **4.7.5 Conduct Constituting Acceptance of a Re-Keyed Certificate**

Conduct constituting Acceptance of a re-keyed certificate is in accordance with Section 4.4.1

#### **4.7.6 Publication of the Re-Keyed Certificate by the CA**

CrossCert publishes the Certificates it issues in a publicly accessible repository.

#### **4.7.7 Notification of Certificate Issuance by the CA to Other Entities**

RAs may receive notification of the issuance of certificates they approve.

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<sup>14</sup> If contact information has changed via an approved formal contact change procedure the certificate shall still qualify for automated renewal.

## **4.8 Certificate Modification**

### **4.8.1 Circumstances for Certificate Modification**

Certificate modification refers to the application for the issuance of a new certificate due to changes in the information in an existing certificate (other than the subscriber's public key).

Certificate modification is considered a Certificate Application in terms of Section 4.1.

### **4.8.2 Who May Request Certificate Modification**

See Section 4.1.1.

### **4.8.3 Processing Certificate Modification Requests**

CrossCert or an RA shall perform identification and authentication of all required Subscriber information in terms of Section 3.2.

### **4.8.4 Notification of New Certificate Issuance to Subscriber**

See Section 4.3.2.

### **4.8.5 Conduct Constituting Acceptance of Modified Certificate**

See Section 4.4.1.

### **4.8.6 Publication of the Modified Certificate by the CA**

CrossCert publishes the Certificates it issues in a publicly accessible repository.

### **4.8.7 Notification of Certificate Issuance by the CA to Other Entities**

See Section 4.4.3.

## **4.9 Certificate Revocation and Suspension**

### **4.9.1 Circumstances for Revocation**

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

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

CrossCert 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. CrossCert 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. CrossCert 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. CrossCert confirms that a Wildcard Certificate has been used to authenticate a fraudulently misleading subordinate FQDN;
6. CrossCert confirms a material change in the information contained in the Certificate;
7. CrossCert confirms that the Certificate was not issued in accordance with the CA/B forum requirements or the DigiCert CP or this CPS;
8. CrossCert determines or confirms that any of the information appearing in the Certificate is inaccurate;
9. CrossCert's right to issue Certificates under the CA/B forum requirements expires or is revoked or terminated, unless CrossCert has made arrangements to continue maintaining the CRL/OCSP Repository;
10. Revocation is required by the DigiCert CP and/or this CPS; or
11. CrossCert 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.

In addition to the above stated reasons, end-user Subscriber certificate will be revoked by CrossCert (or by the Subscriber) and published on a CRL for the following reasons:

- The Subscriber Agreement with the Subscriber has been terminated,
- The affiliation between an Enterprise Customer with a Subscriber is terminated or has otherwise ended,
- CrossCert or a Customer has reason to believe that the Certificate was issued in a manner not materially in accordance with the procedures required by the applicable CPS, the Certificate (other than a Class 1 Certificate) was issued to a person other than the one named as the Subject of the Certificate, or the Certificate (other than a Class 1 Certificate) was issued without the authorization of the person named as the Subject of such Certificate,
- CrossCert or a Customer has reason to believe that a material fact in the Certificate Application is false,
- CrossCert or a Customer determines that a material prerequisite to Certificate Issuance was neither satisfied nor waived,
- In the case of Class 3 organizational Certificates, the Subscriber's organization name changes,
- The information within the Certificate, other than Non-verified Subscriber Information, is incorrect or has changed,
- The Subscriber identity has not been successfully re-verified in accordance with section 6.3.2,
- The Subscriber has not submitted payment when due, or
- The continued use of that certificate is harmful to the STN.

When considering whether certificate usage is harmful to the STN, CrossCert considers, among other things, the following:

- The nature and number of complaints received
- The identity of the complainant(s)
- Relevant legislation in force
- Responses to the alleged harmful use from the Subscriber

CrossCert 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.

CrossCert 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 CrossCert that the original Certificate request was not authorized and does not retroactively grant authorization;
3. CrossCert 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. CrossCert obtains evidence that the CA Certificate was misused;
5. CrossCert confirms that the CA Certificate was not issued in accordance with or that Subordinate CA has not complied with this document or the applicable DigiCert Certificate Policy or CrossCert Certification Practice Statement;
6. CrossCert determines that any of the information appearing in the CA Certificate is inaccurate or misleading;
7. CrossCert 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. CrossCert's or the Subordinate CA's right to issue Certificates under the Baseline Requirements expires or is revoked or terminated, unless CrossCert has made arrangements to continue maintaining the CRL/OCSP Repository;
9. Revocation is required by DigiCert's Certificate Policy and/or CrossCert 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.

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

CrossCert may also revoke an Administrator Certificate if the Administrator's authority to act as Administrator has been terminated or otherwise has ended.

CrossCert Subscriber Agreements require end-user Subscribers to immediately notify CrossCert of a known or suspected compromise of its private key.

Upon request from a subscriber who can no longer use (or no longer wishes to use) a certificate for a reason other than one mentioned above, CrossCert will flag the certificate as inactive in its database but will not publish the certificate on a CRL.

#### **4.9.1.1 CABF Requirements for Reasons for Revocation**

Domain-validated and organization-validated SSL Certificates conform to respective CA / Browser Forum requirements as set forth in the DigiCert CP and CrossCert CPS.

#### **4.9.2 Who Can Request Revocation**

Individual Subscribers can request the revocation of their own individual Certificates through an authorized representative of CrossCert or an RA. In the case of organizational Certificates, a duly authorized representative of the organization shall be entitled to request the revocation of Certificates issued to the organization. A duly authorized representative of CrossCert or a RA shall be entitled to request the revocation of an RA Administrator's Certificate. The entity that approved a Subscriber's Certificate Application shall also be entitled to revoke or request the revocation of the Subscriber's Certificate.

Only CrossCert is entitled to request or initiate the revocation of the Certificates issued to its own CAs. RAs are entitled, through their duly authorized representatives, to request the revocation of

their own Certificates, and their Superior Entities shall be entitled to request or initiate the revocation of their Certificates.

Any person claiming to have witnessed certificate misuse, inappropriate conduct related to certificates, fraud or key compromise may submit a Certificate Problem Report using the online form available at the CrossCert website, [https://www.crosscert.com/symantec/02\\_5\\_03.jsp](https://www.crosscert.com/symantec/02_5_03.jsp). CrossCert will investigate all Certificate Problem Reports and take action within the prescribed timing stated in the CABF Baseline Requirements.

### **4.9.3 Procedure for Revocation Request**

CrossCert processes a revocation request as follows:

1. CrossCert 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. CrossCert may also include its own reasons for revocation in the log.
2. CrossCert 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, CrossCert 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, CrossCert 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 CrossCert determines that revocation is appropriate, CrossCert personnel revoke the Certificate and update the CRL.

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

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

#### **4.9.3.1 Procedure for Requesting the Revocation of an End-User Subscriber Certificate**

An end-user Subscriber requesting revocation is required to communicate the request to CrossCert or the Customer approving the Subscriber's Certificate Application, who in turn will initiate revocation of the certificate promptly. For Enterprise customers, the Subscriber is required to communicate the request to the Enterprise Administrator who will communicate the revocation request to CrossCert for processing. Communication of such revocation request shall be in accordance with CPS § 3.4. Non-Enterprise customers shall communicate a revocation request in accordance with CPS § 3.4.

Where an Enterprise Customer initiates revocation of an end-user Subscriber Certificate upon its own initiative, the Managed PKI Customer instructs CrossCert to revoke the Certificate.

#### **4.9.3.2 CABF Requirements for Certificate Revocation Process**

Domain validated and organization validated SSL Certificates conform to the CA / Browser Forum Baseline Requirements.

### **Revocation Request**

CrossCert CAs shall provide a process for Subscribers to request revocation of their own Certificates described in section 4.9 of this CPS.

CrossCert shall maintain a continuous 24x7 ability to accept and respond to revocation requests and related inquiries.

### **Certificate Problem Reporting**

CrossCert CAs shall publicly disclose to Subscribers, Relying Parties, Application Software Suppliers, and other third parties, instructions for reporting suspected Private Key Compromise, Certificate misuse, or other types of fraud, compromise, misuse, inappropriate conduct, or any other matter related to Certificates.

### **Investigation**

CrossCert CAs shall begin investigation of a Certificate Problem Report within twenty-four (24) hours of receipt and decide whether revocation or other appropriate action is warranted based upon at least the following criteria:

1. The nature of the alleged problem;
2. The number of Certificate Problem Reports received about a particular Certificate or Subscriber;
3. 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
4. Relevant legislation

### **Response**

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

#### **4.9.3.3 Procedure for Requesting the Revocation of a CA or RA Certificate**

A CA or RA requesting revocation of its CA or RA Certificate is required to communicate the request to CrossCert. CrossCert will then revoke the Certificate. CrossCert may also initiate CA or RA Certificate revocation.

#### **4.9.4 Revocation Request Grace Period**

Revocation requests shall be submitted as promptly as possible within a commercially reasonable time.

#### **4.9.5 Time within Which CA Must Process the Revocation Request**

CrossCert takes commercially reasonable steps to process revocation requests without delay. Within 24 hours after receiving a Certificate problem report, CrossCert 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, CrossCert 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 CrossCert 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 CrossCert 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, CrossCert 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 Requirements for Relying Parties**

Relying Parties shall check the status of Certificates on which they wish to rely. One method by which Relying Parties may check Certificate status is by consulting the most recent CRL from the CA that issued the Certificate on which the Relying Party wishes to rely. Alternatively, Relying Parties may meet this requirement either by checking Certificate status using the applicable web-based repository or by using OCSP (if available). CrossCert shall provide Relying Parties with information on how to find the appropriate CRL, web-based repository, or OCSP responder (where available) to check for revocation status.

Due to the numerous and varying locations for CRL repositories, relying parties are advised to access CRLs using the URL(s) embedded in a certificate's CRL Distribution Points extension. The proper OCSP responder for a given certificate is placed in its Authority Information Access extension.

#### **4.9.7 CRL Issuance Frequency**

CRLs for end-user Subscriber Certificates are issued at least once per day. CRLs for CA Certificates shall be issued at least annually, but also whenever a CA Certificate is revoked.

If a Certificate listed in a CRL expires, it may be removed from later-issued CRLs after the Certificate's expiration.

##### **4.9.7.1 CABF Requirements for CRL Issuance**

Domain validated and organization validated SSL Certificates conform to the CA / Browser Forum Baseline Requirements.

##### **Subscriber Certificate Status Requirements**

If the CA publishes a CRL, the CA shall update and reissue CRLs at least once every seven (7) days, and the value of the *nextUpdate* field must not be more than ten (10) days beyond the value of the *thisUpdate* field.

#### **Subordinate CA Certificate Status Requirements**

The CA shall update and reissue CRLs at least (i) once every twelve (12) months and (ii) within 24 hours after revoking a Subordinate CA Certificate, and the value of the *nextUpdate* field must not be more than twelve (12) months beyond the value of the *thisUpdate* field.

#### **4.9.8 Maximum Latency for CRLs**

CRLs are posted to the repository within a commercially reasonable time after generation. This is generally done automatically within minutes of generation.

#### **4.9.9 On-Line Revocation/Status Checking Availability**

Online revocation and other Certificate status information are available via a web-based repository and, where offered, OCSP. In addition to publishing CRLs, CrossCert provides Certificate status information through query functions in the CrossCert Repository.

Certificate status information for Individual Certificates is available through web-based query functions accessible through the CrossCert Repository at

- <https://onsite.crosscert.com/services/KECAIncCrossCertClass1ConsumerIndividualSubscriberCA/client/search.htm> (for Individual Certificates) and
- <https://digitalid.verisign.com/services/server/search.htm> (for SSL Certificates).

CrossCert also provides OCSP Certificate status information. Enterprise Customers who contract for OCSP services may check Certificate status through the use of OCSP. The URL for the relevant OCSP Responder is communicated to the Enterprise Customer.

##### **4.9.9.1 CABF Requirements for OCSP Availability**

Domain validated and organization validated SSL Certificates conform to the CA / Browser Forum Baseline Requirements.

Effective 1 January 2013, the CA shall support an OCSP capability using the GET method for Certificates issued in accordance with these Requirements.

#### **Certificate Status for Subscriber Certificates**

The CA shall update information provided via an Online Certificate Status Protocol at least every four (4) days. OCSP responses from this service must have a maximum expiration time of ten (10) days.

#### **Certificate Status for Subordinate CA Certificates**

The CA shall update information provided via an Online Certificate Status Protocol at least (i) every twelve (12) months and (ii) within 24 hours after revoking a Subordinate CA Certificate.

#### **4.9.10 On-Line Revocation Checking Requirements**

A relying party must check the status of a certificate on which he/she/it wishes to rely. If a Relying Party does not check the status of a Certificate on which the Relying Party wishes to rely by consulting the most recent relevant CRL, the Relying Party shall check Certificate status by consulting the applicable repository or by requesting Certificate status using the applicable OCSP responder (where OCSP services are available).

#### **4.9.11 Other Forms of Revocation Advertisements Available**

Not applicable.

#### **4.9.12 Special Requirements regarding Key Compromise**

CrossCert uses commercially reasonable efforts to notify potential Relying Parties if it discovers, or have reason to believe, that there has been a Compromise of the private key of one of their own CAs or one of the CAs within their sub-domains or one of end-user Subscriber certificates.

#### **4.9.13 Circumstances for Suspension**

Not applicable.

#### **4.9.14 Who Can Request Suspension**

Not applicable.

#### **4.9.15 Procedure for Suspension Request**

Not applicable.

#### **4.9.16 Limits on Suspension Period**

Not applicable.

### **4.10 Certificate Status Services**

#### **4.10.1 Operational Characteristics**

The Status of public certificates is available via CRL at CrossCert's website, LDAP directory and via an OCSP responder (where available).

#### **4.10.2 Service Availability**

Certificate Status Services are available 24 x7 without scheduled interruption.

For Organization validated and Domain validated SSL Certificates, the CRL and OCSP capability shall provide a response time of ten (10) seconds or less under normal operating conditions.

#### **4.10.3 Optional Features**

OCSP is an optional status service feature that is not available for all products and must be specifically enabled for other products.

### **4.11 End of Subscription**

A subscriber may end a subscription for a CrossCert certificate by:

- Allowing his/her/its certificate to expire without renewing or re-keying that certificate
- Revoking of his/her/its certificate before certificate expiration without replacing the certificates.

## **4.12 Key Escrow and Recovery**

With the exception of enterprises deploying Managed PKI Key Management Services no STN participant may escrow CA, RA or end-user Subscriber private keys.

Enterprise customers using the Key Escrow option within the Symantec Managed PKI Service can escrow copies of the private keys of Subscribers whose Certificate Applications they approve. The enterprise customer may escrow keys either within the enterprise's premises or CrossCert's secure data center. If operated out of the enterprise's premises, CrossCert does not store copies of Subscriber private keys but nevertheless plays an important role in the Subscriber key recovery process.

### **4.12.1 Key Escrow and Recovery Policy and Practices**

Enterprise customers using the Key Escrow option within the Symantec Managed PKI service (or an equivalent service approved by DigiCert) are permitted to escrow end-user Subscribers' private key. Escrowed private keys shall be stored in encrypted form using the Managed PKI Key Manager software. Except for enterprise customers using the Managed PKI Key Manager Service (or an equivalent service approved by DigiCert), the private keys of CAs or end-user Subscribers shall not be escrowed.

End-user Subscriber private keys shall only be recovered under the circumstances permitted within the Managed PKI Key Management Service Administrator's Guide, under which:

- Enterprise customers using Managed PKI Key Manager shall confirm the identity of any person purporting to be the Subscriber to ensure that a purported Subscriber request for the Subscriber's private key is, in fact, from the Subscriber and not an imposter,
- Enterprise customers shall recover a Subscriber's private key without the Subscriber's authority only for their legitimate and lawful purposes, such as to comply with judicial or administrative process or a search warrant, and not for any illegal, fraudulent, or other wrongful purpose, and
- Such Enterprise customers shall have personnel controls in place to prevent Key Management Service Administrators and other persons from obtaining unauthorized access to private keys.

It is recommended that Enterprise Customers using the Key Escrow option within the Symantec Managed PKI Service:

- Notify the subscribers that their private keys are escrowed
- Protect subscribers' escrowed keys from unauthorized disclosure,
- Protect all information, including the administrator's own key(s) that could be used to recover subscribers' escrowed keys.
- Release subscribers' escrowed keys only for properly authenticated and authorized requests for recovery.
- Revoke the Subscriber's Key pair prior to recovering the encryption key under certain circumstances such as to discontinue the use of a lost certificate.
- Not be required to communicate any information concerning a key recovery to the subscriber except when the subscriber him/herself has requested recovery.
- Not disclose or allow to be disclosed escrowed keys or escrowed key-related information to any third party unless required by the law, government rule, or regulation; by the enterprise's organization policy; or by order of a court of competent jurisdiction.

### **4.12.2 Session Key Encapsulation and Recovery Policy and Practices**

Private keys are stored in the Key Manager database in encrypted form. Each Subscriber's private key is individually encrypted with its own triple-DES symmetric key. A Key Escrow Record (KER) is generated then the triple-DES key is combined with a random session key to form a

session key mask (MSK). The resulting MSK together with the certificate request information is securely sent and stored in the Managed PKI database at CrossCert. The KER (containing the end user's private key) and the individual session key are stored in the Key Manager database and all residual key material is destroyed.

The Managed PKI database is operated out of CrossCert's secure data center. The enterprise customer may choose to operate the Key Manager database either on the enterprise's premises or out of CrossCert's secure data center.

Recovery of a private key and digital certificate requires the Managed PKI administrator to securely log on to the Managed PKI Control Center, select the appropriate key pair to recover and click a "recover" hyperlink. Only after an approved administrator clicks the "recover" link is the MSK for that key pair returned from the Managed PKI database. The Key Manager retrieves the session key from the KMD and combines it with the MSK to regenerate the triple-DES key which was used to originally encrypt the private key, allowing recovery of the end user's private key. As a final step, an encrypted PKCS#12 file is returned to the administrator and ultimately distributed to the end user.

## **5. Facility, Management, and Operational Controls**

### **5.1 Physical Controls**

CrossCert has implemented the CrossCert Physical Security Policy, which supports the security requirements of this CPS. Compliance with these policies is included in CrossCert's independent audit requirements described in Section 8. The CrossCert Physical Security Policy contains sensitive security information and is only available upon agreement with CrossCert. An overview of the requirements are described below.

#### **5.1.1 Site Location and Construction**

Cross CA and RA operations are conducted within a physically protected environment that deters, prevents, and detects unauthorized use of, access to, or disclosure of sensitive information and systems whether covert or overt.

CrossCert also maintains disaster recovery facilities for its CA operations. CrossCert's disaster recovery facilities are protected by multiple tiers of physical security comparable to those of CrossCert's primary facility.

#### **5.1.2 Physical Access**

CrossCert CA systems are protected by a minimum of four tiers of physical security, with access to the lower tier required before gaining access to the higher tier.

Progressively restrictive physical access privileges control access to each tier. Sensitive CA operational activity, any activity related to the lifecycle of the certification process such as authentication, verification, and issuance, occur within very restrictive physical tiers. Access to each tier requires the use of a proximity card employee badge. Physical access is automatically logged and video recorded. Additional tiers enforce individual access control through the use of two factor authentication including biometrics. Unescorted personnel, including untrusted employees or visitors, are not allowed into such secured areas.

The physical security system includes additional tiers for key management security which serves to protect both online and offline storage of CSUs and keying material. Areas used to create and store cryptographic material enforce dual control, each through the use of two factor authentication including biometrics. Online CSUs are protected through the use of locked

cabinets. Offline CSUs are protected through the use of locked safes, cabinets and containers. Access to CSUs and keying material is restricted in accordance with CrossCert's segregation of duties requirements. The opening and closing of cabinets or containers in these tiers is logged for audit purposes.

### **5.1.3 Power and Air Conditioning**

CrossCert's secure facilities are equipped with primary and backup:

- power systems to ensure continuous, uninterrupted access to electric power and
- heating/ventilation/air conditioning systems to control temperature and relative humidity.

### **5.1.4 Water Exposures**

CrossCert has taken reasonable precautions to minimize the impact of water exposure to CrossCert systems.

### **5.1.5 Fire Prevention and Protection**

CrossCert has taken reasonable precautions to prevent and extinguish fires or other damaging exposure to flame or smoke. CrossCert's fire prevention and protection measures have been designed to comply with local fire safety regulations.

### **5.1.6 Media Storage**

All media containing production software and data, audit, archive, or backup information is stored within CrossCert facilities or in a secure off-site storage facility with appropriate physical and logical access controls designed to limit access to authorized personnel and protect such media from accidental damage (e.g., water, fire, and electromagnetic).

### **5.1.7 Waste Disposal**

Sensitive documents and materials are shredded before disposal. Media used to collect or transmit sensitive information are rendered unreadable before disposal. Cryptographic devices are physically destroyed or zeroized in accordance the manufacturers' guidance prior to disposal. Other waste is disposed of in accordance with CrossCert's normal waste disposal requirements.

### **5.1.8 Off-Site Backup**

CrossCert performs routine backups of critical system data, audit log data, and other sensitive information. Offsite backup media are stored in a physically secure manner using a bonded third party storage facility and CrossCert's disaster recovery facility.

## **5.2 Procedural Controls**

### **5.2.1 Trusted Roles**

Trusted Persons include all employees, contractors, and consultants that have access to or control authentication or cryptographic operations that may materially affect:

- the validation of information in Certificate Applications;
- the acceptance, rejection, or other processing of Certificate Applications, revocation requests, renewal requests, or enrollment information;
- the issuance, or revocation of Certificates, including personnel having access to restricted portions of its repository;
- the handling of Subscriber information or requests.

Trusted Persons include, but are not limited to:

- customer service personnel, with the exception of technical support analysts in some facilities,
- cryptographic business operations personnel,
- security personnel,
- system administration personnel,
- designated engineering personnel, and
- executives that are designated to manage infrastructural trustworthiness.

CrossCert considers the categories of personnel identified in this section as Trusted Persons having a Trusted Position. Persons seeking to become Trusted Persons by obtaining a Trusted Position must successfully complete the screening requirements set out in this CPS.

### **5.2.2 Number of Persons Required per Task**

CrossCert has established, maintains, and enforces rigorous control procedures to ensure the segregation of duties based on job responsibility and to ensure that multiple Trusted Persons are required to perform sensitive tasks.

Policy and control procedures are in place to ensure segregation of duties based on job responsibilities. The most sensitive tasks, such as access to and management of CA cryptographic hardware (cryptographic signing unit or CSU) and associated key material, require multiple Trusted Persons.

These internal control procedures are designed to ensure that at a minimum, two trusted personnel are required to have either physical or logical access to the device. Access to CA cryptographic hardware is strictly enforced by multiple Trusted Persons throughout its lifecycle, from incoming receipt and inspection to final logical and/or physical destruction. Once a module is activated with operational keys, further access controls are invoked to maintain split control over both physical and logical access to the device.

Other manual operations such as the validation and issuance of Class 3 Certificates, not issued by an automated validation and issuance system, require the participation of at least two (2) Trusted Persons, or a combination of at least one trusted person and an automated validation and issuance process. Manual operations for Key Recovery may optionally require the validation of two (2) authorized Administrators.

### **5.2.3 Identification and Authentication for Each Role**

For all personnel seeking to become Trusted Persons, verification of identity is performed through the personal (physical) presence of such personnel before Trusted Persons performing DigiCert HR or security functions and a check of well-recognized forms of identification (e.g., passports and driver's licenses). Identity is further confirmed through the background checking procedures in CPS § 5.3.1.

CrossCert ensures that personnel have achieved Trusted Status and departmental approval has been given before such personnel are:

- issued access devices and granted access to the required facilities;
- issued electronic credentials to access and perform specific functions on STN CA, RA, or other IT systems.

### **5.2.4 Roles Requiring Separation of Duties**

Roles requiring separation of duties or multi-person control include (but are not limited to)

- the validation of information in Certificate Applications;
- the acceptance, rejection, or other processing of Certificate Applications, revocation requests, key recovery requests or renewal requests, or enrollment information;
- the issuance of Certificates, including personnel having access to restricted portions of the repository;
- the handling of Subscriber information or requests
- the generation, issuing or destruction of a CA certificate
- the loading of a CA to a Production environment

### **5.3 Personnel Controls**

Personnel seeking to become Trusted Persons must present proof of the requisite background, qualifications, and experience needed to perform their prospective job responsibilities competently and satisfactorily, as well as proof of any government clearances, if any, necessary to perform certification services under government contracts. Background checks are repeated at least every 10 years for personnel holding Trusted Positions.

#### **5.3.1 Qualifications, Experience, and Clearance Requirements**

CrossCert requires that personnel seeking to become Trusted Persons present proof of the requisite background, qualifications, and experience needed to perform their prospective job responsibilities competently and satisfactorily, as well as proof of any government clearances, if any, necessary to perform certification services under government contracts.

#### **5.3.2 Background Check Procedures**

Prior to commencement of employment in a Trusted Role, CrossCert conducts background checks which include the following:

- confirmation of previous employment,
- check of professional reference,
- confirmation of the highest or most relevant educational degree obtained,
- search of driver's license records, and
- search of Resident Registration Number

To the extent that any of the requirements imposed by this section cannot be met due to a prohibition or limitation in local law or other circumstances, CrossCert will utilize a substitute investigative technique permitted by law that provides substantially similar information, including but not limited to obtaining a background check performed by the applicable governmental agency.

The factors revealed in a background check that may be considered grounds for rejecting candidates for Trusted Positions or for taking action against an existing Trusted Person generally include (but are not limited to) the following:

- Misrepresentations made by the candidate or Trusted Person,
- Highly unfavorable or unreliable professional references,
- Certain criminal convictions, and
- Indications of a lack of financial responsibility.

Reports containing such information are evaluated by human resources and security personnel, who determine the appropriate course of action in light of the type, magnitude, and frequency of the behavior uncovered by the background check. Such actions may include measures up to and including the cancellation of offers of employment made to candidates for Trusted Positions or the termination of existing Trusted Persons.



The use of information revealed in a background check to take such actions is subject to the applicable federal, state, and local laws.

### **5.3.3 Training Requirements**

CrossCert provides its personnel with training upon hire as well as the requisite on-the-job training needed for them to perform their job responsibilities competently and satisfactorily. CrossCert maintains records of such training. CrossCert periodically reviews and enhances its training programs as necessary.

CrossCert's training programs are tailored to the individual's responsibilities and include the following as relevant:

- Basic PKI concepts,
- Job responsibilities,
- CrossCert security and operational policies and procedures,
- Use and operation of deployed hardware and software,
- Incident and Compromise reporting and handling, and
- Disaster recovery and business continuity procedures.

#### **5.3.3.1 CABF Requirements for Training and Skill Level**

Domain validated and organization validated SSL Certificates conform to the CA / Browser Forum Baseline Requirements.

CrossCert provides all personnel performing information verification duties with skills-training that covers basic Public Key Infrastructure knowledge, authentication and vetting policies and procedures (including this CPS), common threats to the information verification process (including phishing and other social engineering tactics), and the pertinent CABF Requirements.

CrossCert maintains records of such training and ensures that personnel entrusted with Validation Specialist duties maintain a skill level that enables them to perform such duties satisfactorily. Validation Specialists engaged in Certificate Issuance shall maintain skill levels consistent with the CA's training and performance programs.

CrossCert documents that each Validation Specialist possesses the skills required by a task before allowing the Validation Specialist to perform that task. CrossCert requires all Validation Specialists to pass an examination provided by the CA on the information verification requirements outlined in the CABF Requirements.

### **5.3.4 Retraining Frequency and Requirements**

CrossCert provides refresher training and updates to their personnel to the extent and frequency required to ensure that such personnel maintain the required level of proficiency to perform their job responsibilities competently and satisfactorily.

### **5.3.5 Job Rotation Frequency and Sequence**

Not applicable

### **5.3.6 Sanctions for Unauthorized Actions**

Appropriate disciplinary actions are taken for unauthorized actions or other violations of CrossCert policies and procedures. Disciplinary actions may include measures up to and

including termination and are commensurate with the frequency and severity of the unauthorized actions.

### **5.3.7 Independent Contractor Requirements**

In limited circumstances, independent contractors or consultants may be used to fill Trusted Positions. Any such contractor or consultant is held to the same functional and security criteria that apply to a CrossCert employees in a comparable position.

Independent contractors and consultants who have not completed or passed the background check procedures specified in CPS § 5.3.2 are permitted access to CrossCert's secure facilities only to the extent they are escorted and directly supervised by Trusted Persons at all times.

### **5.3.8 Documentation Supplied to Personnel**

CrossCert provides its employees the requisite training and other documentation needed to perform their job responsibilities competently and satisfactorily.

## **5.4 Audit Logging Procedures**

### **5.4.1 Types of Events Recorded**

CrossCert manually or automatically logs the following significant events:

- CA key life cycle management events, including:
  - Key generation, backup, storage, recovery, archival, and destruction
  - Changes to CA details or keys
  - Cryptographic device life cycle management events
  - Key transportation and migration.
- CA and Subscriber certificate life cycle management events, including:
  - Certificate Applications, issuance, renewal, rekey, and revocation
  - Successful or unsuccessful processing of requests
  - Changes to certificate creation policies
  - Generation and issuance of Certificates and CRLs.
- Trusted Employee Events, including:
  - Logon and logoff attempts
  - Attempts to create, remove, set passwords or change the system privileges of any privileged users
  - Personnel changes.
- Security-related events including:
  - Successful and unsuccessful PKI system access attempts
  - Start-up and shutdown of systems and applications
  - Possession of activation data for CA private key operations
  - System configuration changes and maintenance
  - PKI and security system actions performed by CrossCert personnel
  - Security sensitive files or records read, written, deleted or destroyed
  - Security profile changes
  - System crashes, hardware failures and other anomalies
  - Firewall and router activity
  - CA facility visitor entry/exit.

Log entries include the following elements:

- Date and time of the entry
- Serial or sequence number of entry, for automatic journal entries
- Identity of the entity making the journal entry
- Description/kind of entry.

CrossCert RAs and Enterprise Administrators log Certificate Application information including:

- Kind of identification document(s) presented by the Certificate Applicant
- Record of unique identification data, numbers, or a combination thereof (e.g., Certificate Applicant's driver's license number) of identification documents, if applicable
- Storage location of copies of applications and identification documents
- Identity of entity accepting the application
- Method used to validate identification documents, if any
- Name of receiving CA or submitting RA, if applicable.

#### **5.4.2 Frequency of Processing Log**

The CA system is continuously monitored to provide real time alerts of significant security and operational events for review by designated system security personnel. Monthly reviews of the audit logs include verifying that the logs have not been tampered with and thoroughly investigating any alerts or irregularities detected in the logs. Actions taken based on audit log reviews are also documented.

#### **5.4.3 Retention Period for Audit Log**

Audit logs shall be retained onsite for at least two (2) months after processing and thereafter archived in accordance with Section 5.5.2.

#### **5.4.4 Protection of Audit Log**

Audit logs are protected with an electronic audit log system that includes mechanisms to protect the log files from unauthorized viewing, modification, deletion, or other tampering.

#### **5.4.5 Audit Log Backup Procedures**

Incremental backups of audit logs are created daily and full backups are performed weekly.

#### **5.4.6 Audit Collection System (Internal vs. External)**

Automated audit data is generated and recorded at the application, network and operating system level. Manually generated audit data is recorded by CrossCert personnel.

#### **5.4.7 Notification to Event-Causing Subject**

Where an event is logged by the audit collection system, no notice is required to be given to the individual, organization, device, or application that caused the event.

#### **5.4.8 Vulnerability Assessments**

Events in the audit process are logged, in part, to monitor system vulnerabilities. Logical security vulnerability assessments ("LSVAs") are performed, reviewed, and revised following an examination of these monitored events. LSVAs are based on real-time automated logging data and are performed on a daily, monthly, and annual basis. An annual LSVA will be an input into an entity's annual Compliance Audit.

## **5.5 Records Archival**

### **5.5.1 Types of Records Archived**

CrossCert archives:

- All audit data collected in terms of Section 5.4
- Certificate application information
- Documentation supporting certificate applications, including CAA results
- Certificate lifecycle information e.g., revocation, rekey and renewal application information

### **5.5.2 Retention Period for Archive**

Records shall be retained for at least the time periods set forth below following the date the Certificate expires or is revoked.

- Five (5) years for Class 1 Certificates,
- Ten (10) years and six (6) months for Class 2 and Class 3 Certificates

### **5.5.3 Protection of Archive**

CrossCert protects the archive so that only authorized Trusted Persons are able to obtain access to the archive. The archive is protected against unauthorized viewing, modification, deletion, or other tampering by storage within a Trustworthy System. The media holding the archive data and the applications required to process the archive data shall be maintained to ensure that the archive data can be accessed for the time period set forth in this CPS.

### **5.5.4 Archive Backup Procedures**

CrossCert incrementally backs up electronic archives of its issued Certificate information on a daily basis. Copies of paper-based records shall be maintained in an off-site secure facility.

### **5.5.5 Requirements for Time-Stamping of Records**

Certificates, CRLs, and other revocation database entries contain time and date information. Such time information need not be cryptographic-based.

### **5.5.6 Archive Collection System (Internal or External)**

CrossCert archive collection systems are internal, except for enterprise RA Customers. CrossCert assists its enterprise RAs in preserving an audit trail. Such an archive collection system therefore is external to that enterprise RA.

### **5.5.7 Procedures to Obtain and Verify Archive Information**

Only authorized Trusted Personnel are able to obtain access to the archive. The integrity of the information is verified when it is restored.

## **5.6 Key Changeover**

CrossCert CA key pairs are retired from service at the end of their respective maximum lifetimes as defined in this CPS. CrossCert CA Certificates may be renewed as long as the cumulative certified lifetime of the CA key pair does not exceed the maximum CA key pair lifetime. New CA key pairs will be generated as necessary, for example to replace CA key pairs that are being retired, to supplement existing, active key pairs and to support new services.

Prior to the expiration of the CA Certificate for a Superior CA, key changeover procedures are enacted to facilitate a smooth transition for entities within the Superior CA's hierarchy from the old Superior CA key pair to new CA key pair(s). CrossCert's CA key changeover process requires that:

- A Superior CA ceases to issue new Subordinate CA Certificates no later than 60 days before the point in time ("Stop Issuance Date") where the remaining lifetime of the Superior CA key pair equals the approved Certificate Validity Period for the specific type(s) of Certificates issued by Subordinate CAs in the Superior CA's hierarchy.
- Upon successful validation of Subordinate CA (or end-user Subscriber) Certificate requests received after the "Stop Issuance Date," Certificates will be signed with a new CA key pair.

The Superior CA continues to issue CRLs signed with the original Superior CA private key until the expiration date of the last Certificate issued using the original key pair has been reached

## **5.7 Compromise and Disaster Recovery**

### **5.7.1 Incident and Compromise Handling Procedures**

Backups of the following CA information shall be kept in off-site storage and made available in the event of a Compromise or disaster: Certificate Application data, audit data, and database records for all Certificates issued. Back-ups of CA private keys shall be generated and maintained in accordance with CP § 6.2.4. CrossCert maintains backups of the foregoing CA information for their own CAs, as well as the CAs of Enterprise Customers within its Sub-domain.

### **5.7.2 Computing Resources, Software, and/or Data Are Corrupted**

In the event of the corruption of computing resources, software, and/or data, such an occurrence is reported to CrossCert Security and CrossCert's incident handling procedures are enacted. Such procedures require appropriate escalation, incident investigation, and incident response. If necessary, CrossCert's key compromise or disaster recovery procedures will be enacted.

### **5.7.3 Entity Private Key Compromise Procedures**

Upon the suspected or known Compromise of a CrossCert CA, STN infrastructure or Customer CA private key, CrossCert's Key Compromise Response procedures are enacted by the Incident Response Team. This team assesses the situation, develops an action plan, and implements the action plan with approval from CrossCert executive management.

If CA Certificate revocation is required, the following procedures are performed:

- The Certificate's revoked status is communicated to Relying Parties through the CrossCert Repository in accordance with CPS § 4.9.7,
- Commercially reasonable efforts will be made to provide additional notice of the revocation to all affected STN Participants, and
- The CA will generate a new key pair in accordance with CPS § 5.6, except where the CA is being terminated in accordance with CPS § 5.8.

### **5.7.4 Business Continuity Capabilities after a Disaster**

CrossCert has created and maintains business continuity plans so that in the event of a business disruption, critical business functions may be resumed. CrossCert maintains a Disaster Recovery Facility (DRF) located at a facility geographically separate from the primary Production Facility.

In the event of a natural or man-made disaster requiring permanent cessation of operations from CrossCert's primary facility, the Incident Management Team will coordinate with cross functional management teams to make the decision to formally declare a disaster situation and manage the incident. Once a disaster situation is declared, restoration of CrossCert's Production services functionality at the DRF will be initiated.

CrossCert has developed a Disaster Recovery Plan (DRP) for its managed PKI services including the STN PKI service. The DRP identifies conditions for activating the plan and what constitutes an acceptable system outage and recovery time. The DRP defines the procedures for the teams to reconstitute CrossCert STN operations using backup data and backup copies of the STN keys.

Additionally, CrossCert's DRP includes:

- Frequency for taking backup copies of essential business information and software,
- Requirement to store critical cryptographic materials (i.e., secure cryptographic device and activation materials) at an alternate location,
- Separation distance of the Disaster recovery site to the CA's main site,
- Procedures for securing the Disaster facility during the period of time following a disaster and prior to restoring a secure environment either at the original or a remote site,

CrossCert's DRP identifies administrative requirements including:

- maintenance schedule for the plan;
- Awareness and education requirements;
- Responsibilities of the individuals; and
- Regular testing of contingency plans.

The target recovery time for restoring critical Production service functionality is no greater than 24 hours.

CrossCert conducts at least one disaster recovery test per calendar year to ensure functionality of services at the DRF. Formal Business Continuity Exercises are also conducted yearly where procedures for additional types of scenarios (e.g. pandemic, earthquake, flood, power outage) are tested and evaluated.

CrossCert takes significant steps to develop, maintain, and test sound business recovery plans, and CrossCert's planning for a disaster or significant business disruption is consistent with many of the best practices established within the industry.

CrossCert maintains redundant hardware and backups of its CA and infrastructure system software at its disaster recovery facility. In addition, CA private keys are backed up and maintained for disaster recovery purposes in accordance with CPS § 6.2.4.

CrossCert maintains offsite backups of important CA information for STN CAs as well as the CAs of Service Centers, and Enterprise Customers, within CrossCert's Sub-domain. Such information includes, but is not limited to: Certificate Application data, audit data (per Section 4.5), and database records for all Certificates issued.

For services where the entity issuing Certificates is CrossCert (see CPS §1.1), CrossCert has implemented a disaster recovery site more than 23 km from CrossCert's principal secure facilities. CrossCert has developed, implemented and tested a disaster recovery plan to mitigate the effects of any kind of natural or man-made disaster. This plan is regularly tested, verified, and updated to be operational in the event of a disaster.

Detailed disaster recovery plans are in place to address the restoration of information systems services and key business functions. CrossCert's disaster recovery site has implemented the

physical security protections and operational controls required by the Symantec Security and Audit Requirements (SAR) Guide to provide for a secure and sound backup operational setup.

In the event of a natural or man-made disaster requiring temporary or permanent cessation of operations from CrossCert's primary facility, CrossCert's disaster recovery process is initiated by the CrossCert Emergency Response Team (CERT).

CrossCert will have the capability to restore or recover operations within one week following a disaster with, at a minimum, support for the following functions:

- Certificate issuance,
- Certificate revocation,
- Publication of revocation information, and
- Provision of key recovery information for Managed PKI Customers using Managed PKI Key Manager.

CrossCert's disaster recovery database will be synchronized regularly with the production database within the time limits set forth in the SAR Guide. CrossCert's disaster recovery equipment will be protected by physical security protections comparable to the physical security tiers specified in CPS § 5.1.1.

CrossCert's disaster recovery plan has been designed to provide full recovery within one week following disaster occurring at CrossCert's primary site. CrossCert tests its equipment at its primary site to support CA/RA functions following all but a major disaster that would render the entire facility inoperable. Results of such tests are reviewed and kept for audit and planning purposes. Where possible, operations are resumed at CrossCert's primary site as soon as possible following a major disaster.

CrossCert will maintain redundant hardware and backups of its CA and infrastructure system software at its disaster recovery facility. In addition, CA private keys are backed up and maintained for disaster recovery purposes in accordance with CPS § 6.2.4. CrossCert maintains offsite backups of important CA information for CrossCert CAs as well as the CAs of Service Centers, and Managed PKI Customers within CrossCert's Subdomain. Such information includes, but is not limited to: application logs, Certificate Application data, audit data (per CPS § 4.5), and database records for all Certificates issued.

The DRP identifies conditions for activating the plan and what constitutes an acceptable system outage and recovery time. Additionally, CrossCert's DRP includes:

- Frequency for taking backup copies of essential business information and software,
- Requirement to store critical cryptographic materials (i.e., secure cryptographic device and activation materials) at an alternate location,
- Separation distance of the Disaster recovery site to the CA's main site,
- Procedures for securing the Disaster facility during the period of time following a disaster and prior to restoring a secure environment either at the original or a remote site,

CrossCert's DRP identifies administrative requirements including:

- maintenance schedule for the plan;
- Awareness and education requirements;
- Responsibilities of the individuals; and
- Regular testing of contingency plans.

## **5.8 CA or RA Termination**

In the event that it is necessary for a CrossCert CA, or Enterprise Customer CA to cease operation, CrossCert makes a commercially reasonable effort to notify Subscribers, Relying Parties, and other affected entities of such termination in advance of the CA termination. Where

CA termination is required, CrossCert and, in the case of a Customer CA, the applicable Customer, will develop a termination plan to minimize disruption to Customers, Subscribers, and Relying Parties. Such termination plans may address the following, as applicable:

- Provision of notice to parties affected by the termination, such as Subscribers, Relying Parties, and Customers, informing them of the status of the CA,
- Handling the cost of such notice,
- The revocation of the Certificate issued to the CA by CrossCert,
- The preservation of the CA's archives and records for the time periods required in this CPS,
- The continuation of Subscriber and customer support services,
- The continuation of revocation services, such as the issuance of CRLs or the maintenance of online status checking services,
- The revocation of unexpired unrevoked Certificates of end-user Subscribers and subordinate CAs, if necessary,
- Refunding (if necessary) Subscribers whose unexpired unrevoked Certificates are revoked under the termination plan or provision, or alternatively, the issuance of replacement Certificates by a successor CA,
- Disposition of the CA's private key and the hardware tokens containing such private key, and
- Provisions needed for the transition of the CA's services to a successor CA.

## **5.9 Data Security**

### **5.9.1 Objectives**

CrossCert develops, implements, and maintains a comprehensive security program designed to:

1. Protect the confidentiality, integrity, and availability (CIA) of Certificate Data and Certificate Management Processes;
2. Protect against anticipated threats or hazards to the confidentiality, integrity, and availability of the Certificate Data and Certificate Management Processes;
3. Protect against unauthorized or unlawful access, use, disclosure, alteration, or destruction of any Certificate Data or Certificate Management Processes;
4. Protect against accidental loss or destruction of, or damage to, any Certificate Data or Certificate Management Processes; and
5. Comply with all other security requirements applicable to the CA by law.

### **5.9.2 Risk Assessment**

CrossCert performs an annual Risk Assessment that:

1. Identifies foreseeable internal and external threats that could result in unauthorized access, disclosure, misuse, alteration, or destruction of any Certificate Data or Certificate Management Processes;
2. Assesses the likelihood and potential damage of these threats, taking into consideration the sensitivity of the Certificate Data and Certificate Management Processes; and
3. Assesses the sufficiency of the policies, procedures, information systems, technology, and other arrangements that the CA has in place to counter such threats.

### **5.9.3 Security Plan**

Based on results of the annual Risk Assessment, CrossCert develops, implements, and maintains a Security Plan consisting of security procedures, measures, and products designed to achieve the objectives set forth above and to manage and control the risks identified during the



Risk Assessment, commensurate with the sensitivity of the Certificate Data and Certificate Management Processes.

The Security Plan includes administrative, organizational, technical, and physical safeguards appropriate to the sensitivity of the Certificate Data and Certificate Management Processes. The Security Plan takes into account then-available technology and the cost of implementing the specific measures, and implements a reasonable level of security appropriate to the harm that might result from a breach of security and the nature of the data to be protected.

## **6. Technical Security Controls**

### **6.1 Key Pair Generation and Installation**

#### **6.1.1 Key Pair Generation**

CA key pair generation is performed by multiple pre-selected, trained and trusted individuals using Trustworthy Systems and processes that provide for the security and required cryptographic strength for the generated keys. For PCA and Issuing Root CAs, the cryptographic modules used for key generation meet the requirements of FIPS 140-2 level 3. For other CAs (including STN CAs and Managed PKI Customer CAs), the cryptographic modules used meet the requirements of at least FIPS 140-2 level 2.

All CA key pairs are generated in pre-planned Key Generation Ceremonies in accordance with the requirements of the Key Ceremony Reference Guide, the CA Key Management Tool User's Guide, and the Symantec SAR Guide. The activities performed in each key generation ceremony are recorded, dated and signed by all individuals involved. These records are kept for audit and tracking purposes for a length of time deemed appropriate by CrossCert Management.

Generation of RA key pairs is generally performed by the RA using a FIPS 140-2 level 1 certified cryptographic module provided with their browser software.

Enterprise Customers generate the key pair used by their Automated Administration servers. CrossCert recommends that Automated Administration server key pair generation be performed using a FIPS 140-2 level 2 certified cryptographic module.

Generation of end-user Subscriber key pairs is generally performed by the Subscriber. For Class 1 Certificates, Class 2 Certificates, and Class 3 Code/Object Signing Certificates, the Subscriber typically uses a FIPS 140-2 level 1 certified cryptographic module provided with their browser software for key generation. For server Certificates, the Subscriber typically uses the key generation utility provided with the web server software.

#### **6.1.2 Private Key Delivery to Subscriber**

When end-user Subscriber key pairs are generated by the end-user Subscriber, private key delivery to a Subscriber is not applicable.

Where RA or end-user Subscriber key pairs are pre-generated by CrossCert on hardware tokens or smart cards, such devices are distributed to the RA or end-user Subscriber using a commercial delivery service and tamper evident packaging. The data required to activate the device is communicated to the RA or end-user Subscriber using an out of band process. The distribution of such devices is logged by CrossCert.

Where end-user Subscriber key pairs are pre-generated by Enterprise Customers on hardware tokens or smart cards, such devices are distributed to the end-user Subscriber using a

commercial delivery service and tamper evident packaging. The required activation data required to activate the device is communicated to the RA or end-user Subscriber using an out of band process. The distribution of such devices is logged by the Enterprise Customer.

For Enterprise Customers using Managed PKI Key Manager for key recovery services, the Customer may generate encryption key pairs (on behalf of Subscribers whose Certificate Applications they approve) and transmit such key pairs to Subscribers via a password protected PKCS #12 file.

SSL/TLS and S/MIME email signature certificates are not distributed as PKCS#12 packages. S/MIME encryption certificates may be distributed as PKCS#12 packages using secure channels and sufficiently secure passwords sent out of band from the package.

### 6.1.3 Public Key Delivery to Certificate Issuer

End-user Subscribers and RAs submit their public key to DigiCert for certification electronically through the use of a PKCS#10 Certificate Signing Request (CSR) or other digitally signed package in a session secured by Secure Sockets Layer (SSL). Where CA, RA, or end-user Subscriber key pairs are generated by DigiCert, this requirement is not applicable.

### 6.1.4 CA Public Key Delivery to Relying Parties

CrossCert makes the CA Certificates for its PCAs and root CAs available to Subscribers and Relying Parties through their inclusion in web browser software. As new PCA and root CA Certificates are generated, CrossCert provides such new Certificates to the browser manufacturers for inclusion in new browser releases and updates.

CrossCert generally provides the full certificate chain (including the issuing CA and any CAs in the chain) to the end-user Subscriber upon Certificate issuance. CrossCert CA Certificates may also be downloaded from the CrossCert LDAP Directory at *directory.crosscert.com*.

### 6.1.5 Key Sizes

Key pairs shall be of sufficient length to prevent others from determining the key pair's private key using cryptanalysis during the period of expected utilization of such key pairs. The CrossCert Standard for minimum key sizes is the use of key pairs equivalent in strength to 2048 bit RSA for PCAs and CAs.. The following table lists CrossCert Root key pairs and strengths:

Public Key Algorithm	Signature Algorithm	Class	Generation
2048 bit RSA	SHA1	Class 1, 2, 3 PCAs	G3 PCAs
		Class 3 PCA	G5 PCA
	SHA256	Class 1, 2 and Class 3 Universal Root PCA	G6 PCAs
384 bit ECC	SHA384	Class 1, 2, 3* PCAs	G4 PCAs
4096 bit RSA	SHA384	Class 3 PCA	G6 PCA
2048_256 bit DSA	SHA256	Class 1, 2, 3 PCAs	G7 PCAs
* There are two Class 3 G4 Roots (one branded VeriSign (legacy) and one branded Symantec).			

**Table 8: DigiCert Root CAs and Key Sizes**

All Classes of STN PCAs and CAs, and RAs and end entity certificates use SHA-2 for digital signature hash algorithm and certain versions of DigiCert Processing Center support the use of SHA-256 and SHA-384 hash algorithms in end-entity Subscriber Certificates.

### 6.1.5.1 CABF Requirements for Key Sizes

Domain validated and organization validated SSL Certificates conform to the CA /Browser Forum Baseline requirements.

Root CA Certificates meet the following requirements for algorithm type and key size:

	Validity period beginning on or before 31 Dec 2010	Validity period beginning after 31 Dec 2010
Digest algorithm	MD5 Not Recommended, SHA-1, SHA-256, SHA-384 or SHA-512	SHA-1*, SHA-256, SHA-384 or SHA-512
Minimum RSA modulus size (bits)	2048**	2048
ECC curve	NIST P-256, P-384 or P-521	NIST P-256, P-384 or P-521

**Table 9 – Algorithms and key sizes for Root CA Certificates**

Subordinate CA Certificates meet the following requirements for algorithm type and key size:

	Validity period beginning on or before 31 Dec 2010 and ending on or before 31 Dec 2013	Validity period beginning after 31 Dec 2010 or ending after 31 Dec 2013
Digest algorithm	SHA-1, SHA-256, SHA-384 or SHA-512	SHA-1*, SHA-256, SHA-384 or SHA-512
Minimum RSA modulus size (bits)	1024	2048
ECC curve	NIST P-256, P-384 or P-521	NIST P-256, P-384 or P-521

**Table 10 – Algorithms and key sizes for Subordinate CA Certificates**

CAs shall only issue Subscriber certificates with keys containing the following algorithm types and key sizes.

	Validity period ending on or before 31 Dec 2013	Validity period ending after 31 Dec 2013
Digest algorithm	SHA-1*, SHA-256, SHA-384 or SHA-512	SHA-1*, SHA-256, SHA-384 or SHA-512
Minimum RSA modulus size (bits)	1024	2048
ECC curve	NIST P-256, P-384 or P-521	NIST P-256, P-384 or P-521

**Table 11 – Algorithms and key sizes for Subscriber Certificates**

\* SHA-1 MAY be used with RSA keys in accordance with the criteria defined in Section 7.1.3 of the CA/Browser Forum Baseline Requirements for the Issuance and Management of Publicly-Trusted Certificates and Mozilla Root Policy 2.5 or greater where applicable.

\*\* A Root CA Certificate issued prior to 31 Dec 2010 with an RSA key size less than 2048 bits may still serve as a trust anchor Subscriber Certificates issued in accordance with these Requirements.

CrossCert CAs reserve the right to reject a certificate request if the requested Public Key does not meet the minimum algorithm key sizes set forth in this section.

### 6.1.6 Public Key Parameters Generation and Quality Checking

Not applicable.

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

Refer to Section 7.1.2.1.

## **6.2 Private Key Protection and Cryptographic Module Engineering Controls**

CrossCert has implemented a combination of physical, logical, and procedural controls to ensure the security of CrossCert and Enterprise Customer CA private keys. Subscribers are required by contract to take necessary precautions to prevent the loss, disclosure, modification, or unauthorized use of private keys.

### **6.2.1 Cryptographic Module Standards and Controls**

For PCA and Issuing Root CA key pair generation and CA private key storage, CrossCert uses hardware cryptographic modules that are certified at or meet the requirements of FIPS 140-2 Level 3. CrossCert recommends that enterprise RA Customers perform all Automated Administration RA cryptographic operations on a cryptographic module rated at least FIPS 140-2 level 2.

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

CrossCert has implemented technical and procedural mechanisms that require the participation of multiple trusted individuals to perform sensitive CA cryptographic operations. CrossCert uses "Secret Sharing" to split the activation data needed to make use of a CA private key into separate parts called "Secret Shares" which are held by trained and trusted individuals called "Shareholders." A threshold number of Secret Shares (m) out of the total number of Secret Shares created and distributed for a particular hardware cryptographic module (n) is required to activate a CA private key stored on the module.

The threshold number of shares needed to sign a CA certificate is three (3). It should be noted that the number of shares distributed for disaster recovery tokens may be less than the number distributed for operational tokens, while the threshold number of required shares remains the same. Secret Shares are protected in accordance with this CPS.

### **6.2.3 Private Key Escrow**

CA private keys are not escrowed. Escrow of private keys for end user subscribers is explained in more detail in Section 4.12.

### **6.2.4 Private Key Backup**

CrossCert creates backup copies of CA private keys for routine recovery and disaster recovery purposes. Such keys are stored in encrypted form within hardware cryptographic modules and associated key storage devices. Cryptographic modules used for CA private key storage meet the requirements of this CPS. CA private keys are copied to backup hardware cryptographic modules in accordance with this CPS.

Modules containing onsite backup copies of CA private keys are subject to the requirements of CPS. Modules containing disaster recovery copies of CA private keys are subject to the requirements of this CPS.

CrossCert does not store copies of RA private keys. For the backup of end-user Subscriber private keys, see Section 6.2.3 and Section 4.12.

### **6.2.5 Private Key Archival**

Upon expiration of a CrossCert CA Certificate, the key pair associated with the certificate will be securely retained for a period of at least 5 years using hardware cryptographic modules that meet the requirements of this CPS. These CA key pairs shall not be used for any signing events after the expiration date of the corresponding CA Certificate, unless the CA Certificate has been renewed in terms of this CPS.

CrossCert does not archive copies of RA and Subscriber private keys.

### **6.2.6 Private Key Transfer Into or From a Cryptographic Module**

CrossCert generates CA key pairs on the hardware cryptographic modules in which the keys will be used. In addition, CrossCert makes copies of such CA key pairs for routine recovery and disaster recovery purposes. Where CA key pairs are backed up to another hardware cryptographic module, such key pairs are transported between modules in encrypted form.

### **6.2.7 Private Key Storage on Cryptographic Module**

CA or RA private keys held on hardware cryptographic modules are stored in encrypted form.

### **6.2.8 Method of Activating Private Key**

All CrossCert sub-domain Participants shall protect the activation data for their private keys against loss, theft, modification, unauthorized disclosure, or unauthorized use.

#### **6.2.8.1 Class 1 Certificates**

The Standard for Class 1 private key protection is for Subscribers to take commercially reasonable measures for the physical protection of the Subscriber's workstation to prevent use of the workstation and its associated private key without the Subscriber's authorization. In addition, CrossCert recommends that Subscribers use a password in accordance with Section 6.4.1 or security of equivalent strength to authenticate the Subscriber before the activation of the private key, which includes, for instance, a password to operate the private key, a Windows logon or screen saver password, or a network logon password.

#### **6.2.8.2 Class 2 Certificates**

The Standard for Class 2 Private Key protection is for Subscribers to:

- Use a password in accordance with Section 6.4.1 or security of equivalent strength to authenticate the Subscriber before the activation of the private key, which includes, for instance, a password to operate the private key, or a Windows logon or screen saver password; and
- Take commercially reasonable measures for the physical protection of the Subscriber's workstation to prevent use of the workstation and its associated private key without the Subscriber's authorization.

When deactivated, private keys shall be kept in encrypted form only.

#### **6.2.8.3 Class 3 Certificates other than Administrator Certificates**

The Standard for Class 3 private key protection (other than Administrators) requires Subscribers to:

- Use a smart card, biometric access device or security of equivalent strength to authenticate the Subscriber before the activation of the private key; and

- Take commercially reasonable measures for the physical protection of the Subscriber's workstation to prevent use of the workstation and its associated private key without the Subscriber's authorization.

Use of a password along with a smart card or biometric access device in accordance with Section 6.4.1 is recommended. When deactivated, private keys shall be kept in encrypted form only.

#### **6.2.8.4 Administrators' Private Keys (Class 3)**

The Standard for Administrators' private key protection requires them to:

- Use a smart card, biometric access device, password in accordance with Section 6.4.1, or security of equivalent strength to authenticate the Administrator before the activation of the private key, which includes, for instance, a password to operate the private key, a Windows logon or screen saver password, or a network logon password; and
- Take commercially reasonable measures for the physical protection of the Administrator's workstation to prevent use of the workstation and its associated private key without the Administrator's authorization.

In cases where technical controls do not constrain issuance to pre-approved domains, CrossCert requires that Administrators use a smart card, biometric access device, or security of equivalent strength along with the use of a password in accordance with Section 6.4.1 to authenticate the Administrator before the activation of the private key that can cause the issuance of certificates that gain trust through distribution of root certificates by Application Software Suppliers.

When deactivated, private keys shall be kept in encrypted form only.

#### **6.2.8.5 Enterprise RAs using a Cryptographic Module (with Automated Administration or with Managed PKI Key Manager Service)**

The Standard for private key protection for Administrators using such a cryptographic module requires them to:

- Use the cryptographic module along with a password in accordance with Section 6.4.1 to authenticate the Administrator before the activation of the private key; and
- Take commercially reasonable measures for the physical protection of the workstation housing the cryptographic module reader to prevent use of the workstation and the private key associated with the cryptographic module without the Administrator's authorization.

#### **6.2.8.6 Private Keys Held by Processing Centers (Class 1-3)**

An online CA's private key shall be activated by a threshold number of Shareholders, as defined in Section 6.2.2, supplying their activation data (stored on secure media). Once the private key is activated, the private key may be active for an indefinite period until it is deactivated when the CA goes offline. Similarly, a threshold number of Shareholders shall be required to supply their activation data in order to activate an offline CA's private key. Once the private key is activated, it shall be active only for one time.

#### **6.2.9 Method of Deactivating Private Key**

CrossCert CA private keys are deactivated upon removal from the token reader. CrossCert RA private keys (used for authentication to the RA application) are deactivated upon system log off. CrossCert RAs are required to log off their workstations when leaving their work area.

Client Administrators, RA, and end-user Subscriber private keys may be deactivated after each operation, upon logging off their system, or upon removal of a smart card from the smart card

reader depending upon the authentication mechanism employed by the user. In all cases, end-user Subscribers have an obligation to adequately protect their private key(s) in accordance with this CPS. The private key associated with an ACS Application ID is deleted immediately after it has been used for code signing.

### 6.2.10 Method of Destroying Private Key

Where required, CrossCert destroys CA private keys in a manner that reasonably ensures that there are no residuals remains of the key that could lead to the reconstruction of the key. CrossCert utilizes the zeroization function of its hardware cryptographic modules and other appropriate means to ensure the complete destruction of CA private keys. When performed, CA key destruction activities are witnessed.

### 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

CrossCert CA, RA and end-user Subscriber Certificates are backed up and archived as part of CrossCert's routine backup procedures.

### 6.3.2 Certificate Operational Periods and Key Pair Usage Periods

The Operational Period of a Certificate ends upon its expiration or revocation. The Operational Period for key pairs is the same as the Operational Period for the associated Certificates, except that they may continue to be used for decryption and signature verification. The maximum Operational Periods for CrossCert Certificates for Certificates issued on or after the effective date of this CPS are set forth in Table 12 below<sup>15</sup>. End user Subscriber Certificates that are renewals of existing subscriber certificates may have a longer validity period (up to 3 months).

In addition, CrossCert CAs stop issuing new Certificates at an appropriate date (60 days plus maximum validity period of issued Certificates) prior to the expiration of the CA's Certificate such that no Certificate issued by a Subordinate CA expires after the expiration of any Superior CA Certificates.

<b>Certificate Issued By:</b>	<b>Validity Period</b>
PCA self-signed (2048 bit RSA)	Up to 25 years
PCA self-signed (256 bit ECC)	Up to 25 years
PCA self-signed (384 bit ECC)	Up to 25 years
PCA to Offline intermediate CA	Generally 10 years but up to 15 years after renewal
PCA to online CA	Generally 5 years but up to 10 years after renewal <sup>16</sup>

<sup>15</sup> Individual exceptions for End-user Subscriber certificates must be approved by DigiCert for certificate validity periods beyond the limits set in Section 6.3.2 and are strictly limited to certificates using stronger encryption algorithms or longer key lengths e.g. the use of SHA 2 or ECC algorithms and/or the use of 4096 bit or larger keys. In consideration of approval, additional requirements for protection of the private key may be imposed, such as generation and storage on a Hardware device.

<sup>16</sup> The Symantec Onsite Administrator CA-Class 3, Class 3 Secure Server Operational Administrator CA and Class 3 OnSite Enterprise Administrator CA – G2 have a validity beyond 10 years to support legacy systems and shall be revoked when appropriate

<b>Certificate Issued By:</b>	<b>Validity Period</b>
Offline intermediate CA to online CA	Generally 5 years but up to 10 years after renewal <sup>17</sup>
Online CA to End-user Individual Subscriber	Normally up to 3 years, but under the conditions described below, Certificates may be renewed once, up to 6 years <sup>18</sup> . After 6 years new enrollment is required.
Online CA to End-Entity Organizational Subscriber	Constrained by section 6.3.2.1 below, normally up to 6 years <sup>19</sup> under the conditions described below with no option to renew or re-key. After 6 years new enrollment is required.

**Table 12 – Certificate Operational Periods**

Except as noted in this section, CrossCert sub-domain participants shall cease all use of their key pairs after their usage periods have expired.

Certificates issued by CAs to end-user Subscribers may have Operational Periods longer than three years, up to six years, if the following requirements are met:

- Protection of the Subscriber key pairs in relation to its operational environment for Organizational Certificates, operation within the enhanced protection of a data center and for Individual Certificates, the Subscribers' key pairs reside on a hardware token, such as a smart card,
- Subscribers are required to undergo re-authentication at least every 3 years under Section 3.2.3,
- If a Subscriber is unable to complete re-authentication procedures successfully or is unable to prove possession of such private key when required by the foregoing, the CA shall revoke the Subscriber's Certificate.

DigiCert also operates the "Symantec Class 3 International Server CA", "Thawte SGC CA" and the "Class 3 Open Financial Exchange CA" which are online CAs signed by a PCA. The validity of these CAs may exceed the validity periods described in Table 12 above to ensure continued interoperability of certificates offering SGC and OFX capability.

### **6.3.2.1 CABF Validity Period and Validation Data Reuse Requirements**

Domain validated and organization validated SSL Certificates conform to the CA /Browser Forum Baseline requirements. Such Certificates issued after the Effective Date must have a Validity Period no greater than 48 months (4 years).

Except as provided for below, Certificates issued after 1 April 2015 must have a Validity Period no greater than 36 months (3 years). Beyond 1 April 2015, CAs may continue to issue Certificates with a Validity Period greater than 36 months but not greater than 48 months provided that the CA documents that the Certificate is for a system or software that:

- a) was in use prior to the Effective Date;
- b) is currently in use by either the Applicant or a substantial number of Relying Parties;
- c) fails to operate if the Validity Period is shorter than 48 months;
- d) does not contain known security risks to Relying Parties; and
- e) is difficult to patch or replace without substantial economic outlay.

<sup>17</sup> If 6-year end-user subscriber certificates are issued, the online CA certificate's operational period will be 10 years with no option to renew. CA re-key will be required after 5 years.

<sup>18</sup> If 6-year end-user subscriber certificates are issued, the online CA certificate's operational period will be 10 years with no option to renew. CA re-key will be required after 5 years.

<sup>19</sup>At a minimum, the Distinguished Name of certificates issued with a validity of more than 2 years is re-verified after two years from date of certificate issuance.



## **6.4 Activation Data**

### **6.4.1 Activation Data Generation and Installation**

Activation data (Secret Shares) used to protect tokens containing STN CA private keys is generated in accordance with the requirements of CPS § 6.2.2 and the Key Ceremony Reference Guide. The creation and distribution of Secret Shares is logged.

RAs are required to select strong passwords to protect their private keys. DigiCert's password selection guidelines require that passwords:

- be generated by the user;
- have at least fifteen characters;
- have at least one alphabetic and one numeric character;
- have at least one lower-case letter;
- not contain many occurrences of the same character;
- not be the same as the operator's profile name; and
- not contain a long substring of the user's profile name.

CrossCert strongly recommends that Enterprise Administrators, RAs, and end-user Subscribers choose passwords that meet the same requirements. CrossCert also recommends the use of two factor authentication mechanisms (e.g., token and passphrase, biometric and token, or biometric and passphrase) for private key activation.

### **6.4.2 Activation Data Protection**

CrossCert Shareholders are required to safeguard their Secret Shares and sign an agreement acknowledging their Shareholder responsibilities.

CrossCert RAs are required to store their Administrator/RA private keys in encrypted form using password protection and their browser's "high security" option.

CrossCert strongly recommends that Client Administrators, RAs and end-user Subscribers store their private keys in encrypted form and protect their private keys through the use of a hardware token and/or strong passphrase. The use of two factor authentication mechanisms (e.g., token and passphrase, biometric and token, or biometric and passphrase) is encouraged.

### **6.4.3 Other Aspects of Activation Data**

#### **6.4.3.1 Activation Data Transmission**

To the extent activation data for private keys are transmitted, STN Participants shall protect the transmission using methods that protect against the loss, theft, modification, unauthorized disclosure, or unauthorized use of such private keys. To the extent Windows or network logon user name/password combination is used as activation data for an end-user Subscriber, the passwords transferred across a network shall be protected against access by unauthorized users.

#### **6.4.3.2 Activation Data Destruction**

Activation data for CA private keys shall be decommissioned using methods that protect against the loss, theft, modification, unauthorized disclosure, or unauthorized use of the private keys protected by such activation data. After the record retention periods in Section 5.5.2 lapse, CrossCert shall decommission activation data by overwriting and/or physical destruction.

## **6.5 Computer Security Controls**

CrossCert performs all CA and RA functions using Trustworthy Systems that meet the requirements of DigiCert's Certification Practices Statement.

### **6.5.1 Specific Computer Security Technical Requirements**

CrossCert ensures that the systems maintaining CA software and data files are Trustworthy Systems secure from unauthorized access. In addition, CrossCert limits access to production servers to those individuals with a valid business reason for such access. General application users do not have accounts on production servers.

CrossCert's production network is logically separated from other components. This separation prevents network access except through defined application processes. CrossCert uses firewalls to protect the production network from internal and external intrusion and limit the nature and source of network activities that may access production systems.

CrossCert requires the use of passwords that have a minimum character length and a combination of alphanumeric and special characters. CrossCert requires that passwords be changed on a periodic basis.

Direct access to CrossCert databases supporting CrossCert's CA Operations is limited to Trusted Persons in CrossCert's Production Operations group having a valid business reason for such access.

#### **6.5.1.1 CABF Requirements for System Security**

Domain validated and organization validated SSL Certificates conform to the CA /Browser Forum Baseline Requirements. For such Certificates, the Certificate Management Process must include:

- physical security and environmental controls;
- system integrity controls, including configuration management, integrity maintenance of trusted code, and malware detection/prevention;
- network security and firewall management, including port restrictions and IP address filtering;
- user management, separate trusted-role assignments, education, awareness, and training; and
- logical access controls, activity logging, and inactivity time-outs to provide individual accountability.

The CA shall enforce multi-factor authentication for all accounts 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**

Applications are developed and implemented by CrossCert in accordance with CrossCert systems development and change management standards. CrossCert also provides software to

its Enterprise Customers for performing RA and certain CA functions. Such software is developed in accordance with CrossCert system development standards.

DigiCert developed software, when first loaded, provides a method to verify that the software on the system originated from DigiCert or CrossCert, has not been modified prior to installation, and is the version intended for use.

### **6.6.2 Security Management Controls**

CrossCert has mechanisms and/or policies in place to control and monitor the configuration of its CA systems. CrossCert creates a hash of all software packages and CrossCert software updates. This hash is used to verify the integrity of such software manually. Upon installation and daily thereafter, CrossCert validates the integrity of its CA systems.

### **6.6.3 Life Cycle Security Controls**

No stipulation

### **6.7 Network Security Controls**

CrossCert protects its communications of sensitive information through the use of encryption and digital signatures.

### **6.8 Time-Stamping**

Certificates, CRLs, and other revocation database entries shall contain time and date information. Such time information need not be cryptographic-based.

## **7. Certificate, CRL, and OCSP Profiles**

### **7.1 Certificate Profile**

CrossCert Certificates generally conform to (a) ITU-T Recommendation X.509 (2005): Information Technology - Open Systems Interconnection - The Directory: Authentication Framework, August 2005 and (b) RFC 5280: Internet X.509 Public Key Infrastructure Certificate and CRL Profile, May 2008 ("RFC 5280")<sup>20</sup>. As applicable to the Certificate type, STN Certificates conform to the current version of the CA/Browser Forum Baseline Requirements for the Issuance and Management of Publicly-Trusted Certificates. Management may make exceptions to this policy on a case by case basis to mitigate material, imminent impacts to customers, partners, relying parties, and/or others within the certificate ecosystem where practical workarounds do not exist. Any such management exceptions are documented, tracked, and reported as part of the audit process.

At a minimum, X.509 Certificates shall contain the basic fields and indicated prescribed values or value constraints in Table 13 below:

<b>Field</b>	<b>Value or Value constraint</b>
Serial Number	Unique value per Issuer DN that contains at least 64 bits of entropy output from a CSPRNG.
Signature Algorithm	Object identifier of the algorithm used to sign the certificate (See CP § 7.1.3)

<sup>20</sup> While STN certificates generally conform to RFC 5280, certain limited provisions may not be supported.

<b>Field</b>	<b>Value or Value constraint</b>
Issuer DN	See Section 7.1.4
Valid From	Universal Coordinate Time base. Synchronized to Master Clock of U.S. Naval Observatory. Encoded in accordance with RFC 5280.
Valid To	Universal Coordinate Time base. Synchronized to Master Clock of U.S. Naval Observatory. Encoded in accordance with RFC 5280.
Subject DN	See CP § 7.1.4
Subject Public Key	Encoded in accordance with RFC 5280
Signature	Generated and encoded in accordance with RFC 5280

**Table 13 – Certificate Profile Basic Fields**

### 7.1.1 Version Number(s)

CrossCert Certificates are X.509 Version 3 Certificates although certain Root Certificates are permitted to be X.509 Version 1 Certificates to support legacy systems. CA certificates shall be X.509 Version 1 or Version 3 CA Certificates. End-user Subscriber Certificates shall be X.509 Version 3.

### 7.1.2 Certificate Extensions

CrossCert populates X.509 Version 3 STN Certificates with the extensions required by Section 7.1.2.1-7.1.2.8. Private extensions are permissible, but the use of private extensions is not warranted under this CP and the applicable CPS unless specifically included by reference.

#### 7.1.2.1 Key Usage

X.509 Version 3 Certificates are generally populated in accordance with RFC 5280: Internet X.509 Public Key Infrastructure Certificate and CRL Profile, May 2008. The criticality field of the KeyUsage extension is generally set to TRUE for CA certificates and for end entity Subscriber certificates.

Note: The non-Repudiation bit<sup>21</sup> is not required to be set in these Certificates because the PKI industry has not yet reached a consensus as to what the non-Repudiation bit means. Until such a consensus emerges, the non-Repudiation bit might not be meaningful for potential Relying Parties. Moreover, the most commonly used applications do not always respect the non-Repudiation bit. Therefore, setting the bit might not help Relying Parties make a trust decision. Consequently, this CPS does not require that the non-Repudiation bit be set. It may be set in the case of dual key pair signature Certificates issued through Managed PKI Key Manager, or as otherwise requested. Any dispute relating to non-repudiation arising from the use of a digital certificate is a matter solely between the Subscriber and the Relying Party(s). CrossCert shall incur no liability in relation thereto.

#### 7.1.2.2 Certificate Policies Extension

The *CertificatePolicies* extension of X.509 Version 3 Certificates are populated with the object identifier for the STN CP in accordance with CP Section 7.1.6 and with policy qualifiers set forth in CP Section 7.1.8. The criticality field of this extension shall be set to FALSE.

##### 7.1.2.2.1 CABF Requirement for Certificate Policies Extension

<sup>21</sup> The non-Repudiation bit may also be referred to as ContentCommitment in Digital Certificates in accordance with the X.509 standard.

Domain validated and organization validated SSL Certificates conform to the CA / Browser Forum Baseline Requirements. Root CA Certificates should not contain the *CertificatePolicies* extension.

### **7.1.2.3 Subject Alternative Names**

The *subjectAltName* extension of X.509 Version 3 Certificates are populated in accordance with RFC 5280 with the exception of those issued under Public Lite accounts which may optionally exclude the email address in *SubjectAltName*. The criticality field of this extension shall be set to FALSE.

For all web server certificates, the SubjectAltName extension is populated with the authenticated value in the Common Name field of the subject DN (domain name or public IPAddress). The SubjectAltName extension may contain additional authenticated domain names or public IPAddresses. For internationalized domain names, the Common Name will be represented as a Unicode encoded U-label value designed for human comprehension and that Common Name will be represented in the Subject Alternative Name extension as a puny-coded A-label value designed for automated comprehension. These different encodings of the same name are treated as equal values for the purposes of Common Name to Subject Alternative Name duplication requirements.

### **7.1.2.4 Basic Constraints**

CrossCert X.509 Version 3 CA Certificates *BasicConstraints* extension shall have the CA field set to TRUE. End-user Subscriber Certificates *BasicConstraints* extension shall have the CA field set to FALSE. The criticality field of this extension shall be set to TRUE for CA Certificates, but may be set to TRUE or FALSE for end-user Subscriber Certificates.

CrossCert X.509 Version 3 CA Certificates may have a "*pathLenConstraint*" field of the *BasicConstraints* extension set to the maximum number of CA certificates that may follow this Certificate in a certification path. CA Certificates issued to an online Enterprise Customer issuing end-user Subscriber Certificates shall have a "*pathLenConstraint*" field set to a value of "0" indicating that only an end-user Subscriber Certificate may follow in the certification path. End-user Subscriber certificates do not contain the path length constraint attribute.

### **7.1.2.5 Extended Key Usage**

By default, ExtendedKeyUsage is set as a non-critical extension. STN CA Certificates may include the ExtendedKeyUsage extension as a form of technical constraint on the usage of certificates that they issue. DigiCert Certificates may contain the ExtendedKeyUsage extension, aligning to Application Software Supplier granted trust bits and private PKI use cases. For certificates issued after February 1, 2017, all End-user Subscriber certificates contain an extended key usage extension for the purpose that the certificate was issued to the end user, and shall not contain the anyEKU value.

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; CrossCert no longer includes both the id-kp-serverAuth and id-kp-emailProtection KeyPurposeIds in the same certificate.

CrossCert'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.

#### 7.1.2.6 CRL Distribution Points

Most CrossCert X.509 Version 3 end user Subscriber Certificates and Intermediate CA Certificates include the *cRLDistributionPoints* extension containing the URL of the location where a Relying Party can obtain a CRL to check the CA Certificate's status. The criticality field of this extension is set to FALSE. URLs comply with Mozilla requirements to exclude the LDAP protocol, and may appear multiple times within a *cRLDistributionPoints* extension.

#### 7.1.2.7 Authority Key Identifier

CrossCert generally populates the Authority Key Identifier extension of X.509 Version 3 end user Subscriber Certificates and Intermediate CA Certificates. When the certificate issuer contains the Subject Key Identifier extension, the Authority Key Identifier is composed of the 160-bit SHA-1 hash of the public key of the CA issuing the Certificate. Otherwise, the Authority Key Identifier extension includes the issuing CA's subject distinguished name and serial number. The criticality field of this extension is set to FALSE.

#### 7.1.2.8 Subject Key Identifier

Where CrossCert populates X.509 Version 3 STN Certificates with a *subjectKeyIdentifier* extension, the *keyIdentifier* based on the public key of the Subject of the Certificate is generated in accordance with one of the methods described in RFC 5280. Where this extension is used, the criticality field of this extension is set to FALSE.

### 7.1.3 Algorithm Object Identifiers

CrossCert Certificates are signed using one of following algorithms.

- ***sha256withRSAEncryption*** OBJECT IDENTIFIER ::= {iso(1) member-body(2) us(840) rsadsi(113549) pkcs(1) pkcs-1(1) 11}
- ***ecdsa-with-Sha256*** OBJECT IDENTIFIER ::= {iso(1) member-body(2) us(840) ansi-X9-62(10045) signatures(4) ecdsa-with-SHA2 (3) 2}
- ***ecdsa-with-Sha384*** OBJECT IDENTIFIER ::= {iso(1) member-body(2) us(840) ansi-X9-62(10045) signatures(4) ecdsa-with-SHA2 (3) 3}
- ***sha-1WithRSAEncryption*** OBJECT IDENTIFIER ::= {iso(1) member-body(2) us(840) rsadsi(113549) pkcs(1) pkcs-1(1) 5}

Certificate signatures produced using these algorithms shall comply with RFC 3279. *sha256WithRSAEncryption* will be used over *sha-1WithRSAEncryption*<sup>22</sup>.

### 7.1.4 Name Forms

CrossCert populates STN Certificates with an Issuer Name and Subject Distinguished Name in accordance with Section 3.1.1. The Issuer Name shall be populated in each Certificate issued containing the Country, Organization Name and the Common Name of the Issuer CA.

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<sup>22</sup> *sha-1WithRSAEncryption* is used only with prior approval to preserve business continuity of legacy applications.

In addition, CrossCert may include within end-user Subscriber Certificates an additional Organizational Unit field that contains a notice stating that the terms of use of the Certificate are set forth in a URL which is a pointer to the applicable Relying Party Agreement. This OU must appear if a pointer to the applicable Relying Party Agreement is not included in the policy extension of the certificate.

### **7.1.5 Name Constraints**

No stipulation

### **7.1.6 Certificate Policy Object Identifier**

Where the Certificate Policies extension is used, Certificates contain the object identifier for the Certificate Policy corresponding to the appropriate Class of Certificate as set forth in the STN CP Section 1.2. For legacy Certificates issued prior to the publication of the STN CP which include the Certificate Policies extension, Certificates refer to the CrossCert CPS.

#### **7.1.6.1 CABF Requirements for Certificate Policy Object Identifier**

Domain validated and organization validated SSL Certificates conform to the CA / Browser Forum Baseline requirements. Such Certificates issued contain the corresponding policy identifier specified in section 1.2 of the STN CP that indicates the Certificate is issued and managed in compliance with these Requirements.

After July 1, 2012, a Certificate issued to a Subordinate CA that is not an Affiliate of the Issuing CA:

- must include the corresponding policy identifier identified in section 1.2 that indicates the Subordinate CA's adherence to and compliance with these CABF Requirements, and
- must not contain the "*anyPolicy*" identifier (2.5.29.32.0).

After July 1, 2012, a Certificate issued to a Subordinate CA that is an Affiliate of the Issuing CA:

- may include the corresponding policy identifier identified in section 1.2 that indicates the Subordinate CA's adherence to and compliance with these CABF Requirements, and may contain the "*anyPolicy*" identifier (2.5.29.32.0) in place of the explicit policy identifier.

### **7.1.7 Usage of Policy Constraints Extension**

No stipulation

### **7.1.8 Policy Qualifiers Syntax and Semantics**

CrossCert generally populates X.509 Version 3 STN Certificates with a policy qualifier within the Certificate Policies extension. Generally, such Certificates contain a CPS pointer qualifier that points to the applicable Relying Party Agreement or the CrossCert CPS. In addition, some Certificates contain a User Notice Qualifier which points to the applicable Relying Party Agreement.

### **7.1.9 Processing Semantics for the Critical Certificate Policies Extension**

No stipulation

## 7.2 CRL Profile

As applicable to the Certificate type, corresponding CRLs conform to the current version of the CA/Browser Forum Baseline Requirements for the Issuance and Management of Publicly-Trusted Certificates.

Version 2 CRLs conform to RFC 5280 and contain the basic fields and contents specified in Table 14 below:

Field	Value or Value constraint
Version	See Section 7.2.1.
Signature Algorithm	Algorithm used to sign the CRL in accordance with RFC 3279. (See CPS § 7.1.3)
Issuer	Entity who has signed and issued the CRL.
Effective Date	Issue date of the CRL. CRLs are effective upon issuance.
Next Update	Date by which the next CRL will be issued. CRL issuance frequency is in accordance with the requirements of Section 4.9.7.
Revoked Certificates	Listing of revoked certificates, including the Serial Number of the revoked Certificate and the Revocation Date.

**Table 14 – CRL Profile Basic Fields**

### 7.2.1 Version Number(s)

CrossCert supports both X.509 Version1 and Version 2 CRLs. Version 2 CRLs comply with the requirements of RFC 5280.

### 7.2.2 CRL and CRL Entry Extensions

No stipulation.

## 7.3 OCSP Profile

OCSP (Online Certificate Status Protocol) is a way to obtain timely information about the revocation status of a particular certificate. CrossCert validates:

- Class 2 Enterprise certificates using the Enterprise OCSP which conforms to RFC 2560, and
- Class 2 Enterprise certificates and Class 3 organization certificates using the Symantec Trusted Global Validation (TGV) service which conforms to RFC 6960, excluding client requested cipher support.

### **CABF Requirement for OCSP Signing**

Domain validated and organization validated SSL Certificates conform to the CA / Browser Forum Baseline requirements.

OCSP Responses shall conform to RFC5019 and either be:

- Signed by the CA that issued the Certificates whose revocation status is being checked, or
- Signed by an OCSP Responder whose Certificate is signed by the CA that issued the Certificate whose revocation status is being checked. Such OCSP Responder signing Certificate shall contain the extension *id-pkix-ocsp-nocheck* as defined by RFC2560.

### 7.3.1 Version Number(s)

Version 1 of the OCSP specification as defined by RFC2560, RFC 5019, and RFC 6960 are supported. RFC 6960 support excludes client requested ciphers.



### **7.3.2 OCSP Extensions**

Symantec TGV Service uses secure timestamp and validity period to establish the current freshness of each OCSP response. CrossCert does not use a nonce to establish the current freshness of each OCSP response and clients should not expect a nonce in the response to a request that contains a nonce. Instead, clients should use the local clock to check for response freshness.

## **8. Compliance Audit and Other Assessments**

An annual WebTrust for Certification Authorities v2.0 or later (or equivalent) examination is performed for CrossCert's data center operations and key management operations supporting CrossCert's public and Managed PKI CA services including the STN Root CAs, Class 3 Organizational CAs, Class 2 Organizational and Individual CAs, and Class 1 Individual CAs specified in Section 1.3.1. Customer-specific CAs are not specifically audited as part of the audit of CrossCert's operations unless required by the Customer. CrossCert shall be entitled to require that Enterprise Customers undergo a compliance audit under this CPS and audit programs for these types of Customers.

In addition to compliance audits, CrossCert shall be entitled to perform other reviews and investigations to ensure the trustworthiness of CrossCert's Sub-domain of the STN, which include, but are not limited to:

- CrossCert shall be entitled, within its sole and exclusive discretion, to perform at any time an "Exigent Audit/Investigation" on a Customer in the event CrossCert has reason to believe that the audited entity has failed to meet STN Standards, has experienced an incident or compromise, or has acted or failed to act, such that the audited entity's failure, the incident or compromise, or the act or failure to act poses an actual or potential threat to the security or integrity of the STN.
- CrossCert shall be entitled to perform "Supplemental Risk Management Reviews" on a Customer following incomplete or exceptional findings in a Compliance Audit or as part of the overall risk management process in the ordinary course of business.

CrossCert shall be entitled to delegate the performance of these audits, reviews, and investigations to a third party audit firm. Entities that are subject to an audit, review, or investigation shall provide reasonable cooperation with CrossCert and the personnel performing the audit, review, or investigation.

### **CABF Requirement for Self-Audits**

Domain validated and organization validated SSL Certificates conform to the CA / Browser Forum Baseline requirements.

CrossCert shall undergo self-audits to monitor adherence to its Certificate Policy and CPS requirements and strictly control its service quality on at least a quarterly basis against a randomly selected sample of the greater of one Certificate or at least 3% of the Certificates issued by it during the period commencing immediately after the previous self-audit sample was taken.

### **8.1 Frequency and Circumstances of Assessment**

Compliance Audits are conducted at least annually at the sole expense of the audited entity. Audits are conducted over unbroken sequences of audit periods with each period no longer than

one year duration. In a period-of-time audit, an audit period is the period between the first day (start) and the last day of operations (end) covered by the auditors in their engagement.

## **8.2 Identity/Qualifications of Assessor**

CrossCert's CA compliance audits are performed by a public accounting firm that:

- Demonstrates proficiency in conducting the WebTrust for Certification Authorities v2.0 or later,
- Demonstrates proficiency in public key infrastructure technology, information security tools and techniques, security auditing, and the third-party attestation function,
- Is accredited by the American Institute of Certified Public Accountants (AICPA), which requires the possession of certain skill sets, quality assurance measures such as peer review, competency testing, standards with respect to proper assignment of staff to engagements, and requirements for continuing professional education,
- Is bound by law, government regulation, or professional code of ethics; and
- maintains Professional Liability/Errors & Omissions insurance with policy limits of at least one million US dollars in coverage.

## **8.3 Assessor's Relationship to Assessed Entity**

Compliance audits of CrossCert's operations are performed by a public accounting firm that is independent of CrossCert.

## **8.4 Topics Covered by Assessment**

The scope of CrossCert's annual WebTrust for Certification Authorities (or equivalent) audit includes CA environmental controls, key management operations and Infrastructure/Administrative CA controls, certificate life cycle management and CA business practices disclosure.

### **Audits of RAs (Class 1-2)**

Enterprise customers approving Class 1 and 2 certificates may undergo an annual compliance audit. Upon request from DigiCert and/or a Superior Entity (if the Superior Entity is not DigiCert), Enterprise customers may undergo an audit noting any exceptions or irregularities to STN policies and the steps taken to remedy the irregularities.

### **Audit of an RA (Class 3)**

Enterprise Customers authorizing the issuance of Class 3 certificates undergo an annual compliance audit of their obligations under the STN.<sup>23</sup> Upon request from DigiCert and/or a Superior Entity (if the Superior Entity is not DigiCert) Enterprise Customers undergo an audit noting any exceptions or irregularities to STN policies and the steps taken to remedy the irregularities.

### **Audit of DigiCert or an Affiliate (Class 1-3)**

DigiCert and each Affiliate is audited pursuant to the guidelines provided in the American Institute of Certificate Public Accounts' Statement on Service Organizations Control (SOC) Reports on the risks associated with Service Organizations. Their Compliance Audits are the WebTrust for Certification Authorities audit or an equivalent audit standard approved by DigiCert which

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<sup>23</sup> DigiCert performs identification and authentication of Class 3 SSL certificates authorized for issuance by Enterprise Customers.

includes: A Report of Policies and Procedures in Operation and Test of Operational Effectiveness.

## **8.5 Actions Taken as a Result of Deficiency**

With respect to compliance audits of CrossCert's operations, significant exceptions or deficiencies identified during the Compliance Audit will result in a determination of actions to be taken. This determination is made by CrossCert management with input from the auditor. CrossCert management is responsible for developing and implementing a corrective action plan. If CrossCert determines that such exceptions or deficiencies pose an immediate threat to the security or integrity of the STN, a corrective action plan will be developed within 30 days and implemented within a commercially reasonable period of time. For less serious exceptions or deficiencies, CrossCert Management will evaluate the significance of such issues and determine the appropriate course of action.

## **8.6 Communications of Results**

CrossCert makes its annual Audit Report publicly available no later than three (3) months after the end of the audit period. In the event of a delay greater than three months, CrossCert shall provide an explanatory letter signed by the Qualified Auditor. A copy of CrossCert's WebTrust for CA (or equivalent) audit report can be found at <http://www.crosscert.com/repository>.

# **9. Other Business and Legal Matters**

## **9.1 Fees**

### **9.1.1 Certificate Issuance or Renewal Fees**

CrossCert is entitled to charge end-user Subscribers for the issuance, management, and renewal of Certificates.

### **9.1.2 Certificate Access Fees**

CrossCert does not charge a fee as a condition of making a Certificate available in a repository or otherwise making Certificates available to Relying Parties.

### **9.1.3 Revocation or Status Information Access Fees**

CrossCert does not charge a fee as a condition of making the CRLs required by the CP available in a repository or otherwise available to Relying Parties. CrossCert is, however, entitled to charge a fee for providing customized CRLs, OCSP services, or other value-added revocation and status information services. CrossCert does not permit access to revocation information, Certificate status information, or time stamping in their repositories by third parties that provide products or services that utilize such Certificate status information without CrossCert's prior express written consent.

### **9.1.4 Fees for Other Services**

CrossCert does not charge a fee for access to this CPS. Any use made for purposes other than simply viewing the document, such as reproduction, redistribution, modification, or creation of derivative works, shall be subject to a license agreement with the entity holding the copyright to the document.

### **9.1.5 Refund Policy**

Within CrossCert's Sub-domain, the following refund policy ([www.crosscert.com/repository/refund](http://www.crosscert.com/repository/refund)) is in effect:

CrossCert adheres to, and stands behind, rigorous practices and policies in undertaking certification operations and in issuing certificates. Nevertheless, if for any reason a subscriber is not completely satisfied with the certificate issued to him, her, or it, the subscriber may request that CrossCert revoke the certificate within thirty (30) days of issuance and provide the subscriber with a refund. Following the initial thirty (30) day period, a subscriber may request that CrossCert revoke the certificate and provide a refund if CrossCert has breached a warranty or other material obligation under this CPS relating to the subscriber or the subscriber's certificate. After CrossCert revokes the subscriber's certificate, CrossCert will promptly credit the subscriber's credit card account (if the certificate was paid for via credit card) or otherwise reimburse the subscriber via check, for the full amount of the applicable fees paid for the certificate. To request a refund, please call customer service at +82-2-3019-5500. This refund policy is not an exclusive remedy and does not limit other remedies that may be available to subscribers.

## **9.2 Financial Responsibility**

### **9.2.1 Insurance Coverage**

Enterprise Customers are encouraged to maintain a commercially reasonable level of insurance coverage for errors and omissions, either through an errors and omissions insurance program with an insurance carrier or a self-insured retention. CrossCert maintains such errors and omissions insurance coverage.

### **9.2.2 Other Assets**

Enterprise Customers shall have sufficient financial resources to maintain their operations and perform their duties, and they must be reasonably able to bear the risk of liability to Subscribers and Relying Parties. CrossCert's financial resources are set forth in disclosures appearing at: <https://board.crosscert.com/irNews>.

### **9.2.3 Insurance or Warranty Coverage for End-Entities**

Insurance coverage for end-entities is specified in CrossCert's Relying Party Agreement..

## **9.3 Confidentiality of Business Information**

### **9.3.1 Scope of Confidential Information**

The following records of Subscribers shall, subject to Section 9.3.2, be kept confidential and private ("Confidential/Private Information"):

- CA application records, whether approved or disapproved,
- Certificate Application records,
- Private keys held by enterprise Customers using Managed PKI Key Manager and information needed to recover such Private Keys,
- Transactional records (both full records and the audit trail of transactions),
- Audit trail records created or retained by CrossCert or a Customer,
- Audit reports created by CrossCert or a Customer (to the extent such reports are maintained), or their respective auditors (whether internal or public),
- Contingency planning and disaster recovery plans, and

- Security measures controlling the operations of CrossCert hardware and software and the administration of Certificate services and designated enrollment services.

### **9.3.2 Information Not Within the Scope of Confidential Information**

Certificates, Certificate revocation and other status information, CrossCert repositories and information contained within them are not considered Confidential/Private Information. Information not expressly deemed Confidential/Private Information under Section 9.3.1 shall be considered neither confidential nor private. This section is subject to applicable privacy laws.

### **9.3.3 Responsibility to Protect Confidential Information**

CrossCert secures private information from compromise and disclosure to third parties.

## **9.4 Privacy of Personal Information**

### **9.4.1 Privacy Plan**

CrossCert has implemented a privacy policy, which is located at: [https://www.crosscert.com/glca/01\\_5\\_05.jsp](https://www.crosscert.com/glca/01_5_05.jsp), in compliance with CP § 9.4.

### **9.4.2 Information Treated as Private**

Any information about Subscribers that is not publicly available through the content of the issued certificate, certificate directory and online CRLs is treated as private

### **9.4.3 Information Not Deemed Private**

Subject to local laws, all information made public in a certificate is deemed not private.

### **9.4.4 Responsibility to Protect Private Information**

DigiCert and CrossCert secure private information from compromise and disclosure to third parties and complies with all local privacy laws in their jurisdiction.

### **9.4.5 Notice and Consent to Use Private Information**

Unless where otherwise stated in this CPS, the applicable Privacy Policy or by agreement, private information will not be used without the consent of the party to whom that information applies. This section is subject to applicable privacy laws.

### **9.4.6 Disclosure Pursuant to Judicial or Administrative Process**

CrossCert shall be entitled to disclose Confidential/Private Information if, in good faith, CrossCert believes that:

- disclosure is necessary in response to subpoenas and search warrants.
- disclosure is necessary in response to judicial, administrative, or other legal process during the discovery process in a civil or administrative action, such as subpoenas, interrogatories, requests for admission, and requests for production of documents.

This section is subject to applicable privacy laws.

#### **9.4.7 Other Information Disclosure Circumstances**

No Stipulation

### **9.5 *Intellectual Property rights***

The allocation of Intellectual Property Rights among CrossCert Sub-domain Participants other than Subscribers and Relying Parties is governed by the applicable agreements among such CrossCert Sub-domain Participants. The following subsections of Section 9.5 apply to the Intellectual Property Rights in relation to Subscribers and Relying Parties.

#### **9.5.1 Property Rights in Certificates and Revocation Information**

CAs retain all Intellectual Property Rights in and to the Certificates and revocation information that they issue. CrossCert and Customers grant permission to reproduce and distribute Certificates on a nonexclusive royalty-free basis, provided that they are reproduced in full and that use of Certificates is subject to the Relying Party Agreement referenced in the Certificate. CrossCert and Customers shall grant permission to use revocation information to perform Relying Party functions subject to the applicable CRL Usage Agreement, Relying Party Agreement, or any other applicable agreements.

#### **9.5.2 Property Rights in the CPS**

STN Participants acknowledge that CrossCert retains all Intellectual Property Rights in and to this CPS.

#### **9.5.3 Property Rights in Names**

A Certificate Applicant retains all rights it has (if any) in any trademark, service mark, or trade name contained in any Certificate Application and distinguished name within any Certificate issued to such Certificate Applicant.

#### **9.5.4 Property Rights in Keys and Key Material**

Key pairs corresponding to Certificates of CAs and end-user Subscribers are the property of the CAs and end-user Subscribers that are the respective Subjects of these Certificates, subject to the rights of enterprise Customers using Managed PKI Key Manager, regardless of the physical medium within which they are stored and protected, and such persons retain all Intellectual Property Rights in and to these key pairs. Without limiting the generality of the foregoing, DigiCert's Root public keys and the Root Certificates containing them, including all PCA public keys and self-signed Certificates, are the property of DigiCert. DigiCert licenses software and hardware manufacturers to reproduce such root Certificates to place copies in trustworthy hardware devices or software. Finally, Secret Shares of a CA's private key are the property of the CA, and the CA retains all Intellectual Property Right in and to such Secret Shares even though they cannot obtain physical possession of the those shares or the CA from DigiCert.

### **9.6 *Representations and Warranties***

#### **9.6.1 CA Representations and Warranties**

CrossCert warrants that:

- There are no material misrepresentations of fact in the Certificate known to or originating from the entities approving the Certificate Application or issuing the Certificate,

- There are no errors in the information in the Certificate that were introduced by the entities approving the Certificate Application or issuing the Certificate as a result of a failure to exercise reasonable care in managing the Certificate Application or creating the Certificate,
- Their Certificates meet all material requirements of this CPS, and
- Revocation services and use of a repository conform to the applicable CPS in all material aspects.

Subscriber Agreements may include additional representations and warranties.

#### **9.6.1.1 CABF Warranties and Obligations**

Domain validated and organization validated SSL Certificates conform to the CA /Browser Forum Baseline requirements. By issuing such a Certificate, the CA makes the Certificate Warranties listed in this section to the Certificate Beneficiaries listed in section 1.3.5.

The CA represents and warrants to the Certificate Beneficiaries that, during the period when the Certificate is valid, the CA has complied with these Requirements and its Certificate Policy and/or Certification Practice Statement in issuing and managing the Certificate. The Certificate Warranties specifically include, but are not limited to, the following:

1. Right to Use Domain Name or IP Address: That, at the time of issuance, the CA (i) implemented a procedure for verifying that the Applicant either had the right to use, or had control of, the Domain Name(s) and IP address(es) listed in the Certificate's subject field and *subjectAltName* extension (or, only in the case of Domain Names, was delegated such right or control by someone who had such right to use or control); (ii) followed the procedure when issuing the Certificate; and (iii) accurately described the procedure in the CA's Certificate Policy and/or Certification Practice Statement;
2. Authorization for Certificate: That, at the time of issuance, the CA (i) implemented a procedure for verifying that the Subject authorized the issuance of the Certificate and that the Applicant Representative is authorized to request the Certificate on behalf of the Subject; (ii) followed the procedure when issuing the Certificate; and (iii) accurately described the procedure in the CA's Certificate Policy and/or Certification Practice Statement;
3. Accuracy of Information: That, at the time of issuance, the CA (i) implemented a procedure for verifying the accuracy of all of the information contained in the Certificate (with the exception of the *subject.organizationalUnitName* attribute); (ii) followed the procedure when issuing the Certificate; and (iii) accurately described the procedure in the CA's Certificate Policy and/or Certification Practice Statement;
4. No Misleading Information: That, at the time of issuance, the CA (i) implemented a procedure for reducing the likelihood that the information contained in the Certificate's *subject.organizationalUnitName* attribute would be misleading; (ii) followed the procedure when issuing the Certificate; and (iii) accurately described the procedure in the CA's Certificate Policy and/or Certification Practice Statement;
5. Identity of Applicant: That, if the Certificate contains Subject Identity Information, the CA (i) implemented a procedure to verify the identity of the Applicant in accordance with Sections 3.1.1.1 and 3.2.2.1; (ii) followed the procedure when issuing the Certificate; and (iii) accurately described the procedure in the CA's Certificate Policy and/or Certification Practice Statement;
6. Subscriber Agreement: That, if the CA and Subscriber are not Affiliated, the Subscriber and CA are parties to a legally valid and enforceable Subscriber Agreement that satisfies these Requirements, or, if the CA and Subscriber are Affiliated, the Applicant Representative acknowledged and accepted the Terms of Use;

7. Status: That the CA maintains a 24 x 7 publicly-accessible Repository with current information regarding the status (valid or revoked) of all unexpired Certificates; and
8. Revocation: That the CA will revoke the Certificate for any of the reasons specified in these Requirements.

### **Root CA Obligations**

The Root CA shall be responsible for the performance and warranties of the Subordinate CA, for the Subordinate CA's compliance with these Requirements, and for all liabilities and indemnification obligations of the Subordinate CA under these Requirements, as if the Root CA were the Subordinate CA issuing the Certificates.

### **9.6.2 RA Representations and Warranties**

RAs warrant that:

- There are no material misrepresentations of fact in the Certificate known to or originating from the entities approving the Certificate Application or issuing the Certificate,
- There are no errors in the information in the Certificate that were introduced by the entities approving the Certificate Application as a result of a failure to exercise reasonable care in managing the Certificate Application,
- Their Certificates meet all material requirements of this CPS, and
- Revocation services (when applicable) and use of a repository conform to the applicable CPS in all material aspects.

Subscriber Agreements may include additional representations and warranties.

### **9.6.3 Subscriber Representations and Warranties**

Subscribers warrant that:

- Each digital signature created using the private key corresponding to the public key listed in the Certificate is the digital signature of the Subscriber and the Certificate has been accepted and is operational (not expired or revoked) at the time the digital signature is created,
- Their private key is protected and that no unauthorized person has ever had access to the Subscriber's private key,
- All representations made by the Subscriber in the Certificate Application the Subscriber submitted are true,
- All information supplied by the Subscriber and contained in the Certificate is true,
- The Certificate is being used exclusively for authorized and legal purposes, consistent with this CPS, and
- The Subscriber is an end-user Subscriber and not a CA, and is not using the private key corresponding to any public key listed in the Certificate for purposes of digitally signing any Certificate (or any other format of certified public key) or CRL, as a CA or otherwise.

Subscriber Agreements may include additional representations and warranties.

### **9.6.4 Relying Party Representations and Warranties**

Relying Party Agreements require Relying Parties to acknowledge that they have sufficient information to make an informed decision as to the extent to which they choose to rely on the information in a Certificate, that they are solely responsible for deciding whether or not to rely on such information, and that they shall bear the legal consequences of their failure to perform the Relying Party obligations in terms of this CPS.



Relying Party Agreements may include additional representations and warranties.

### **9.6.5 Representations and Warranties of Other Participants**

No stipulation

### **9.7 Disclaimers of Warranties**

To the extent permitted by applicable law, Subscriber Agreements and Relying Party Agreements shall disclaim CrossCert's possible warranties, including any warranty of merchantability or fitness for a particular purpose.

### **9.8 Limitations of Liability**

To the extent CrossCert has issued and managed the Certificate(s) at issue in compliance with the STN Certificate Policy and the CrossCert Certification Practice Statement, CrossCert shall have no liability to the Subscriber, any Relying Party, or any other third parties for any damages or losses suffered as a result of the use or reliance on such Certificate(s). To the extent permitted by applicable law, Subscriber Agreements and Relying Party Agreements shall limit CrossCert's liability. Limitations of liability shall include an exclusion of indirect, special, incidental, and consequential damages. They shall also include the following liability caps limiting CrossCert's damages concerning a specific Certificate:

<b>Class</b>	<b>Liability Caps</b>
<b>Class 1</b>	<b>KRW 120,000</b>
<b>Class 2</b>	<b>KRW 6,000,000</b>
<b>Class 3</b>	<b>KRW 120,000,000</b>

**Table 15 – Liability Caps**

*Note:* The liability caps in Table 14 limit damages recoverable outside the context of the CrossCert Protection Plan. Amounts paid under the CrossCert Protection Plan are subject to their own liability caps. The liability caps under the CrossCert Protection Plan for different kinds of Certificates range from KRW 120,000 to KRW 120,000,000.

The liability (and/or limitation thereof) of Subscribers shall be as set forth in the applicable Subscriber agreements.

The liability (and/or limitation thereof) of enterprise RAs and the applicable CA shall be set out in the agreement(s) between them.

The liability (and/or limitation thereof) of Relying Parties shall be as set forth in the applicable Relying Party Agreements.

### **9.9 Indemnities**

#### **9.9.1 Indemnification by Subscribers**

To the extent permitted by applicable law, Subscribers are required to indemnify CrossCert for:

- Falsehood or misrepresentation of fact by the Subscriber on the Subscriber's Certificate Application,
- Failure by the Subscriber to disclose a material fact on the Certificate Application, if the misrepresentation or omission was made negligently or with intent to deceive any party,
- The Subscriber's failure to protect the Subscriber's private key, to use a Trustworthy System, or to otherwise take the precautions necessary to prevent the compromise, loss, disclosure, modification, or unauthorized use of the Subscriber's private key, or

- The Subscriber's use of a name (including without limitation within a common name, domain name, or e-mail address) that infringes upon the Intellectual Property Rights of a third party.

The applicable Subscriber Agreement may include additional indemnity obligations.

### **9.9.2 Indemnification by Relying Parties**

To the extent permitted by applicable law, Relying Party Agreements shall require Relying Parties to indemnify CrossCert for:

- The Relying Party's failure to perform the obligations of a Relying Party,
- The Relying Party's reliance on a Certificate that is not reasonable under the circumstances, or
- The Relying Party's failure to check the status of such Certificate to determine if the Certificate is expired or revoked.

The applicable Relying Party Agreement may include additional indemnity obligations.

### **9.9.3 Indemnification of Application Software Suppliers**

Notwithstanding any limitations on its liability to Subscribers and Relying Parties, the CA understands and acknowledges that the Application Software Suppliers who have a Root Certificate distribution agreement in place with the CrossCert Root CA do not assume any obligation or potential liability of the CA under these Requirements or that otherwise might exist because of the issuance or maintenance of Certificates or reliance thereon by Relying Parties or others.

Thus the CA shall defend, indemnify, and hold harmless each Application Software Supplier for any and all claims, damages, and losses suffered by such Application Software Supplier related to a Certificate issued by the CA, regardless of the cause of action or legal theory involved. This does not apply, however, to any claim, damages, or loss suffered by such Application Software Supplier related to a Certificate issued by the CA where such claim, damage, or loss was directly caused by such Application Software Supplier's software displaying as not trustworthy a Certificate that is still valid, or displaying as trustworthy: (1) a Certificate that has expired, or (2) a Certificate that has been revoked (but only in cases where the revocation status is currently available from the CA online, and the application software either failed to check such status or ignored an indication of revoked status).

## **9.10 Term and Termination**

### **9.10.1 Term**

The CPS becomes effective upon publication in the CrossCert Repository. Amendments to this CPS become effective upon publication in the CrossCert Repository.

### **9.10.2 Termination**

This CPS as amended from time to time shall remain in force until it is replaced by a new version.

### **9.10.3 Effect of Termination and Survival**

Upon termination of this CPS, CrossCert Sub-domain participants are nevertheless bound by its terms for all certificates issued for the remainder of the validity periods of such certificates.

## **9.11 Individual Notices and Communications with Participants**

Unless otherwise specified by agreement between the parties, CrossCert Sub-domain participants shall use commercially reasonable methods to communicate with each other, taking into account the criticality and subject matter of the communication.

## **9.12 Amendments**

### **9.12.1 Procedure for Amendment**

Amendments to this CPS may be made by the CrossCert Policy Management Authority(PMA). Amendments shall either be in the form of a document containing an amended form of the CPS or an update. Amended versions or updates shall be linked to the Policies and Agreements section of the CrossCert Repository located at: <https://www.crosscert.com/repository/updates>. Updates supersede any designated or conflicting provisions of the referenced version of the CPS. The PMA shall determine whether changes to the CPS require a change in the Certificate policy object identifiers of the Certificate policies corresponding to each Class of Certificate.

### **9.12.2 Notification Mechanism and Period**

DigiCert and the PMA reserve the right to amend the CPS without notification for amendments that are not material, including without limitation corrections of typographical errors, changes to URLs, and changes to contact information. The PMA's decision to designate amendments as material or non-material shall be within the PMA's sole discretion

The PMA solicits proposed amendments to the CPS from other CrossCert Sub-domain participants. If the PMA considers such an amendment desirable and proposes to implement the amendment, the PMA shall provide notice of such amendment in accordance with this section.

Notwithstanding anything in the CPS to the contrary, if the PMA believes that material amendments to the CPS are necessary immediately to stop or prevent a breach of the security of the STN or any portion of it, CrossCert and the PMA shall be entitled to make such amendments by publication in the CrossCert Repository. Such amendments will be effective immediately upon publication. Within a reasonable time after publication, CrossCert shall provide notice to of such amendments to CrossCert sub-domain participants.

At a minimum DigiCert and the DCPA will update this CPS annually in compliance with CA/Browser Forum guidelines.

#### **9.12.2.1 Comment Period**

Except as otherwise stated, the comment period for any material amendments to the CPS shall be fifteen (15) days, starting on the date on which the amendments are posted on the CrossCert Repository. Any CrossCert Sub-domain participant shall be entitled to file comments with the DCPA up until the end of the comment period.

#### **9.12.2.2 Mechanism to Handle Comments**

The PMA shall consider any comments on the proposed amendments. The PMA shall either (a) allow the proposed amendments to become effective without amendment, (b) amend the proposed amendments and republish them as a new amendment when required, or (c) withdraw the proposed amendments. The PMA is entitled to withdraw proposed amendments by notifying Affiliates and providing notice in the Practices Updates and Notices section of the CrossCert Repository. Unless proposed amendments are amended or withdrawn, they shall become effective upon the expiration of the comment period.

### **9.12.3 Circumstances under Which OID Must be Changed**

If the PMA determines that a change is necessary in the object identifier corresponding to a Certificate policy, the amendment shall contain new object identifiers for the Certificate policies corresponding to each Class of Certificate. Otherwise, amendments shall not require a change in Certificate policy object identifier.

### **9.13 Dispute Resolution Provisions**

#### **9.13.1 Disputes among DigiCert, CrossCert, and Customers**

Disputes among CrossCert Sub-domain participants shall be resolved pursuant to provisions in the applicable agreements among the parties.

#### **9.13.2 Disputes with End-User Subscribers or Relying Parties**

To the extent permitted by applicable law, Subscriber Agreements and Relying Party Agreements shall contain a dispute resolution clause. Disputes involving CrossCert require an initial negotiation period of sixty (60) days followed by litigation in court of CrossCert jurisdiction, in the case of claimants who are Korea residents or, in the case of all other claimants, arbitration administered by the International Chamber of Commerce ("ICC") in accordance with the ICC Rules of Conciliation and Arbitration, unless otherwise approved by CrossCert.

### **9.14 Governing Law**

Subject to any limits appearing in applicable law, the laws of Korea shall govern the enforceability, construction, interpretation, and validity of this CPS, irrespective of contract or other choice of law provisions and without the requirement to establish a commercial nexus in Korea. This choice of law is made to ensure uniform procedures and interpretation for all CrossCert sub-domain participants, no matter where they are located.

This governing law provision applies only to this CPS. Agreements incorporating the CPS by reference may have their own governing law provisions, provided that this Section 9.14 governs the enforceability, construction, interpretation, and validity of the terms of the CPS separate and apart from the remaining provisions of any such agreements, subject to any limitations appearing in applicable law.

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

### **9.15 Compliance with Applicable Law**

This CPS is subject to applicable national, state, local and foreign laws, rules, regulations, ordinances, decrees, and orders including, but not limited to, restrictions on exporting or importing software, hardware, or technical information. CrossCert licenses its CAs in each jurisdiction that it operates where licensing is required by the law of such jurisdiction for the issuance of Certificates.

### **9.16 Miscellaneous Provisions**

#### **9.16.1 Entire Agreement**

Not applicable

### **9.16.2 Assignment**

Not applicable

### **9.16.3 Severability**

In the event that a clause or provision of this CPS is held to be unenforceable by a court of law or other tribunal having authority, the remainder of the CPS shall remain valid.

### **9.16.4 Enforcement (Attorney's Fees and Waiver of Rights)**

Not applicable

### **9.16.5 Force Majeure**

To the extent permitted by applicable law, Subscriber Agreements and Relying Party Agreements shall include a force majeure clause protecting DigiCert.

### **9.17 Other Provisions**

Not applicable

## Appendix A: Table of Acronyms and Definitions

### Table of Acronyms

Term	Definition
<b>AICPA</b>	American Institute of Certified Public Accountants.
<b>ANSI</b>	The American National Standards Institute.
<b>ACS</b>	Authenticated Content Signing.
<b>BIS</b>	The United States Bureau of Industry and Science of the United States Department of Commerce.
<b>CA</b>	Certification Authority.
<b>ccTLD</b>	Country Code Top-Level Domain
<b>CICA</b>	Canadian Instituted of Chartered Accountants
<b>CP</b>	Certificate Policy.
<b>CPS</b>	Certification Practice Statement.
<b>CRL</b>	Certificate Revocation List.
<b>CSPRNG</b>	Cryptographically Secure Pseudo-Random Number Generator
<b>DBA</b>	Doing Business As
<b>DCPA</b>	DigiCert Policy Authority
<b>DNS</b>	Domain Name System
<b>EV</b>	Extended Validation
<b>FIPS</b>	United State Federal Information Processing Standards.
<b>FQDN</b>	Fully Qualified Domain Name
<b>ICC</b>	International Chamber of Commerce.
<b>IM</b>	Instant Messaging
<b>IANA</b>	Internet Assigned Numbers Authority
<b>ICANN</b>	Internet Corporation for Assigned Names and Numbers
<b>ISO</b>	International Organization for Standardization
<b>KRB</b>	Key Recovery Block.
<b>LSVA</b>	Logical security vulnerability assessment.
<b>NIST</b>	(US Government) National Institute of Standards and Technology
<b>OCSP</b>	Online Certificate Status Protocol.
<b>OID</b>	Object Identifier
<b>PCA</b>	Primary Certification Authority.
<b>PIN</b>	Personal identification number.
<b>PKCS</b>	Public-Key Cryptography Standard.
<b>PKI</b>	Public Key Infrastructure.
<b>QGIS</b>	Qualified Government Information Source
<b>QIIS</b>	Qualified Independent Information Source
<b>RA</b>	Registration Authority.
<b>RFC</b>	Request for comment.
<b>S/MIME</b>	Secure multipurpose Internet mail extensions.
<b>SSL</b>	Secure Sockets Layer.
<b>STN</b>	Symantec Trust Network.
<b>TLD</b>	Top-Level Domain
<b>TLS</b>	Transport Layer Security

## Definitions

Term	Definition
<b>Administrator</b>	A Trusted Person within the organization of a Processing Center, Service Center, Managed PKI Customer, or Gateway Customer that performs validation and other CA or RA functions.
<b>Administrator Certificate</b>	A Certificate issued to an Administrator that may only be used to perform CA or RA functions.
<b>Affiliate</b>	A leading trusted third party, for example in the technology, telecommunications, or financial services industry, that has entered into an agreement with DigiCert to be a STN distribution and services channel within a specific territory. In the CAB Forum context, the term “ <i>Affiliate</i> ” refers to: A corporation, partnership, joint venture or other entity controlling, controlled by, or under common control with another entity, or an agency, department, political subdivision, or any entity operating under the direct control of a Government Entity.
<b>Affiliated Individual</b>	A natural person that is related to a Managed PKI Customer, Managed PKI Lite Customer, or Gateway Customer entity (i) as an officer, director, employee, partner, contractor, intern, or other person within the entity, (ii) as a member of a DigiCert registered community of interest, or (iii) as a person maintaining a relationship with the entity where the entity has business or other records providing appropriate assurances of the identity of such person.
<b>Applicant</b>	The Private Organization or Government Entity that applies for (or seeks renewal of) an EV Certificate naming it as the Subject.
<b>Applicant Representative</b>	An individual person employed by the Applicant for an EV certificate: (i) who signs and submits, or approves an EV Certificate Request on behalf of an Applicant, and/or (ii) who signs and submits a Subscriber Agreement on behalf of an Applicant.
<b>Application Software Vendor</b>	A developer of Internet browser software or other software that displays or uses certificates and distributes root certificates, such as KDE, Microsoft Corporation, Mozilla Corporation, Opera Software ASA, and Red Hat, Inc.
<b>Applicant</b>	The natural person or Legal Entity that applies for (or seeks renewal of) a Certificate. Once the Certificate issues, the Applicant is referred to as the Subscriber. For Certificates issued to devices, the Applicant is the entity that controls or operates the device named in the Certificate, even if the device is sending the actual certificate request. The Applicant, its parent, affiliates, and subsidiaries are all considered interchangeable as Applicant.
<b>Applicant Representative</b>	A natural person or human sponsor who is either the Applicant, employed by the Applicant, or an authorized agent who has express authority to represent the Applicant: (i) who signs and submits, or approves a certificate request on behalf of the Applicant, and/or (ii) who signs and submits a Subscriber Agreement on behalf of the Applicant, and/or (iii) who acknowledges and agrees to the Certificate Terms of Use on behalf of the Applicant when the Applicant is an Affiliate of the CA.
<b>Application Software Supplier</b>	A supplier of Internet browser software or other relying-party application software that displays or uses Certificates and incorporates Root Certificates.
<b>Attestation Letter</b>	A letter attesting that Subject Information is correct written by an accountant, lawyer, government official, or other reliable third party customarily relied upon for such information.
<b>Audit Report</b>	A report from a Qualified Auditor stating the Qualified Auditor’s opinion on whether an entity’s processes and controls comply with the mandatory provisions of these Requirements.
<b>Authorization Domain Name</b>	The Domain Name used to obtain authorization for certificate issuance for a given FQDN. DigiCert may use the FQDN returned from a DNS CNAME lookup as the FQDN for the purposes of domain validation. If the FQDN contains a wildcard character, then DigiCert removes all wildcard labels from the left most portion of requested FQDN. DigiCert may prune zero or more labels from left to right until encountering a Base Domain Name and may use any one of the intermediate values for the purpose of domain validation.
<b>Authorized Port</b>	One of the following ports: 80 (http), 443 (https), 115 (sftp), 25 (smtp), 22 (ssh).
<b>Automated Administration</b>	A procedure whereby Certificate Applications are approved automatically if enrollment information matches information contained in a database.
<b>Base Domain Name</b>	The portion of an applied-for FQDN that is the first domain name node left of a registry-controlled or public suffix plus the registry-controlled or public suffix. For FQDNs where the right-most domain name node is a gTLD granted directly to one owner by ICANN specifications, the gTLD itself may be used as the Base Domain Name.
<b>Certificate</b>	A message that, at least, states a name or identifies the CA, identifies the Subscriber, contains the Subscriber’s public key, identifies the Certificate’s Operational Period, contains a Certificate serial number, and is digitally signed by the CA.
<b>Certificate Applicant</b>	An individual or organization that requests the issuance of a Certificate by a CA.
<b>Certificate Application</b>	A request from a Certificate Applicant (or authorized agent of the Certificate Applicant) to a CA for the issuance of a Certificate.
<b>Certificate Approver</b>	A Certificate Approver is a natural person who is employed by the Applicant, or an authorized agent who has express authority to represent the Applicant of an EV Certificate to (i) act as a Certificate

<b>Term</b>	<b>Definition</b>
	Requester and to authorize other employees or third parties to act as a Certificate Requester, and (ii) to approve EV Certificate Requests submitted by other Certificate Requesters.
<b>Certificate Chain</b>	An ordered list of Certificates containing an end-user Subscriber Certificate and CA Certificates, which terminates in a root Certificate.
<b>Certificate Data</b>	Certificate requests and data related thereto (whether obtained from the Applicant or otherwise) in the CA's possession or control or to which the CA has access.
<b>Certificate Management Control Objectives</b>	Criteria that an entity must meet in order to satisfy a Compliance Audit.
<b>Certificate Management Process</b>	Processes, practices, and procedures associated with the use of keys, software, and hardware, by which the CA verifies Certificate Data, issues Certificates, maintains a Repository, and revokes Certificates.
<b>Certificate Policies (CP)</b>	The "DigiCert Certificate Policy for Symantec Trust Network" and is the principal statement of policy governing the STN.
<b>Certificate Problem Report</b>	Complaint of suspected Key Compromise, Certificate misuse, or other types of fraud, compromise, misuse, or inappropriate conduct related to Certificates
<b>Certificate Requester</b>	A Certificate Requester is a natural person who is employed and authorized by the Applicant, or an authorized agent who has express authority to represent the Applicant or a third party (such as an ISP or hosting company) that completes and submits an EV Certificate Request on behalf of the Applicant.
<b>Certificate Revocation List (CRL)</b>	A periodically (or exigently) issued list, digitally signed by a CA, of identified Certificates that have been revoked prior to their expiration dates in accordance with CP § 3.4. The list generally indicates the CRL issuer's name, the date of issue, the date of the next scheduled CRL issue, the revoked Certificates' serial numbers, and the specific times and reasons for revocation.
<b>Certificate Signing Request</b>	A message conveying a request to have a Certificate issued.
<b>Certification Authority (CA)</b>	An entity authorized to issue, manage, revoke, and renew Certificates in the STN.
<b>Certification Practice Statement (CPS)</b>	A statement of the practices that DigiCert or an Affiliate employs in approving or rejecting Certificate Applications and issuing, managing, and revoking Certificates, and requires its Managed PKI Customers and Gateway Customers to employ.
<b>Challenge Phrase</b>	A secret phrase chosen by a Certificate Applicant during enrollment for a Certificate. When issued a Certificate, the Certificate Applicant becomes a Subscriber and a CA or RA can use the Challenge Phrase to authenticate the Subscriber when the Subscriber seeks to revoke or renew the Subscriber's Certificate.
<b>Class</b>	A specified level of assurances as defined within the CP. See CP § 1.1.1.
<b>Client Service Center</b>	A Service Center that is an Affiliate providing client Certificates either in the Consumer or Enterprise line of business.
<b>Compliance Audit</b>	A periodic audit that a Processing Center, Service Center, Managed PKI Customer, or Gateway Customer undergoes to determine its conformance with STN Standards that apply to it.
<b>Compromise</b>	A violation (or suspected violation) of a security policy, in which an unauthorized disclosure of, or loss of control over, sensitive information may have occurred. With respect to private keys, a Compromise is a loss, theft, disclosure, modification, unauthorized use, or other compromise of the security of such private key.
<b>Confidential/Private Information</b>	Information required to be kept confidential and private pursuant to CP § 2.8.1.
<b>Contract Signer</b>	A Contract Signer is a natural person who is employed by the Applicant, or an authorized agent who has express authority to represent the Applicant who has authority on behalf of the Applicant to sign Subscriber Agreements on behalf of the Applicant for an EV Certificate.
<b>Country</b>	A Country shall mean a Sovereign state as defined in the Guidelines.
<b>CRL Usage Agreement</b>	An agreement setting forth the terms and conditions under which a CRL or the information in it can be used.
<b>Cross Certificate</b>	A certificate that is used to establish a trust relationship between two Root CAs.
<b>Cryptographically Secure Pseudo-Random Number Generator</b>	A random number generator intended for use in a cryptographic system.
<b>Customer</b>	An organization that is either a Managed PKI Customer, or Gateway Customer.
<b>Delegated Third Party</b>	A natural person or Legal Entity that is not the CA but is authorized by the CA to assist in the Certificate Management Process by performing or fulfilling one or more of the CA requirements found herein.
<b>Demand Deposit Account</b>	A deposit account held at a bank or other financial institution, the funds deposited in which are payable on demand. The primary purpose of demand accounts is to facilitate cashless payments by means of check, bank draft, direct debit, electronic funds transfer, etc. Usage varies among countries, but a demand deposit account is commonly known as: a checking account, a share draft account, a current account, or a checking account.



<b>Term</b>	<b>Definition</b>
<b>Domain Authorization</b>	Correspondence or other documentation provided by a Domain Name Registrant attesting to the authority of an Applicant to request a Certificate for a specific Domain Namespace.
<b>Domain Contact</b>	The Domain Name Registrant, technical contact, or administrative "corporate" contact (or the equivalent under a ccTLD) as listed in the WHOIS record of the Base Domain Name or in a DNS SOA record.
<b>Domain Name</b>	The label assigned to a node in the Domain Name System.
<b>Domain Namespace</b>	The set of all possible Domain Names that are subordinate to a single node in the Domain Name System.
<b>Domain Name Registrant</b>	Sometimes referred to as the "owner" of a Domain Name, but more properly the person(s) or entity(ies) registered with a Domain Name Registrar as having the right to control how a Domain Name is used, such as the natural person or Legal Entity that is listed as the "Registrant" by WHOIS or the Domain Name Registrar.
<b>Domain Name Registrar</b>	A person or entity that registers Domain Names under the auspices of or by agreement with: (i) the Internet Corporation for Assigned Names and Numbers (ICANN), (ii) a national Domain Name authority/registry, or (iii) a Network Information Center (including their affiliates, contractors, delegates, successors, or assigns).
<b>Enterprise, as in Enterprise Service Center</b>	A line of business that an Affiliate enters to provide Managed PKI services to Managed PKI Customers.
<b>Enterprise EV Certificate:</b>	An EV Certificate that an Managed PKI for SSL Customer authorizes DigiCert to issue at third and higher domain levels that contain the domain that have been verified by DigiCert.
<b>Enterprise RA</b>	A Managed PKI for SSL customer that can request multiple valid EV Certificates for Domains and Organizations verified by DigiCert for domains at third and higher domain levels that contain a domain that was verified by DigiCert in the original EV Certificate, in accordance with the requirements of these Guidelines.
<b>Expiry Date</b>	The "Not After" date in a Certificate that defines the end of a Certificate's validity period.
<b>EV Certificate:</b>	A digital certificate that contains information specified in the EV Guidelines and that has been validated in accordance with the Guidelines.
<b>EV OID</b>	An identifying number, called an "object identifier," that is included in the <i>certificatePolicies</i> field of an EV certificate that: (i) indicates which CA policy statement relates to that certificate, and which, (ii) by pre-agreement with one or more Application Software Vendor, marks the certificate as being an EV Certificate.
<b>Exigent Audit/Investigation</b>	An audit or investigation by DigiCert where DigiCert has reason to believe that an entity's failure to meet STN Standards, an incident or Compromise relating to the entity, or an actual or potential threat to the security of the STN posed by the entity has occurred.
<b>Extended Validation</b>	Validation Procedures defined by the Guidelines for Extended Validation Certificates published by a forum consisting of major certification authorities and browser vendors.
<b>Fully-Qualified Domain Name</b>	A Domain Name that includes the labels of all superior nodes in the Internet Domain Name System.
<b>Government Entity</b>	A government-operated legal entity, agency, department, ministry, branch, or similar element of the government of a country, or political subdivision within such country (such as a state, province, city, county, etc.).
<b>Intellectual Property Rights</b>	Rights under one or more of the following: any copyright, patent, trade secret, trademark, and any other intellectual property rights.
<b>Intermediate Certification Authority (Intermediate CA)</b>	A Certification Authority whose Certificate is located within a Certificate Chain between the Certificate of the root CA and the Certificate of the Certification Authority that issued the end-user Subscriber's Certificate.
<b>Internal Name</b>	A string of characters (not an IP address) in a Common Name or Subject Alternative Name field of a Certificate that cannot be verified as globally unique within the public DNS at the time of certificate issuance because it does not end with a Top Level Domain registered in IANA's Root Zone Database.
<b>International Organization</b>	An International Organization is an organization founded by a constituent document, e.g., charter, treaty, convention, or similar document, signed by, or on behalf of, a minimum of two or more Sovereign State governments.
<b>Issuing CA</b>	In relation to a particular Certificate, the CA that issued the Certificate. This could be either a Root CA or a Subordinate CA.
<b>Key Compromise</b>	A Private Key is said to be compromised if its value has been disclosed to an unauthorized person, an unauthorized person has had access to it, or there exists a practical technique by which an unauthorized person may discover its value.
<b>Key Generation Ceremony</b>	A procedure whereby a CA's or RA's key pair is generated, its private key is transferred into a cryptographic module, its private key is backed up, and/or its public key is certified.
<b>Key Generation Script</b>	A documented plan of procedures for the generation of a CA Key Pair.
<b>Key Manager Administrator</b>	An Administrator that performs key generation and recovery functions for a Managed PKI Customer using Managed PKI Key Manager.

Term	Definition
<b>Key Pair</b>	The Private Key and its associated Public Key.
<b>Key Recovery Block (KRB)</b>	A data structure containing a Subscriber's private key that is encrypted using an encryption key. KRBs are generated using Managed PKI Key Manager software.
<b>Key Recovery Service</b>	A DigiCert service that provides encryption keys needed to recover a Key Recovery Block as part of a Managed PKI Customer's use of Managed PKI Key Manager to recover a Subscriber's private key.
<b>Legal Entity</b>	An association, corporation, partnership, proprietorship, trust, government entity or other entity with legal standing in a country's legal system.
<b>Managed PKI</b>	DigiCert's fully integrated managed PKI service that allows enterprise Customers of DigiCert and its Affiliates to distribute Certificates to individuals, such as employees, partners, suppliers, and customers, as well as devices, such as servers, routers, and firewalls. Managed PKI permits enterprises to secure messaging, intranet <sup>24</sup> , extranet, virtual private network, and e-commerce applications.
<b>Managed PKI Administrator</b>	An Administrator that performs validation or other RA functions for an Managed PKI Customer.
<b>Managed PKI Control Center</b>	A web-based interface that permits Managed PKI Administrators to perform Manual Authentication of Certificate Applications
<b>Managed PKI Key Manager</b>	A key recovery solution for those Managed PKI Customers choosing to implement key recovery under a special Managed PKI Agreement.
<b>Managed PKI Key Management Service Administrator's Guide</b>	A document setting forth the operational requirements and practices for Managed PKI Customers using Managed PKI Key Manager.
<b>Manual Authentication</b>	A procedure whereby Certificate Applications are reviewed and approved manually one-by-one by an Administrator using a web-based interface.
<b>DigiCert NetSure Protection Plan</b>	An extended warranty program, which is described in CP § 9.2.3.
<b>Nonverified Subscriber Information</b>	Information submitted by a Certificate Applicant to a CA or RA, and included within a Certificate, that has not been confirmed by the CA or RA and for which the applicable CA and RA provide no assurances other than that the information was submitted by the Certificate Applicant.
<b>Non-repudiation</b>	An attribute of a communication that provides protection against a party to a communication falsely denying its origin, denying that it was submitted, or denying its delivery. Denial of origin includes the denial that a communication originated from the same source as a sequence of one or more prior messages, even if the identity associated with the sender is unknown. Note: only an adjudication by a court, arbitration panel, or other tribunal can ultimately prevent repudiation. For example, a digital signature verified with reference to a STN Certificate may provide proof in support of a determination of Non-repudiation by a tribunal, but does not by itself constitute Non-repudiation.
<b>Object Identifier</b>	A unique alphanumeric or numeric identifier registered under the International Organization for Standardization's applicable standard for a specific object or object class.
<b>OCSP (Online Certificate Status Protocol)</b>	An online Certificate-checking protocol for providing Relying Parties with real-time Certificate status information.
<b>OCSP Responder</b>	An online server operated under the authority of the CA and connected to its Repository for processing Certificate status requests. See also, Online Certificate Status Protocol.
<b>Offline CA</b>	STN PCAs, Issuing Root CAs and other designated intermediate CAs that are maintained offline for security reasons in order to protect them from possible attacks by intruders by way of the network. These CAs do not directly sign end user Subscriber Certificates.
<b>Online CA</b>	CAs that sign end user Subscriber Certificates are maintained online so as to provide continuous signing services.
<b>Online Certificate Status Protocol (OCSP)</b>	A protocol for providing Relying Parties with real-time Certificate status information.
<b>Operational Period</b>	The period starting with the date and time a Certificate is issued (or on a later date and time certain if stated in the Certificate) and ending with the date and time on which the Certificate expires or is earlier revoked.
<b>Parent Company</b>	<b>Parent Company:</b> A parent company is defined as a company that owns a majority of the Subsidiary Company and this can be verified by referencing a QIIS or from financial statement supplied by a registered Chartered Professional Accountant (CPA) or equivalent outside of the USA.
<b>PKCS #10</b>	Public-Key Cryptography Standard #10, developed by RSA Security Inc., which defines a structure for a Certificate Signing Request.
<b>PKCS #12</b>	Public-Key Cryptography Standard #12, developed by RSA Security Inc., which defines a secure means for the transfer of private keys.
<b>Primary Certification Authority (PCA)</b>	A CA that acts as a root CA for a specific Class of Certificates, and issues Certificates to CAs subordinate to it.

<sup>24</sup> The use of SSL/Code Signing Certificates with a subjectAlternativeName extension or Subject commonName field containing a Reserved IP Address or Internal Name has been deprecated by the CA / Browser Forum and will be eliminated by October 2016. Any such certificate still being issued after the effective date must have an expiry date of 1 November 2015 or earlier. Previously issued certificates with expiry dates after 1 October 2016 will be revoked effective 1 October 2016.

<b>Term</b>	<b>Definition</b>
<b>Principal Individual(s)</b>	Individuals of a Private Organization, Government Entity or Business Entity that are either owners, partners, managing members, directors or officers, as identified by their title of employment, or an employee, contractor or agent authorized by such entity or organization to conduct business related to the request, issuance and use of EV Certificates.
<b>Private Key</b>	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.
<b>Processing Center</b>	An organization (DigiCert or certain Affiliates) that creates a secure facility housing, among other things, the cryptographic modules used for the issuance of Certificates. In the Consumer and Web Site lines of business, Processing Centers act as CAs within the STN and perform all Certificate lifecycle services of issuing, managing, revoking, and renewing Certificates. In the Enterprise line of business, Processing Centers provide lifecycle services on behalf of their Managed PKI Customers or the Managed PKI Customers of the Service Centers subordinate to them.
<b>Public Key</b>	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.
<b>Public Key Infrastructure (PKI)</b>	The architecture, organization, techniques, practices, and procedures that collectively support the implementation and operation of a Certificate-based public key cryptographic system. The STN PKI consists of systems that collaborate to provide and implement the STN.
<b>Publicly-Trusted Certificate</b>	A Certificate that is trusted by virtue of the fact that its corresponding Root Certificate is distributed as a trust anchor in widely-available application software.
<b>Random Value</b>	A value specified by a CA to the Applicant that exhibits at least 112 bits of entropy.
<b>Request Token</b>	A value derived in a method specified by the CA which binds this demonstration of control to the certificate request. The Request Token incorporates the key used in the certificate request. A Request Token may include a timestamp to indicate when it was created. A Request Token may include other information to ensure its uniqueness. A Request Token that includes a timestamp remains valid for no more than 30 days from the time of creation. A Request Token that includes a timestamp is treated as invalid if its timestamp is in the future. A Request Token that does not include a timestamp is valid for a single use and DigiCert does not re-use it for a subsequent validation. The binding uses a digital signature algorithm or a cryptographic hash algorithm at least as strong as that to be used in signing the certificate request.
<b>Qualified Auditor</b>	A natural person or Legal Entity that meets the requirements of Section 17.6 (Auditor Qualifications).
<b>Registered Domain Name</b>	A Domain Name that has been registered with a Domain Name Registrar.
<b>Registration Agency</b>	A Governmental Agency that registers business information in connection with an entity's business formation or authorization to conduct business under a license, charter or other certification. A Registration Agency MAY include, but is not limited to (i) a State Department of Corporations or a Secretary of State; (ii) a licensing agency, such as a State Department of Insurance; or (iii) a chartering agency, such as a state office or department of financial regulation, banking or finance, or a federal agency such as the Comptroller of Currency (OCC) or Office of Thrift Supervision (OTC)
<b>Registration Authority (RA)</b>	An entity approved by a CA to assist Certificate Applicants in applying for Certificates, and to approve or reject Certificate Applications, revoke Certificates, or renew Certificates.
<b>Regulated Financial Institution</b>	A financial institution that is regulated, supervised, and examined by governmental, national, state or provincial, or local authorities having regulatory authority over such financial institution based on the governmental, national, state or provincial, or local laws under which such financial institution was organized and/or licensed.
<b>Reliable Method of Communication</b>	A method of communication, such as a postal/courier delivery address, telephone number, or email address, that was verified using a source other than the Applicant Representative.
<b>Relying Party</b>	An individual or organization that acts in reliance on a certificate and/or a digital signature.
<b>Relying Party Agreement</b>	An agreement used by a CA setting forth the terms and conditions under which an individual or organization acts as a Relying Party.
<b>Repository</b>	An online database containing publicly-disclosed PKI governance documents (such as Certificate Policies and Certification Practice Statements) and Certificate status information, either in the form of a CRL or an OCSP response.
<b>Reseller</b>	An entity marketing services on behalf of DigiCert or an Affiliate to specific markets.
<b>Reserved IP Address</b>	An IPv4 or IPv6 address that the IANA has marked as reserved: <a href="http://www.iana.org/assignments/ipv4-address-space/ipv4-address-space.xml">http://www.iana.org/assignments/ipv4-address-space/ipv4-address-space.xml</a> <a href="http://www.iana.org/assignments/ipv6-address-space/ipv6-address-space.xml">http://www.iana.org/assignments/ipv6-address-space/ipv6-address-space.xml</a>
<b>Retail Certificate</b>	A Certificate issued by DigiCert or an Affiliate, acting as CA, to individuals or organizations applying one by one to DigiCert or an Affiliate on its web site.
<b>Root CA</b>	The top level Certification Authority whose Root Certificate is distributed by Application Software Suppliers and that issues Subordinate CA Certificates.

<b>Term</b>	<b>Definition</b>
<b>Root Certificate</b>	The self-signed Certificate issued by the Root CA to identify itself and to facilitate verification of Certificates issued to its Subordinate CAs.
<b>RSA</b>	A public key cryptographic system invented by Rivest, Shamir and Adleman.
<b>Secret Share</b>	A portion of a CA private key or a portion of the activation data needed to operate a CA private key under a Secret Sharing arrangement.
<b>Secret Sharing</b>	The practice of splitting a CA private key or the activation data to operate a CA private key in order to enforce multi-person control over CA private key operations under CP § 6.2.2.
<b>Secure Sockets Layer (SSL)</b>	The industry-standard method for protecting Web communications developed by Netscape Communications Corporation. The SSL security protocol provides data encryption, server authentication, message integrity, and optional client authentication for a Transmission Control Protocol/Internet Protocol connection.
<b>Security and Practices Review</b>	A review of an Affiliate performed by DigiCert before an Affiliate is permitted to become operational.
<b>Service Center</b>	An Affiliate that does not house Certificate signing units for the issuance of Certificates for the purpose of issuing Certificates of a specific Class or type, but rather relies on a Processing Center to perform issuance, management, revocation, and renewal of such Certificates.
<b>Sovereign State</b>	A Sovereign state is a state, or country, that administers its own government, and is not dependent upon, or subject to, another power.
<b>Sub-domain</b>	The portion of the STN under control of an entity and all entities subordinate to it within the STN hierarchy.
<b>Subject</b>	The natural person, device, system, unit, or Legal Entity identified in a Certificate as the Subject and holder of a private key corresponding to a public key. The Subject is either the Subscriber or a device under the control and operation of the Subscriber. The term "Subject" can, in the case of an organizational Certificate, refer to the equipment or device that holds a private key. A Subject is assigned an unambiguous name, which is bound to the public key contained in the Subject's Certificate.
<b>Subject Identity Information</b>	Information that identifies the Certificate Subject. Subject Identity Information does not include a domain name listed in the subjectAltName extension or the Subject commonName field.
<b>Subordinate CA</b>	A Certification Authority whose Certificate is signed by the Root CA, or another Subordinate CA.
<b>Subscriber</b>	In the case of an individual Certificate, a person who is the Subject of, and has been issued, a Certificate. In the case of an organizational Certificate, an organization that owns the equipment or device that is the Subject of, and that has been issued, a Certificate. A Subscriber is capable of using, and is authorized to use, the private key that corresponds to the public key listed in the Certificate.
<b>Subscriber Agreement</b>	An agreement used by a CA or RA setting forth the terms and conditions under which an individual or organization acts as a Subscriber.
<b>Subsidiary Company</b>	A subsidiary company is defined as a company that is majority owned by Applicant as verified by referencing a QIIS or from financial statement supplied by a registered Chartered Professional Accountant (CPA) or equivalent outside of the USA.
<b>Superior Entity</b>	An entity above a certain entity within a STN hierarchy (the Class 1, 2, or 3 hierarchy).
<b>Supplemental Risk Management Review</b>	A review of an entity by DigiCert following incomplete or exceptional findings in a Compliance Audit of the entity or as part of the overall risk management process in the ordinary course of business.
<b>Terms of Use</b>	Provisions regarding the safekeeping and acceptable uses of a Certificate issued in accordance with these Requirements when the Applicant/Subscriber is an Affiliate of the CA.
<b>Trusted Person</b>	An employee, contractor, or consultant of an entity within the STN responsible for managing infrastructural trustworthiness of the entity, its products, its services, its facilities, and/or its practices as further defined in CP § 5.2.1.
<b>Trusted Position</b>	The positions within a STN entity that must be held by a Trusted Person.
<b>Trustworthy System</b>	Computer hardware, software, and procedures that are reasonably secure from intrusion and misuse; provide a reasonable level of availability, reliability, and correct operation; are reasonably suited to performing their intended functions; and enforce the applicable security policy. A trustworthy system is not necessarily a "trusted system" as recognized in classified government nomenclature.
<b>Symantec Trust Network (STN)</b>	The Certificate-based Public Key Infrastructure governed by the DigiCert Certificate Policy for Symantec Trust.
<b>STN Participant</b>	An individual or organization that is one or more of the following within the STN: DigiCert, an Affiliate, a Customer, a Universal Service Center, a Reseller, a Subscriber, or a Relying Party.
<b>STN Standards</b>	The business, legal, and technical requirements for issuing, managing, revoking, renewing, and using Certificates within the STN.
<b>Test Certificate</b>	A Certificate with a maximum validity period of 30 days and which: (i) includes a critical extension with the specified Test Certificate CABF OID, or (ii) is issued under a CA where there are no certificate paths/chains to a root certificate subject to these Requirements.
<b>Unregistered Domain Name</b>	A Domain Name that is not a Registered Domain Name.
<b>Valid Certificate</b>	A Certificate that passes the validation procedure specified in RFC 5280.
<b>Validation Specialists</b>	Someone who performs the information verification duties specified by these Requirements.

<b>Term</b>	<b>Definition</b>
<b><i>Validity Period</i></b>	The period of time measured from the date when the Certificate is issued until the Expiry Date.
<b><i>Wildcard Certificate</i></b>	A Certificate containing an asterisk (*) in the left-most position of any of the Subject Fully-Qualified Domain Names contained in the Certificate.

## **Appendix B: Supplemental Baseline Requirements for Issuance and Management of Publicly-Trusted Certificates**

CrossCert adheres to the current version of the CA/Browser Forum Baseline Requirements for the Issuance and Management of Publicly-Trusted Certificates which can be accessed at <https://cabforum.org/baseline-requirements-documents/>. Because the CA/Browser Forum frequently updates the Baseline Requirements our CPS incorporates the BR by reference.