e-authentication guidelines for
eSign- Online Electronic Signature Service

(Issued under Electronic Signature or Electronic Authentication Technique and Procedure Rules, 2015)

Version 1.6

03 May 2019

Controller of Certifying Authorities
Ministry of Electronics and Information Technology
## Document Control

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Terminologies
"eSign" or “eSign Service” is an online Electronic Signature Service in which the key pair generation, certification of the public key by the CA and digital signature creation for electronic document are facilitated by the eSign online Electronic Signature Service provider instantaneously within a single online service based on successful authentication of individual using e-KYC services

"eSign User or eKYC user or user or subscriber" is an Individual requesting for eSign online Electronic Signature Service of eSign Service provider

"e-KYC" means the transfer of digitally signed demographic data such as Name, Address, Date of Birth, Gender, Mobile number, Email address, photograph etc of an individual. collected and verified by e-KYC provider on successful authentication of same individual

"response code" is the identification number maintained by e-KYC provider to identify the authentication

1. Introduction
Under the Information Technology Act, 2000 and Rules made thereunder, the Digital Signature Certificates (DSCs) are being issued by Certifying Authorities (CA) on successful verification of the identity and address credentials of the applicant. To begin with, these guidelines are intended to be operated by CAs for e-authentication service through e-KYC mentioned in the Second Schedule of Information Technology Act, 2000. CA may use the same physical infrastructure and manpower resources for e-authentication purposes. Security requirements for this service should be at the same level as being currently maintained by the CA. Further, the Audit of the e-authentication shall be included in the audit of CA facilities. The Trusted Third Party eSign-Online Electronic Signature Service of CA is referred as eSign Service Provider (ESP) in this document.

2. ESP Requirements

2.0 e-KYC Services Providers
The applicable e-KYC services provider for eSign are
1. UIDAI (Online Aadhaar e-KYC Services)
2. eSign User Account with CA (based on Offline Aadhaar e-KYC, Organisational KYC or Banking eKYC)

2.1 REQUIREMENTS FOR e-AUTHENTICATION USING e-KYC SERVICES

1) eSign user should have unique id
2) Application Service Provider should have gone through an approval process of ESP and should have agreement/undertaking with them.
3) ESP should adhere to e-KYC compliance requirements independently
4) eSign user Account with CA should be as per section 9
2.2 AUTHENTICATION AND DSC APPLICATION FORM

1) The mode of e-authentication should be biometric or OTP or PIN or combination of PIN and OTP in accordance with e-KYC Services

2) DSC application form is based on the digitally signed information received from e-KYC service provider. The digitally signed information from e-KYC services include name, address, email id, mobile phone number, photo etc of eSign user and response code.

3) The response code, should be recorded on the application form (Form C of Schedule IV) and included in the DSC as well.

4) The application form should programmatically be filled with the digitally signed information received from e-KYC services.

5) The filled-in application form should be preserved. The following events should be recorded
   - Authentication of user
   - Response received from e-KYC Services
   - Communication with CAs for Certificate issuance

6) The consent of the eSign user for getting a Digital Signature Certificate should be obtained electronically.

2.3 SECURITY PROCEDURE FOR KEY-PAIR GENERATION

1) ESP should facilitate generation of key pairs on their Hardware Security Module. The key pairs shall be unique to the eSign user. The private key will be destroyed after one time use

2) The private key of the eSign user shall be secured by Hardware security module (HSM) in accordance with FIPS 140-2 level 3 recommendations for Cryptographic Modules Validation List.

3) HSM of ESP should be separate from that of CAs for DSC issuance.

2.4 CERTIFICATE ISSUANCE

1) The validity of the certificate shall be not more than 30 minutes for one time use only so revocation and suspension services will not be applicable vis-à-vis such certificates.

2) On successful key generation (2.3 above), the Certificate Signing Request is sent to CA by ESP for issuing the DSC.

3) The DSC should be published in the Repository maintained

2.5 AUTHENTICATION OF ELECTRONIC RECORD BY APPLYING DIGITAL SIGNATURE

1) The consent of the eSign user for digital signing of electronic record would have already been obtained electronically. (ref 2.2(6) above)

2) eSign user should be given an option to reject the Digital Signature Certificate.
2.6 EVIDENCE REQUIREMENTS

1) Digital Signature Certificate issuance: Record all relevant information concerning the e-authentication of eSign user for generation of key pair and subsequent certification functions for a minimum period of 7 years (ref The Information Technology (Certifying Authorities) Rules, 2000, Rule 27), in particular for the purpose of providing evidence for certification purposes. Such electronic record should be preserved accordingly in secure environment.

2) Digital Signature creation: Record all relevant information concerning the e-authentication of eSign user for accessing the key pair for a minimum period of 7 years, in particular for the purpose of providing evidence of Digital signature creation. Such electronic record should be preserved accordingly in secure environment.

2.7 ESSENTIAL SECURITY REQUIREMENTS

<table>
<thead>
<tr>
<th></th>
<th>Identification and Authentication</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>eSign xml request and response should be as per the eSign API specification.</strong></td>
</tr>
<tr>
<td></td>
<td>The communication between ASP and ESP should be secured (e.g. SSL, VPN, etc).</td>
</tr>
<tr>
<td>1.1</td>
<td><strong>eSign Request to ESP</strong></td>
</tr>
<tr>
<td></td>
<td>The eSign xml request should be digitally signed prior to sending it to ESP.</td>
</tr>
<tr>
<td></td>
<td>ESP should verify ASP's digital signature on each eSign xml request received</td>
</tr>
<tr>
<td>1.2</td>
<td><strong>e-KYC Request to e-KYC provider</strong></td>
</tr>
<tr>
<td></td>
<td>The e-KYC request should be as per e-KYC provider’s specifications</td>
</tr>
<tr>
<td>1.3</td>
<td><strong>e-KYC response to ESP</strong></td>
</tr>
<tr>
<td></td>
<td>The e-KYC response shall be as per e-KYC provider’s specifications</td>
</tr>
<tr>
<td>1.4</td>
<td><strong>Certification request to CA</strong></td>
</tr>
<tr>
<td></td>
<td>ESP should form a digitally signed Certificate Generation Request with ESP's key prior to sending it to CA system.</td>
</tr>
<tr>
<td></td>
<td>The CA system should accept only digitally signed Certificate Signing Request (CSR) from designated ESP systems over a secure link</td>
</tr>
<tr>
<td>1.5</td>
<td><strong>Certification response to ESP</strong></td>
</tr>
<tr>
<td></td>
<td>CA system shall be configured to issue only e-KYC class end entity individual digital signature certificate(s).</td>
</tr>
<tr>
<td>1.6</td>
<td><strong>eSign Response</strong></td>
</tr>
<tr>
<td></td>
<td>The eSign xml response formed by ESP should be digitally signed prior to sending it to ASP</td>
</tr>
<tr>
<td>1.7</td>
<td><strong>OTP request and Response</strong></td>
</tr>
<tr>
<td></td>
<td>OTP request should conform to e-KYC provider’s OTP request API specifications.</td>
</tr>
<tr>
<td>1.8</td>
<td><strong>Domain Separation</strong></td>
</tr>
<tr>
<td></td>
<td>The ESP systems used for e-KYC service request and response should be different from ESP systems used to communicate with CA servers.</td>
</tr>
<tr>
<td>2.1</td>
<td>The eSign user key generation and management systems of ESP should be separate from CA systems in use for issuing end user certificate.</td>
</tr>
<tr>
<td>2.2</td>
<td>The CA system used for issuing e-KYC class based DSCs should be independent of CA systems used for other classes of DSCs.</td>
</tr>
</tbody>
</table>
Cryptographic Requirements

3.1 Key Generation for eSign user should happen on HSM and also should be secured by HSM.

3.2 The private key of the user should be secured by Hardware security module (HSM) in accordance with FIPS 140-2 level 3 recommendations for Cryptographic Modules Validation List.

2.8 PHYSICAL, PROCEDURAL AND PERSONNEL SECURITY
ESP should deploy trustworthy systems and employ trusted personal for eSign online electronic signature service.

3. Audit Logging Procedures
Audit log files shall be generated for all events relating to the security of the eSign-Online Electronic Signature Service. Where possible, the security audit logs shall be automatically collected. Where this is not possible, a logbook, paper form, or other physical mechanism shall be used. All security audit logs, both electronic and non-electronic, shall be retained and made available during compliance audits. The security audit logs for each auditable event defined in this section shall be maintained in accordance with Section below.

3.1 Types of Events Recorded and Records Archival
All security auditing capabilities of the operating system and the applications required shall be enabled. As a result, most of the events identified in the table shall be automatically recorded. At a minimum, each audit record shall include the following (either recorded automatically or manually for each auditable event):
1. The type of event,
2. The date and time the event occurred,
3. Success or failure where appropriate, and
4. The identity of the entity and/or operator that caused the event.

The following events shall be audited:

<table>
<thead>
<tr>
<th>Auditable Event/Audit Criteria (ESP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SECURITY AUDIT</td>
</tr>
<tr>
<td>Any changes to the Audit parameters, e.g., audit frequency, type of event audited</td>
</tr>
<tr>
<td>Any attempt to delete or modify the Audit logs</td>
</tr>
<tr>
<td>LOGICAL ACCESS</td>
</tr>
<tr>
<td>Successful and unsuccessful attempts to assume a role</td>
</tr>
<tr>
<td>The value of maximum number of authentication attempts is changed</td>
</tr>
<tr>
<td>The number of unsuccessful authentication attempts exceeds the maximum authentication attempts during user login</td>
</tr>
<tr>
<td>An Administrator unlocks an account that has been locked as a result of unsuccessful authentication attempts</td>
</tr>
<tr>
<td>An Administrator changes the type of authenticator, e.g., from a password to a biometric</td>
</tr>
<tr>
<td>KEY GENERATION</td>
</tr>
<tr>
<td>Generation of Signing Key Pair for eSign users</td>
</tr>
<tr>
<td>Deletion of key pair after signature</td>
</tr>
<tr>
<td>SECURING KEY</td>
</tr>
<tr>
<td>Auditable Event/Audit Criteria (ESP)</td>
</tr>
<tr>
<td>-------------------------------------</td>
</tr>
<tr>
<td>Securing eSign user Signing private key</td>
</tr>
<tr>
<td>Retrieval of eSign user Signing private key for usage</td>
</tr>
</tbody>
</table>

**ESIGN ONLINE ELECTRONIC SIGNATURE SERVICES**

- All eSign Online Electronic Signature Signing requests received from ASP
- All e-KYC response received from e-KYC Provider
- All electronic DSC Application Form Generated

- Proof of eSign user’s consent for
  - key pair generation,
  - DSC application form submission to CA,
  - Generate CSR based on the digitally signed information received from e-KYC services
  - signature generation on the hash submitted
- Mechanism Implemented for acceptance of DSC by eSign user
- Communication to CA in respect of Certification.
- Response sent to ASP

**ESSENTIAL SECURITY REQUIREMENTS**

- Identification and Authentication as per 1 of 2.7
- Domain Separation as per 2 of 2.7
- Cryptographic Requirements 3. of 2.7

**ACCOUNT ADMINISTRATION**

- Roles and users are added or deleted
- The access control privileges of a user account or a role are modified
- eSign Online Electronic Signature Service API
- All changes to the eSign Online Electronic Signature Service API

**MISCELLANEOUS**

- Appointment of an individual to a Trusted Role
- Designation of personnel for multiparty control
- Installation of the Operating System
- Installation of the eSign Online Electronic Signature Service Application
- Installation of hardware cryptographic modules
- Removal of hardware cryptographic modules
- Destruction of cryptographic modules
- Zeroization of cryptographic modules
- System Startup
- Logon attempts to eSign Online Electronic Signature Service Application
- Receipt of hardware / software
- Attempts to set passwords
- Attempts to modify passwords
- Back up of the internal eSign Services database
- Restoration from back up of the internal eSign Services database
- File manipulation (e.g., creation, renaming, moving)
- Access to the internal eSign Online Electronic Signature Service database
- Re-key of the eSign Online Electronic Signature Service signing certificate

**CONFIGURATION CHANGES**

- Hardware
- Software
- Operating System
- Patches
- Security Profiles

**PHYSICAL ACCESS / SITE SECURITY**
Auditable Event/Audit Criteria (ESP)

| Personnel Access to room housing eSign- Online Electronic Signature Service |
| Access to the eSign- Online Electronic Signature Service |
| Known or suspected violations of physical security |

ANOMALIES

- Software error conditions
- Software check integrity failures
- Receipt of improper messages
- Misrouted messages
- Network attacks (suspected or confirmed)
- Equipment failure
- Electrical power outages
- Uninterruptible Power Supply (UPS) failure
- Obvious and significant network service or access failures
- Violations of eSign- Online Electronic Signature Service

Auditable Event/Audit Criteria(ESP)

REPORTS

- Agreement between ESP e-KYC Provider and its Compliance audit report
- Report of Vulnerability Assessment and Penetration Test
- Agreement between ESP-ASP
- Compliance audit report of ASP
- Any other applicable agreements and its compliance reports

Apart from the auditing of CA in compliance with IT Act, its rules, regulations and guidelines, the following events shall be audited in respect of eSign service:

Auditable Event/Audit Criteria(CA)

SECURITY AUDIT

- The isolation of CA system used for issuing e-KYC class from the CA system used for issuing other classes of DSCs as per 7(1)
- Digitally signed Certificate Signing Request (CSR) from ESP systems as mentioned as 7(2)
- Ensuring no DSCs other than e-KYC class of certificates are issued from ESP in accordance with 7(3)
- Secure communication between ESP and CA system as specified in 7(4)

3.1.1 Frequency of Processing Audit Logs

Frequency of ESP audit log processing shall be in accordance with the requirements set for the CAs in Section 5.4.2 of the [CCACP].

3.1.2 Retention Period for Audit Logs

The minimum retention periods for archive data are listed below for the various assurance levels.
### Assurance Level and Archive Retention Period

<table>
<thead>
<tr>
<th>Assurance Level</th>
<th>Archive Retention Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>e-KYC Single Factor</td>
<td>7 Years</td>
</tr>
<tr>
<td>e-KYC Multi Factor</td>
<td>7 Years</td>
</tr>
</tbody>
</table>

If the original media cannot retain the data for the required period, a mechanism to periodically transfer the archived data to new media shall be defined. Applications required to process the archive data shall also be maintained for the minimum retention period specified above.

#### 3.1.3 Protection of Audit Logs
Protection of ESP audit log shall be in accordance with the requirements set for the CAs in Section 5.4.4 of the [CCA-CP].

#### 3.1.4 Audit Log Backup Procedures
Audit logs and audit summaries shall be archived per Section 3.1.2

#### 3.1.5 Audit Collection System (internal vs. external)
ESP audit collection requirements shall be in accordance with the requirements set for the CAs in Section 5.4.6 of the [CCA-CP].

#### 3.2 Records Archival

##### 3.2.1 Types of Records Archived
ESP's archival of records shall be sufficiently detailed to establish the proper operation of the ESP Service or the validity of any signature generated by ESP.

<table>
<thead>
<tr>
<th>Data To Be Archived (CA Or ESP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractual obligations</td>
</tr>
<tr>
<td>System and equipment configuration</td>
</tr>
<tr>
<td>Modifications and updates to system or configuration</td>
</tr>
<tr>
<td>eSign- Digital Signature signing requests</td>
</tr>
<tr>
<td>eSign user's Digital Signature and Certificate</td>
</tr>
<tr>
<td>Response received from e-KYC Services and DSC application form</td>
</tr>
<tr>
<td>Record of eSign- Digital Signature signing Re-key</td>
</tr>
<tr>
<td>All Audit Logs</td>
</tr>
<tr>
<td>All Audit Log Summaries</td>
</tr>
<tr>
<td>Other data or applications to verify archive contents</td>
</tr>
<tr>
<td>Compliance audit reports</td>
</tr>
</tbody>
</table>

##### 3.2.2 Retention Period for Archive
The archive retention period for ESP Service shall be the same as those listed for CA in Section 5.5.2 of the [CCACP].

##### 3.2.3 Protection of Archive
Protection of ESP Service archives shall be the same as those listed for CA in Section 5.5.3 of the [CCACP].

##### 3.2.4 Archive Backup Procedures
No Stipulation.
### 3.2.5 Requirements for eSign-Online Electronic Signature Service records

Archived records shall be time stamped such that order of events can be determined.

### 3.2.6 Archive Collection System (internal or external)

No stipulation.

### 3.2.7 Business Continuity Capabilities after a Disaster

In the case of a disaster whereby a ESP Service installation is physically damaged and all copies of the eSign-Online Electronic Signature Service Signing Key are destroyed as a result, the eSign-Online Electronic Signature Service shall reestablish services as soon as practical.

### 3.2.8 Archival Format.

The Form C should be archived in machine readable or human readable format (XML or PDF) with a digital signature of ESP. The forms should be versioned and stored to provide a complete history of compliance. CA must have managed process for creating, maintaining, and verifying archive. The XML schema for archiving Form C is as given below:

```xml
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<FormC>
  <ClassOfCertificate/></ClassOfCertificate>
  <E-KYCRresponseCode/></E-KYCRresponseCode>
  <ApplicationDate> </ApplicationDate>
  <ApplicantDetails>
    * <ApplicantKYCID> </ApplicantKYCID>
    <ApplicantName></ApplicantName>
    <ApplicantDOB></ApplicantDOB>
    <ApplicantGender></ApplicantGender>
    <ApplicantEmail> </ApplicantEmail>
    <ApplicantMobile> </ApplicantMobile>
    <ApplicantAddress> </ApplicantAddress>
    <ApplicantPhoto></ApplicantPhoto>
    <ApplicantPAN></ApplicantPAN>
  </ApplicantDetails>
  <Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
  </Signature>
</FormC>
```

- In case of Aadhaar, only Last four digit
4  eSign- Digital Signature Certificate and Profiles

4.1  eSign- Digital Signature Certificate Profile

eSign- Online Digital Signature Certificate profile is detailed in the CCA’s Digital Signature Interoperability Guidelines document.

The end-user Digital Signature Certificates issued by CA should contain the following fields specific to eSign-Online Electronic Signature service along with other specified fields in IOG

<table>
<thead>
<tr>
<th>Sn.</th>
<th>Attribute</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Common Name</td>
<td>&quot;Name of the person as in e-KYC response &quot;</td>
</tr>
<tr>
<td>2.</td>
<td>Pseudonym</td>
<td>Response code/e-KYC unique Number in the case of e-KYC Service (Mandatory) (2.5.4.65 - id-at-pseudonym)</td>
</tr>
</tbody>
</table>

5. eSign API

The communication between Application service provider and ESP should operate in accordance with eSign API Specifications to provide eSign- Online Electronic Signature Service

6. On-Boarding Process and Agreement

Any legal entity registered in India should refer to ASP On-Boarding Guidelines before applying to integrate eSign- Online Electronic Signature Service in their application. ASP should apply ESP for enabling online Electronic Signature on its application as per the application form mentioned in the ASP On-Boarding Guidelines. The ESP should allow access to ASPs only after fulfilling the criteria mentioned in the On-Boarding Guidelines. ESP should take an undertaking from ASP or an agreement should be executed between ESP and ASP. The template for the preparation of undertaking or agreement is available on the website.

7. CA REQUIREMENTS

1. The CA system used for issuing e-KYC class based DSCs should be independent of CA systems used for other classes of DSCs.
2. The CA system should accept only digitally signed Certificate Signing Request (CSR) from designated ESP systems over a secure link.
3. CA system shall be configured to issue only e-KYC class end entity individual digital signature certificates.
4. ESP shall be allowed access to CA systems only for submitting CSR for issuance of e-KYC classes of DSCs to be used for eSign.

8. eKYC Service modes

The eSign service will have two modes of verification of eSign user. Online Aadhaar eKYC authentication (API 2.x version) of eSign user is facilitated by CA. Offline Aadhaar eKYC authentication(API 3.x version) will be carried out by eSign user and authentication response will be submitted to CA. CA further confirm the submission and accept the same. Offline Aadhaar eKYC authentication of eSign user requires one time registration. The procedure to be followed for registration is given in the IVG section 5. The API specification for interface with ESP is specified under eSign API version 3.x. The eKYC accounts of registered and verified users are used for eSign.
9 CA eKYC Implementation Requirements
This section is applicable to CA that maintains eKYC accounts of registered users. ESP use registered & verified information of eSign user retained on eKYC system for eSign service. CA may also use the same verified user information for DSC issuance. In both cases, two factor authentications is required for CA or ESP to use the eKYC account holder’s information retained in the eKYC account held by CA.

<table>
<thead>
<tr>
<th>1</th>
<th>Data Protection and Privacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>eKYC Data Protection</td>
</tr>
<tr>
<td></td>
<td>eKYC data protection should be part of the design and implementation of eKYC systems, services, products and practices.</td>
</tr>
<tr>
<td>1.2</td>
<td>Privacy of eKYC Data</td>
</tr>
<tr>
<td></td>
<td>Ensure to process the data that is necessary to achieve specific eKYC user's account management &amp; authentication. The eKYC user's account information should be used only for DSC issuance and authentication purpose only.</td>
</tr>
<tr>
<td>1.3</td>
<td>Risk Assessment</td>
</tr>
<tr>
<td></td>
<td>Risk assessment of eKYC system should have carried out and security measures should be in place.</td>
</tr>
<tr>
<td>1.4</td>
<td>Operational Requirements</td>
</tr>
<tr>
<td></td>
<td>The eKYC system should have made operational only after Risk assessment, VA/PT and Audit.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2</th>
<th>Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Transaction ID</td>
</tr>
<tr>
<td></td>
<td>Generated by ASP calling the API, this is logged and returned in the output for correlation. Should be unique for the given ASP-ESP combination</td>
</tr>
<tr>
<td>2.2</td>
<td>Response Code</td>
</tr>
<tr>
<td></td>
<td>Generated by ESP on eKYC user authentication request and should be a part of DSC. The Response Code should be of length 32.</td>
</tr>
<tr>
<td>2.3</td>
<td>eKYC user ID</td>
</tr>
<tr>
<td></td>
<td>eSign signer can have one or more eKYC user account</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>3</th>
<th>eKYC System security</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Network Security</td>
</tr>
<tr>
<td></td>
<td>The e-KYC services systems (database) must be configured as secure systems as per the definitions of IT Act and should not have direct interface with system other than eKYC Server. The communication between eKYC server and e-KYC service systems (database) should be in request response mode.</td>
</tr>
<tr>
<td>3.2</td>
<td>Dedicated for the Purpose</td>
</tr>
<tr>
<td></td>
<td>The CA e-KYC service systems should be dedicated only for e-KYC service purpose</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4</th>
<th>eKYC Account Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>eKYC User authentication</td>
</tr>
<tr>
<td></td>
<td>The authentication should be carried out using OTP sent to registered mobile eSign user and PIN. Access Token registered for the mobile Application based on OTP and PIN</td>
</tr>
<tr>
<td>4.2</td>
<td>ESP e-KYC Request to CA e-KYC System</td>
</tr>
<tr>
<td></td>
<td>The e-KYC request should be as per the format specified in eSign API specifications</td>
</tr>
<tr>
<td></td>
<td>ESP should send digitally signed eKYC Request with ESP's key.</td>
</tr>
<tr>
<td>4.3</td>
<td>e-KYC response to ESP</td>
</tr>
<tr>
<td></td>
<td>The e-KYC response should be as per the format specified in eSign API specifications</td>
</tr>
</tbody>
</table>
The response should be digitally signed using a CA eKYC System key

### 4.4 OTP or Mobile Token Authentication
Each OTP or Mobile Token Response should be sent with purpose and Request and Response should be preserved.

### 4.5 PIN Management
For PIN management, do not allow clear text transmission, storage or capture of passwords, maintain audit trails, and lock the account after repeated unsuccessful attempts.

CA should implement mechanism for eKYC user to set eKYC user id and PIN. PIN shall be 6 characters in length

### 4.6 Consent
The OTP and Mobile Access token verified along with PURPOSE text is deemed as consent.

### 5 Audit Requirements

#### 5.1 Audit Trail of Account Creation and Maintenance
The audit trail of eKYC account creation, modification, suspension, deletion etc should be maintained by CA with the details of authorised individual who carried out the operation. The date/time stamp, requested source details etc. also should be accessible for audit.

A monthly audit of ten percent (subjected to maximum of 5000) of the eKYC account creation & modification should be carried out by an IS Auditor in the following month and the report should be made available during Annual CA compliance Audit.

### 6 Account Monitoring

#### 6.1 Account Monitoring facility to eKYC user
The history of eKYC account changes should be made available to eKYC users

ESP should provide access to the signed transaction details to eSign users

ASP should provide mechanism for viewing the signed documents to eSign users.

***************
# Change History

<table>
<thead>
<tr>
<th>SL</th>
<th>DATE</th>
<th>SECTION</th>
<th>MODIFICATION</th>
</tr>
</thead>
</table>
| 1  | 09.04.2015 | 2.3(2)  | Existing: The private key of the subscriber shall be **stored in** Hardware security module (HSM)  
Modified: The private key of the subscriber shall be **secured** by Hardware security module (HSM)                                                                                                                                                                                                                                                                                                                                                      |
| 2  | 21.05.2015 | 7.      | 1. Existing: Prior to DSC issuance, CA systems should programmatically verify to confirm the DSC issued through Aadhaar e-KYC service is only for intended purpose and nothing else  
Modified: CA system shall be configured to issue only Aadhaar e-KYC class end entity individual digital signature certificates.  
2. Existing: The CA system should accept only digitally signed Certificate Signing Request (CSR) from designated ESP systems over a dedicated link.  
Modified: The CA system should accept only digitally signed Certificate Signing Request (CSR) from designated ESP systems over a secure link.                                                                                                                                                                                                                                                                                         |
| 3  | 21.05.2015 | 2.7     | Addition: 2.7 **ESSENTIAL SECURITY REQUIREMENTS**                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 4  | 21.05.2015 | 3.1     | 3.1 Types of Events Recorded  
CA & ESP Auditable events are separated                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 5  | 21.05.2015 | 2.6     | 2.6 **EVIDENCE REQUIREMENTS**  
Heading added                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6  | 23.06.2015 | 2.7 - 1.6 | Existing: Prior to DSC issuance and sending response to ESP, CA systems should programmatically verify to confirm the DSC issued through Aadhaar e-KYC service is only for intended purpose and nothing else  
Modified: CA system shall be configured to issue only Aadhaar e-KYC class end entity individual digital signature certificates.                                                                                                                                                                                                                                                                                                                                                       |
| 7  | 23.06.2015 | 2.3 -1  | Existing: The key pairs are generated after Aadhaar e-KYC based authentication which is unique to the subscriber.  
Modified: The key pairs shall be unique to the subscriber.                                                                                                                                                                                                                                                                                                                                                                                                                  |

### Version 1.0 to 1.2 – Modifications

| 8  | 07.06.2016 | 3.1     | In auditable events, the applicability columns have been deleted.                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 9  | 07.06.2016 | 3.1     | Auditable Event/Audit Criteria(ESP) reports added                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 10 | 07.06.2016 | 8       | section 8 added                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 11 | 07.06.2016 | 2.7     | **ESSENTIAL SECURITY REQUIREMENTS**  
1.9.2, 1.9.3 deleted                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 12 | 07.06.2016 | 2.7     | In 1.1, "The communication between ASP and ESP should be encrypted" modified to "The communication between ASP and
<table>
<thead>
<tr>
<th>Version 1.2 to 1.3 – Modifications</th>
<th></th>
<th>ESP should be secured”</th>
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</thead>
<tbody>
<tr>
<td>13</td>
<td>12.04.2017</td>
<td>Entire document</td>
</tr>
<tr>
<td>14</td>
<td>12.04.2017</td>
<td>Before Introduction</td>
</tr>
<tr>
<td>15</td>
<td>12.04.2017</td>
<td>Entire document</td>
</tr>
<tr>
<td>16</td>
<td>12.04.2017</td>
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</table>
| 17 | 22.06.2018 | 3.2.8 Archival Format  
*<ApplicantAadhaar>  </ApplicantAadhaar>*  
* UID Token  |
| 18 | 22.06.2018 | Version 1.4, 4.1 | Added dnqulifier  
4.1 eSign- Digital Signature Certificate Profile |
| 19 | 22.06.2018 | Version 1.4,  
Section 8.0 | Removed 8.0 additional requirements for eSign service with organizational identity |

<table>
<thead>
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</table>
| 20 | 26.12.2018 | Version 1.5,  
Section 8.0 & 9.0 | Added 8.0 eKYC Service modes  
9.0 CA eKYC Implementation Requirements  
Modified 4.1 eSign- Digital Signature Certificate Profile |

<table>
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<tr>
<th>Version 1.5 to 1.6 – Modifications</th>
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</thead>
</table>
| 21 | 03.05.2019 | Section 2.0 | Generalized the requirements with respect to eKYC Modes  
Organisational KYC or Banking eKYC have been added |
| 22 | 03.05.2019 | Section 2.2 | e-KYC – OTP & e-KYC – biometric has been modified to e-KYC Single Factor e-KYC – Multi Factor  
Generalized the requirements with respect to eKYC Modes |
| 23 | 03.05.2019 | Section 3.1.2 | <ApplicantAadhaarID> has been modified to  
</ApplicantAadhaarID>  
DOB and PAN included |
| 24 | 03.05.2019 | Section 3.2.8 | The text have been to modified for clarity  
For the monthly audit of ten percent the maximum limit has been added (subjected to maximum of 5000) |
| 25 | 03.05.2019 | Section 9 , 3.1 | For the monthly audit of ten percent the maximum limit has been added (subjected to maximum of 5000) |
| 26 | 03.05.2019 | Section 9 , 5.1 | For the monthly audit of ten percent the maximum limit has been added (subjected to maximum of 5000) |