

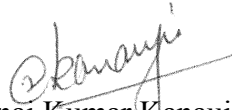
No. 8-5/2014-IT-V  
Government of India  
Ministry of Communications and IT  
Department of Telecommunications  
Sanchar Bhawan, 20, Ashok Road  
New Delhi-110 001

New Delhi, Dated the 24<sup>th</sup> March' 2015

**Subject: eSign – Online Digital Signature Service**

Kindly find enclosed herewith a copy of Department of Electronics & Information Technology D.O. no. 12(04)/2014-CCA(Pt.4) dated 26.02.2015 on the subject cited above for information/ necessary action.

Enclosure: As above

  
(Vinai Kumar Kanaujia)  
Director (IT-V)  
Telephone: 23036509

Copy to:

1. PS to Hon'ble MoC&IT
2. PPS to Secretary(T)
3. PPS to Member(S), Member(T), Member(F), Special Secretary(T)
4. PPS Advisor(O), Advisor(T), Advisor(F)
5. All officers in DoT(Hq.)
6. Heads of all Attached Offices/ Subordinate Offices/ Field Offices/ Statuary bodies/ Autonomous bodies/CPSEs
7. Sr. Technical Director & Principal System Analyst, NIC-DOT

आर एस शर्मा  
सचिव  
R S Sharma  
Secretary



भारत सरकार  
संचार और सूचना प्रौद्योगिकी मंत्रालय  
इलेक्ट्रॉनिकी और सूचना प्रौद्योगिकी विभाग  
Government of India  
Ministry of Communications &  
Information Technology  
Department of Electronics &  
Information Technology (DeitY)

DO No.12(04)/2014-CCA(Pt.4)  
26<sup>th</sup> February, 2015

**Dear Secretary,**

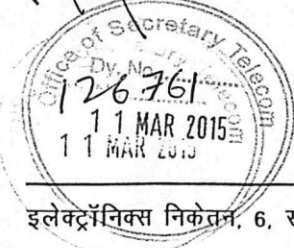
The Office of CCA has been set up under the Information Technology (IT) Act, 2000 to facilitate the Electronic Signature environment and the functions of Certifying Authorities (CA). More than 90 lakh Digital Signature Certificates (DSC) have been issued by these CAs. These DSCs are being used in a number of applications including Real Time Gross Settlement System & Structured Financial Messaging System of the RBI, filing of company returns with the Ministry of Corporate Affairs, filing of Income Tax returns, issue of import/export licenses by DGFT, eProcurement, share trading and by the Booking Agents for Indian Railways among others.

2. For obtaining a DSC, a person's identity verification is a mandatory requirement. The verification process is currently paper-based, which is an impediment to scaling up the usage of this facility to a large segment of the population. Moreover, requirement of a FIPS compliant token for generation of signatures is also a lengthy process. A simple to use online service is required to allow everyone to have the ability to digitally sign electronic documents.

3. eSign is an online service that can be integrated within various service delivery applications to facilitate digitally signing a document by an Aadhaar holder. It is designed for applying Digital Signature using authentication of consumer through Aadhaar authentication and e-KYC service. The key generation and document signing is an integral part of the single process.

4. The eSign Service is proposed to be launched in near future. This is expected to result in a quantum leap in the way citizens interact with the Government for availing eGovernance Services.

5. A copy of the Brochure that has been prepared in this regard is attached for your information. Further details of the service can be visited at <http://cca.gov.in/esign>.



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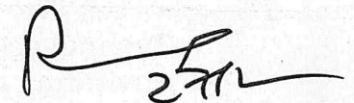
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6. I request you to consider integration of eSign into applications that are already operational or in the pipeline in your Department. Any query on this can be routed to Shri T A Khan ([info@cca.gov.in](mailto:info@cca.gov.in)), Controller of Certifying Authorities, in this department.

With regards,

Yours sincerely,

  
(RS Sharma)

Encl: As above.

To

Secretaries of All Ministries/Departments, Government of India.

MAR 2012



Government of India  
Ministry of Communications & Information Technology  
Department of Electronics & Information Technology  
Controller of Certifying Authorities

## eSign – Online Digital Signature Service

### Introduction

Currently personal digital signature requires person's identity verification and issuance of USB dongle having private key, secured with a password/pin. Current scheme of physical verification, document based identity validation, and issuance of physical dongles does not scale to a billion people. For offering fully paperless citizen services, mass adoption of digital signature is necessary. A simple to use online service is required to allow everyone to have the ability to digitally sign electronic documents.

### The eSign Service

eSign is an online service that can be integrated within various service delivery applications via an open API to facilitate digitally signing a document by an Aadhaar holder. It is designed for applying Digital Signature using authentication of consumer through Aadhaar authentication and e-KYC service.

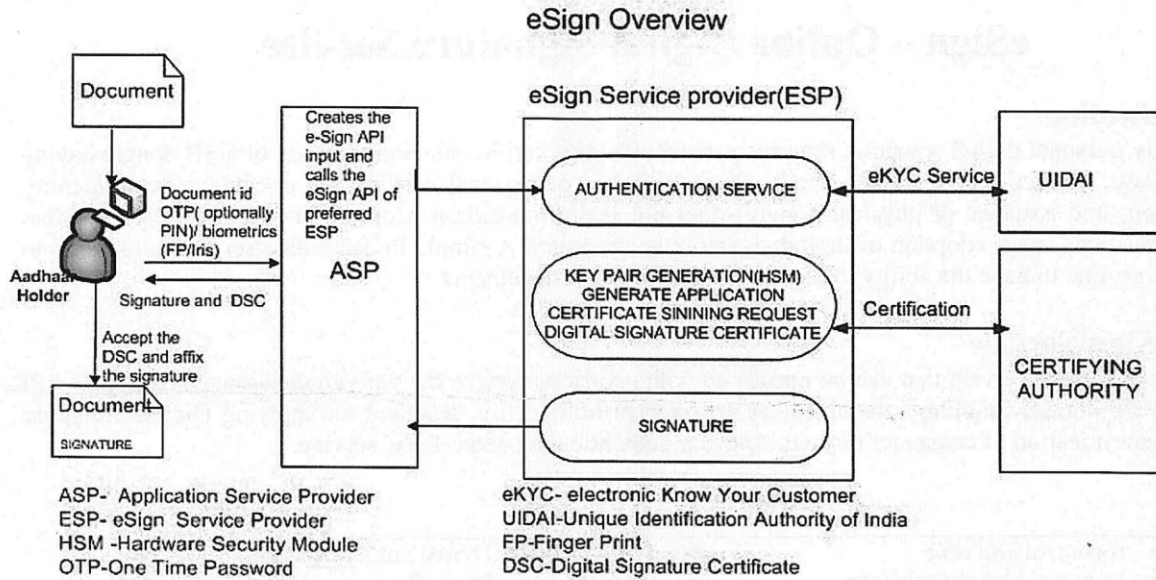
#### Salient Features

❖ Save cost and time	❖ Aadhaar e-KYC based authentication
❖ improve user convenience	❖ Mandatory Aadhaar ID
❖ Easy to apply Digital Signature	❖ Biometric or OTP (optionally with PIN) based authentication
❖ Verifiable Signatures and Signatory	❖ Flexible and fast integration with application
❖ Legally recognized	❖ Suitable for individual, business and Government
❖ Managed by Licensed CAs	❖ API subscription Model
❖ Privacy concerns addressed	❖ Integrity with a complete audit trail
❖ Simple Signature verification	❖ Immediate destruction of keys after usage
❖ Short validity certificates	❖ No key storage and key protection concerns.

- **Easy and secure way to digitally sign information anywhere, anytime** - eSign is an online service without using physical dongles that offers application service providers the functionality to authenticate signers and perform the digital signing of documents using Aadhaar e-KYC service.
- **Facilitates legally valid signatures** - eSign process involves consumer consent, Digital Signature Certificate generation, Digital Signature creation and affixing and Digital Signature Certificate acceptance in accordance with provisions of Information Technology Act. It enforces compliance, through API specification and licensing model of APIs and comprehensive digital audit trail is established to confirm the validity of transactions, are also preserved.
- **Flexible and easy to implement** - eSign provides configurable authentication options in line with Aadhaar e-KYC service and also records Aadhaar ID to verify the identities of signers. The signature option includes biometric or OTP authentication (optionally with PIN) through a registered mobile in the Aadhaar database. eSign enables millions of Aadhaar holders an easy way to access legally valid Digital Signature service.
- **Respecting privacy** - eSign ensures the privacy of the consumer by submitting only the thumbprint (hash) of the document for signature function instead of whole document.
- **Secure online service** - The eSign Service is governed by e-authentication guidelines. While authentication of the signer is carried out using Aadhaar e-KYC, the signature on the document is carried out on a backend server, which is the e-Sign provider. eSign services are offered by trusted third party service provider, currently Certifying Authority. To enhance the security and prevent misuse, certificate holder private keys are created on Hardware Security Module (HSM) and destroyed immediately after one time usage.



## How eSign Works



**eSign API and Gateway** - eSign Application Programming Interfaces (APIs) define the major architectural components and also describe the format and elements of communication among the stake holders like Application Service Provider, Certifying Authorities, Trusted Third parties, Aadhaar e-KYC service and Application Gateway. This Standard eSign enable Application Service Providers to integrate eSign API in their Application with less effort. CDAC is functioning as eSign Gateway provider.

**Who and where can use eSign** - eSign have flexible subscription Model for individual users, business entities and Governments. eSign based on OTP (optionally with PIN) level authentication is suitable where risks and consequences of data compromise are low but they are not considered to be of major significance. eSign based on Biometric (Fingerprint/Iris) level authentication ideal for and risks and consequences of data compromise are moderate. This may include transactions having substantial monetary value or risk of fraud, or involving access to private information where the likelihood of malicious access is substantial.

### Use Cases- eSign online Electronic Signature in Applications

eSign online Electronic Signature Service can be effectively used in scenarios where signed documents are required be submitted to Service Providers- Government, Public or Private sector. The agencies which stand to benefit from offering eSign online electronic signatures are those that accept large number of documents from users. Some applications which can use eSign for enhancing services delivery are the following:-

Use Case - eSign online Electronic Signature in Applications	
Digital Locker	✓ Self attestation
Tax	✓ Application for Tax ID, e-filing
Financial Sector	✓ Application for account opening in banks and post office
Transport Department	✓ Application for driving licence renewal, vehicle registration
Various Certificates	✓ Application for birth, caste, marriage, income certificate etc
Passport	✓ Application for issuance, reissue
Telecom	✓ Application for new connection
Educational	✓ Application forms for course enrolment and exams
Member of Parliament	✓ Submission of parliament questions



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