



Indian PKI Ecosystem

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India

1. National Root Certificate by Government of India (Controller of Certifying Authorities).
2. Information Technology Act, 2000 provides legal validity.
3. Certification Authorities:
 - 6 CAs for issuance to general public
 - Couple of them dedicated for Military, Government, Banking, etc.
4. Userbase: 50 million+
 - 5 million+ smart card (USB Crypto Token) based electronic signature users
 - 100 million+ online electronic signature users (Remote Signing)
5. Mandatory for several Tax filing, Company law filings, e-Procurement / tendering systems, etc.
6. Custom Audit Criteria for CAs with government auditor empanelment and training program.

1. Introduced in 2015, as National ID based remote signing. (eSign)
 1. Any Indian National having National ID can sign on-the-fly using his Aadhaar number and authentication (OTP/Biometric)
 2. Easily adopted by 1000s of applications to accept such e-signatures with common API specifications published by government. In 5 years, more than 100 million users have used this service.
 3. Privacy concerns were raised by a limited section of people towards use of National ID, by which courts applied certain restrictions.
2. In 2019, new guidelines were published by government to overcome these limitations. With this:
 1. Users can enrol online with CAs and get credentials valid for 2 years.
 2. Users can use the credentials (multi factor) and sign online.
 3. Nearly a million users have already enrolled and used this service.

1. Remote Signing in India caters to both types of users:
 1. Individuals (Natural person)
 2. Organization Individuals (Legal person)
2. Individual users can easily enrol using:
 1. Electronic ID verification (National ID / Tax ID)
 2. Upload of scanned / electronic documents
 3. Video based online verification
3. Organization Individuals can obtain an Organization Verification System by enrolment of their Signatory. With that, Signatories can further enroll the Organization users (Employees) through:
 1. Organization ID proof
 2. Video based online verification

- ✓ Adoption of e-signatures in a big way by various Industries:
 1. Banking & Financial Services
 2. E-governance
 3. Manufacturing
 4. Health care
 5. Contracting
 6. And many other industries have adopted e-signatures.
- ✓ Numerous use cases have adopted e-signatures among these industries:
 1. Internal official document signing.
 2. Vendor processes including on-boarding, PO, etc
 3. Customer on-boarding processes
 4. HR, Legal and Finance processes

- ✓ Indian Remote Signing model ensures complete ease of use, without compromising security.
- ✓ The process is fully online and simplifies the user experience. Users can use their mobile app or web browser to complete the enrolment, and the certifying authority verifies / processes request in minutes.
- ✓ Meanwhile the process is fully secure with automated and manual checks, including video verification systems. Entire process is backed by well drafted guidelines as well as detailed audit criteria.



THANK YOU

Presented at Asia PKI SSC meeting.