EMCA · GOVERNMENT & PUBLIC SECTOR · INDIA

The organisation Becomes an Independent Certifying Authority to Deliver DSC Services Across 4 Lakh Grassroots Service Operators with eMudhra emCA

SECTOR	REGION	SOLUTION
Government & public sector	India	emCA

CLIENT OVERVIEW

The organisation is a flagship initiative of the national government, Government of India, designed to deliver digital and government services to citizens at the grassroots level across rural and semi-urban India. Operating through a network of approximately 4 lakh grassroots service operators (operators) — citizen entrepreneurs who operate service kiosks as the last-mile delivery points for digital India services — The organisation provides a vast range of government-to-citizen, business-to-citizen, and financial services to hundreds of millions of Indians who would otherwise have limited access to digital infrastructure. The organisation, the Special Purpose Vehicle operating the network, had been functioning as an Electronic Signature Provider (ESP) under the Information Technology Act — offering Aadhaar-based eSign services to its customers. As India's digital economy deepened and the demand for Digital Signature Certificates (DSCs) grew across the organisation's the organisation network, the organisation's leadership identified a strategic imperative: to expand from ESP status to full Certifying Authority (CA) status, enabling the organisation to issue DSCs directly to its operators and the citizens and businesses they serve.

THE CHALLENGE

The organisation's existing role as an the organisation equipped it to deliver Aadhaar-based eSign services — a valuable digital trust capability for citizen transactions — but left a significant gap in its service portfolio. Digital Signature Certificates, which provide longer-term, identity-verified cryptographic credentials for use across a much broader range of government, legal, financial, and commercial applications, could not be issued by the organisation under its the ESP licence. Operators requiring DSCs for their own operations, or seeking to offer DSC provisioning as a service to the citizens and small businesses they serve, had to approach third-party Certifying Authorities — a process that introduced delays, additional costs, and a dependency on external providers that the organisation had no ability to govern or expedite.

> *"Our the organisations are the last mile of Digital India. They needed to be able to offer DSC services — not just eSign — to the citizens they serve. Becoming our own CA, with our own emCA and emRA infrastructure, was the step that made that possible at the scale our network demands. "*
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> **CEO, the organisation**

For a network of the organisation's scale — 4 lakh the organisations operating as the frontline of Digital India across every state and union territory — the inability to offer DSC services in-house represented a material limitation on both service completeness and network economics. the organisations are the trust anchors of their local communities: farmers, small traders, students, and citizens come to the organisation kiosks for government document services, scheme enrolments, financial transactions, and digital identity needs. The absence of DSC capability in the the organisation service basket meant that a growing category of digital trust need — from DSCs for income tax filing and GST registration to certificates for tender participation and company filings — could not be fulfilled at the village level, requiring citizens to travel to urban centres or engage external CA agents at additional cost and inconvenience.

The operational challenge of establishing CA infrastructure at the organisation's network scale was equally significant. With 4 lakh the organisations distributed across urban, semi-urban, and remote rural India, the organisation required a Certificate Manager and Registration Authority platform capable of handling high-volume DSC issuance through a distributed RA operator model — where locally based the organisations or regional officers could conduct subscriber identity verification and initiate certificate requests on behalf of applicants, under the organisation's centrally governed CA policies. The platform had to be fully aligned with the Controller of Certifying Authorities (CCA) India's regulatory framework for CA operations, and capable of supporting the diverse DSC classes required across the organisation's broad subscriber use cases.

THE SOLUTION

The organisation selected eMudhra's emCA — deploying both the Certificate Manager (CA module) and the Registration Authority (emRA module) — to establish its own independent Certifying Authority infrastructure, enabling the organisation to issue Digital Signature Certificates directly to its the organisation network and their customers across India.

METRIC	BEFORE	AFTER
CA Infrastructure Ownership	None; dependent on third-party CAs for DSC	Independent CA operational via emCA Certificate Manager
Registration Authority (RA) Capability	Not in place	emRA deployed; subscriber vetting managed internally
The organisation Subscriber Base Served	~4 lakh the organisations for eSign only	~4 lakh the organisations now eligible for DSC services via the organisation CA
DSC Issuance Turnaround	Dependent on third-party CA SLAs	Reduced; on-demand DSC issuance under the organisation governance
Revenue & Service Portfolio Expansion	Limited to the organisation/eSign services	Expanded with DSC issuance as a new CA-licensed service line
CCA India Compliance	The ESP licence only	Full CA licence and operations aligned to CCA India PKI framework

With emCA operational, the organisation's the organisations can now offer DSC services alongside eSign — completing the digital trust service portfolio that village-level citizens and small businesses need to participate fully in India's digital economy. The 4 lakh strong the organisation network, previously limited to eSign transactions, became the delivery channel for a new class of digital identity service: government-grade Digital Signature Certificates issued under the organisation's own CA authority, accessible at the village level without the need to travel to urban CA agents or engage external providers. The emRA's distributed enrolment model enabled the organisation to leverage its existing the organisation infrastructure for subscriber identity verification, turning geographic reach into a CA service advantage rather than an operational constraint. the organisation's expanded role as a CCA India-licensed Certifying Authority not only deepens its contribution to Digital India's digital trust ecosystem but establishes DSC services as a new revenue and service line that strengthens the economic proposition for the organisations and the sustainability of the the organisation network.

About eMudhra. eMudhra is a globally trusted provider of digital trust services, offering eSignatures, PKI, Certificate Lifecycle Management, Multi-Factor Authentication and Identity & Access Management solutions. Licensed by the Controller of Certifying Authorities (CCA), India, eMudhra serves 1,000+ enterprises across 40+ countries, helping organisations build secure, compliant and paperless digital ecosystems.

Customer name withheld for confidentiality.

The emCA deployment established the organisation's own CA hierarchy under the CCA India PKI framework: a Root CA and subordinate Issuing CAs configured to issue DSCs across the classes required by the organisation's subscriber base — including Class 3 individual and organisation certificates for income tax, GST, MCA21, e-procurement, and other government application use cases. Certificate profiles were configured in strict alignment with CCA India's Interoperability Guidelines and the organisation's own Certification Practice Statement (CPS), ensuring that every DSC issued under the organisation's CA authority meets the technical and regulatory standards required for acceptance across India's government and commercial digital ecosystems. The CA module operates as the centralised issuance engine, processing certificate requests, applying policy validation, and generating certificates under the organisation's own cryptographic infrastructure — entirely independent of any third-party CA.

eMudhra's emRA module was deployed as the distributed Registration Authority layer — the capability that makes the organisation's CA model viable at national scale. The emRA enables the organisation's network of the organisations and regional RA operators to conduct subscriber identity verification in the field: collecting applicant documentation, verifying identity against government databases, and submitting validated certificate requests to the central CA for issuance. The emRA's role-based operator model allows the organisation to credential and govern RA operators at multiple tiers — national, state, district, and the organisation level — with access rights, approval authorities, and workflow steps configured in alignment with CCA India's RA operational requirements. This distributed RA architecture transforms the organisation's 4 lakh the organisation network into an extended, governed subscriber enrolment infrastructure — enabling DSC provisioning to reach citizens in villages and towns across India who would otherwise have no accessible CA point of service.

The integrated emCA and emRA platform provides the organisation's CA operations team with centralised governance over the full DSC issuance lifecycle: from RA operator credentialing and subscriber enrolment workflow management, through certificate issuance and delivery, to renewal, revocation, and the comprehensive audit trail required under CCA India oversight. Certificate status services — including CRL distribution — were configured to ensure that DSCs issued by the organisation's CA are fully supported with the validation infrastructure required for acceptance across government and private sector relying party systems. eMudhra provided structured implementation support and knowledge transfer, enabling the organisation's technical and compliance teams to operate the CA and RA infrastructure independently and scale certificate issuance volumes in step with network demand.

RESULTS

The deployment of eMudhra emCA and emRA enabled the organisation to complete its transformation from eSign service provider to independent Certifying Authority — adding DSC issuance as a distinct, scalable service capability delivered through its 4 lakh the organisation network to citizens and enterprises across India.

METRIC	BEFORE	AFTER
Digital Trust Services Offered to the organisations	eSign only; no DSC capability	Full DSC issuance added alongside eSign via in-house CA