
Chief Technology Officer (CTO), State Data Authority, Government of Uttar Pradesh

The Chief Technology Officer (CTO) in the State Data Authority, State Transformation Commission, Government of Uttar Pradesh should be the senior executive responsible for the technology backbone, digital architecture, platforms, interoperability, scalability, and modernization needed to make government data systems function reliably at scale. The CTO should ensure that departmental systems can securely connect, exchange data, and support citizen-centric digital services.

Reporting To

Chief Executive Officer, State Transformation Commission, Government of Uttar Pradesh with close coordination with the Chief Data Officer and Chief Information Security Officer.

Overall Mandate

To design, build, operate, and continuously improve the state's digital public infrastructure, enterprise technology platforms, and interoperable systems for data-driven governance.

2. Core Responsibilities

A. State Technology Architecture

- Define the **State Enterprise Architecture** for digital governance.
- Standardize technology stacks, APIs, hosting, identity integration, and shared platforms.
- Create future-ready architecture for scale across districts and departments.
- Create AI ready data bases and architecture.

B. Digital Public Infrastructure (DPI)

- Build and maintain shared state platforms such as:
 - API gateway
 - State data exchange
 - Workflow engine
 - Notification platform (SMS/WhatsApp/email)
 - Payment integration
 - Authentication / SSO
 - Document vault
 - GIS platforms

C. System Integration & Interoperability

- Integrate departmental applications across Health, Revenue, Education, Agriculture, Urban, Transport, etc.
- Enable real-time data exchange using secure APIs.
- Remove siloed legacy systems.

D. Cloud & Infrastructure Modernization

- Lead migration to secure cloud / hybrid cloud.
- Ensure uptime, disaster recovery, business continuity, backups.
- Optimize infrastructure costs.

E. Citizen Service Technology

- Enable one-stop citizen service portals and mobile apps.
- Improve speed, reliability, multilingual access, accessibility, and grievance systems.
- Support proactive service delivery.

F. Emerging Technologies

- Evaluate and deploy AI, GIS, IoT, drones, blockchain (where useful), automation, digital twins.
- Run pilots and scale proven solutions.

G. Vendor & Program Management

- Oversee system integrators, OEMs, consultants, and managed service providers.
- Standardize procurement specifications and SLAs.
- Ensure timely delivery of technology projects.

H. Security by Design

- Coordinate with CISO to embed security, logging, access control, encryption, and secure coding into all systems.

3. Terms of Reference (ToR)

Strategic ToR

1. Prepare State Technology Roadmap.
2. Recommend modernization priorities for legacy systems.
3. Advise on emerging tech adoption and architecture choices.

4. Establish State API Gateway.
5. Build State Data Exchange Platform.
6. Create common identity / SSO framework.
7. Build shared notification, workflow, and document systems.

8. Approve interoperability standards for all new departmental systems.
9. Ensure all major departments connect through APIs.
10. Resolve technical integration bottlenecks.

11. Define cloud strategy and hosting standards.
12. Maintain disaster recovery and uptime targets.
13. Optimize hardware/software licensing and recurring costs.

14. Review progress of all priority technology projects monthly.
15. Approve technical designs of major new systems.
16. Enforce SLAs and performance of vendors.

17. Run sandboxes / pilots for AI, IoT, GIS, automation.
18. Promote reusable open standards and open-source where appropriate.

4. Key Deliverables (First 12 Months)

1. State enterprise architecture approved.
2. API gateway operational.
3. 10 major departmental systems integrated.
4. State SSO launched.
5. Shared notification engine live.
6. DR and uptime framework operational.
7. Citizen unified services portal upgraded.
8. Cloud optimization plan implemented.

5. KPIs for Performance Evaluation

- Number of systems integrated
- API transactions per month
- Platform uptime (%)
- Average page/app response time
- Reduction in duplicate tech spend
- Project delivery timeliness
- Vendor SLA compliance
- Citizen satisfaction with digital services

6. Ideal Eligibility Profile

- Senior technocrat with Master's degree and deep digital governance exposure
- 15+ years in enterprise IT, cloud, architecture, public platforms, large programs
- Experience handling scale, vendors, cybersecurity coordination, and transformation delivery