Role of IT Infrastructure in Public Service Delivery

Presented By
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Centre for Innovations in Public Systems (CIPS) – Genesis & Mandate

Centre for Innovations in Public Systems was set up in 2010 with funding from Govt. of India at Administrative Staff College of India (ASCI), Hyderabad in terms of the recommendations of the 13th Finance Commission.

Mandate of CIPS:

• **Scout, scan and track different innovations** at the state as well as at the national level that has increased efficiency, effectiveness and cost reduction in the public service delivery system.

• **Create a public domain inventory of innovations** in public systems, government departments for the purpose of knowledge management and diffusion of innovations.

• **Facilitate pursuit of diagnostic studies** to identify possible barriers that block innovation and also factors that facilitate innovations in public systems.

• Develop a body of knowledge including **research based case studies, comparative analysis of innovations** and experience of their diffusion within and across the states using multimedia and multi-language learning materials for becoming more innovative in the delivery of public services.

• **Facilitate - Replication**
Focus Areas of CIPS

• Education
• Health
• e-Governance
• Urban Governance
• Mission Mode Projects (MMPs)

Databases Prepared:
• Education: 124, Health: 81, e-Governance: 80, Urban Governance: 97

Detailed Process Documents (for Replication): 22

Conducted 163 programmes at 51 different locations in 27 States and Union Territories
Responsibilities of CIPS

**Identification**
- Scanning and scouting for innovative practice(s) in public systems
- Interaction with states
- Institutionalizing an Award Scheme

**Documentation**
- Database on Innovative Practices
- Detailed case study for Replication
- Diagnostic/Research Studies

**Dissemination**
- Conferences/ Seminars/ Workshops
- Video Conferences
- Regular Communications

**Replication**
- Provide recommendations to States basing on Priority areas & Issues faced
- Organizing Field Visits
- Organizing Capacity Building Programmes
Activities of CIPS

• Identified and prepared 382 databases of Innovative/Best Practices in the following sectors:
  - Education
  - Health
  - E-Governance
  - Urban Governance
• Published 22 Detailed Process Documents for replication
• Conducted 175 programmes at 51 different locations in 27 States/Union Territories
Project Entrusted to CIPS from DeitY

CIPS has been entrusted with a project titled “Capacity Building Programmes of Innovative/Best Practices under Mission Mode Projects (MMPs) of State Governments and Govt. of India” by the Department of Electronics and Information Technology (DeitY), Ministry of Communications & IT, Govt. of India.

- Workshops conducted as a part of the project
  - 13 Sensitization workshops across various states
e-Government

It is the *transformation* of government to provide Efficient, Convenient & Transparent Services to the *Citizens & Businesses* through Information & Communication Technologies.
Evolution of e-Governance in India

- **Pre-1990:** Railways, Office automation
- **1990-2006:** Individual dept. & state level initiatives
- **2006:** NeGP, 27 MMPs
- **2008:** NSDG Go-Live
- **2011:** M-Governance; 4 new MMPs
- **2012:** National Policy on IT
- **2013:** Cloud, integrated services
- **2014:** Digital India
Evolution of e-Governance in India..

• Many Successful Projects including Railway computerization, Bhumi (Karnataka), Computer Aided Administration of Registration Department (AP), etc. paved way for e-Governance project implementation across the country.

• Experience gained on these projects helped Govt. Depts. towards better planning & implementation of e-Gov projects.
National e-Governance Plan

Formulated on May 18, 2006 by

1. Department of Electronics and Information Technology (DeitY)
2. Department of Administrative Reforms and Public Grievances (DARPG), Government of India
National e-Governance Plan

"Make all Government services accessible to the common man in his locality, through Common Service Delivery Outlets and ensure efficiency, transparency & reliability of such services at affordable costs to realize the basic needs of the common man"

May 2006
List of 44 Mission Mode Projects

Central MMPs (13)
1. Income Tax
2. Passport
3. MCA21
4. Insurance
5. National Citizen Database
6. Central Excise
7. Pensions
8. Banking
9. e-Office
10. Posts
11. Visa & Immigration
12. e-Sansad*
13. Common IT Roadmap for Para Military Forces*

State MMPs (17)
1. Land Records
2. Road Transport
3. Property Registration
4. Agriculture
5. Treasuries
6. Municipalities
7. Gram Panchayats
8. Commercial Taxes
9. Police
10. Employment Exchanges
11. School Education
12. Health
13. PDS
14. e-Vidhaan*
15. Agriculture 2.0*
16. Rural Development*
17. Women and Child Development*

Integrated MMPs (14)
1. EDI (E-Commerce)
2. E-Biz
3. Common Services Centres
4. India Portal
5. E-Courts
6. E-Procurement
7. National Service Delivery Gateway
8. Financial Inclusion*
9. National Geographical Information System*
10. Social Benefits*
11. Roads and Highways Information System (RAHI) *
12. e-Bhasha*
14. Urban Governance*
Status of MMPs under NeGP
NeGP Core Infrastructure

NeGP Backbone rest on four main components. They are:
1. State Wide Area Networks (SWANs)
2. State Data Centres (SDCs)
3. Common Services Centres (CSCs)
4. Electronic Service Delivery Gateways
State Wide Area Network (SWAN)

The main purpose of this network is to create a dedicated Closed User Group (CUG) network and provide a secured and high speed connectivity for Government functioning and connecting State Headquarters, District Headquarters, Blocks Headquarters to share the data across various departments with minimum 2 Mbps bandwidth.
Architecture of SWAN:
State Wide Area Network (SWAN)

- **Approved - March 2005**
- Total Financial outlay of SWAN is **Rs. 3,334 Crore** to be expended by the Department under Grant-in-Aid of **Rs. 2,005 crore**, over a period of five years.
- The SWAN aims to create a dedicated closed user group (CUG) network by connecting around **7500 points of presence** (PoPs), providing **data, voice & video connectivity** to more than 50,000 government offices.
Status of Implementation

SWAN is Operational in 33 States/UTs. The list is mentioned below:

1. Andhra Pradesh
2. Arunachal Pradesh
3. Assam
4. Bihar
5. Chandigarh
6. Chhattisgarh
7. Delhi
8. Goa
9. Gujarat
10. Haryana
11. Himachal Pradesh
12. Jharkhand
13. Karnataka
14. Kerala
15. Lakshadweep
16. Madhya Pradesh
17. Maharashtra
18. Manipur
19. Meghalaya
20. Mizoram
21. Nagaland
22. Orissa
23. Puducherry
24. Punjab
25. Rajasthan
26. Sikkim
27. Tamil Nadu
28. Tripura
29. Uttar Pradesh
30. Uttarakhand
31. West Bengal
32. Dadar & Nagar Haveli
33. Daman & Diu
Status of Implementation

Implementation of SWAN in remaining 2 States/UTs:

• Andaman & Nicobar Islands has issued Letter of Intent (LoI) for the selection of Network operator

• Jammu & Kashmir is in the process of finalization of bid process.
State Data Centre (SDC)

A SDC is a physical storehouse of public and private data which will act as a centralized database for various e-Government applications.
Purpose of SDC

• To provide shared, secure and managed infrastructure for consolidating and hosting various state level e-government applications.

• To provide trustworthy and managed environment, where citizens can conduct secure transactions.

• Supported by Core Connectivity Infrastructure such as State Wide Area Network (SWAN) and Common Service Centre (CSC) to provide efficient electronic delivery of G2G, G2C and G2B services.
SDC Scheme

• Approved – 24<sup>th</sup> January 2008
• Financial Outlay of the scheme - Rs. 1623.20 Crores over a period of 5 years.
  o **Department of IT (DIT) share:** Rs 581.37 Cr (IT, computer/storage Infrastructure, License and upgradation cost, State level Consultancy, etc.)
  o **State Share under Affordable Care Act (ACA) provision:** Rs 1041.83 Cr (Operating cost, Support infrastructure, Facility management, Manpower, bandwidth, Site preparation etc.)
Key Stakeholders of SDC

• Department of IT, Govt. of India (NeGD, SDC PMU)
  – Technical & Financial support, Programme Monitoring
• State Implementing Agency (SIA)
  – SDC Implementation & Management
• State Consultant
  – Support to SIA for SDC Implementation, Project Management & Monitoring
• Data Centre Operator
  – Implementation, O & M of SDC for 5 Years
• NIC
  – Composite Team
• Third Party Auditor
  – Six agencies empanelled for SDC audit
• Standardisation Testing and Quality Certification (STQC)
  – Audits & Certification, Monitoring of TPA
According to Report No: 20 of 2015, published by Department of Electronics and Information Technology, 21 States/UTs had implemented the project completely (as on March 2013). The list of States are mentioned below:

1. Andaman & Nicobar
2. Andhra Pradesh
3. Chhattisgarh
4. Gujarat
5. Haryana
6. Jammu & Kashmir
7. Karnataka
8. Kerala
9. Madhya Pradesh
10. Manipur
11. Maharashtra
12. Meghalaya
13. Nagaland
14. Odisha
15. Puducherry
16. Rajasthan
17. Sikkim
18. Tamil Nadu
19. Tripura
20. Uttar Pradesh
21. West Bengal
SDC - Status of Implementation

List of States/UTs, where implementation is still in advance stage:
1. Bihar
2. Jharkhand
3. Lakshadweep
4. Mizoram

List of States/UTs, where implementation is in initial stage:
1. Assam
2. Dadra & Nagar Haveli
3. Daman & Diu
4. Goa
5. Himachal Pradesh
6. Punjab
7. Uttarakhand
Common Services Centres (CSC)

The CSCs are front end service delivery outlets which would provide high quality and cost-effective video, voice and data content and services, in the areas of e-governance, education, health, telemedicine, entertainment as well as other private services.

Change Agent:

• Promotes rural entrepreneurship
• Builds rural capacities and livelihoods
• Enables community participation
• Collective action for social change
Various services provided by CSC

a) Agriculture Services (Agriculture, Horticulture, Sericulture, Animal Husbandry, Fisheries, Veterinary)
b) Education & Training Services (School, College, Vocational Education, Employment, etc.)
c) Health Services (Telemedicine, Health Check-ups, Medicines)
d) Rural Banking & Insurance Services (Micro-credit, Loans, Insurance)
e) Entertainment Services (Movies, Television)
f) Utility Services (Bill Payments, Online bookings)
g) Commercial Services (DTP, Printing, Internet Browsing, Village level BPO).
CSC Scheme

• **Approved – May, 2006**
• **Nodal Agency:** Department of Electronics and Information Technology (DeitY)
• **Coverage of CSC:**
  o Proposed to cover 2,50,000 villages
  o **1,43,789** CSCs are operational across the country as on August 2015
• **Timeline:** March 2017
### CSC Rollout Status across India (August 2015)

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<th>Sl. No.</th>
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State Service Delivery Gateway (SSDG)

State Service Delivery Gateway (SSDG) will act as standards-based messaging middleware and provide **seamless interoperability and exchange of data across the departments.**

- SSDG acts as hub for all the interactions between service seekers (the citizen and businesses) and various service providers (Government Departments) and even among Government Departments.
- Messaging middleware between **State Portal** (acting as Service Access Provider (SAP)) and **State Department Services** (State Department acting as Service Provider (SP))
State Service Delivery Gateway (SSDG)

- SSDG is standard based **Messaging and routing switch** which provides **seamless interoperability and exchange of data** across multiple government departments.
- Electronic face to State Governments
- Single source for disseminating government information
- Available anytime (24*7) and anywhere
- Status tracking
- Data Digitization/Online Records

This will enable citizens to download forms and submit their applications electronically through a common gateway.
SSDG Scheme Highlights

• Approved – December 2008
• Total outlay: Rs 400 Cr: DIT & State Share (ACA): Rs. 200 Cr each
• Centrally Empanelled Consultants: Ernst & Young (E&Y), Infrastructure Leasing & Financial Services Limited (IL&FS), Klynveld Peat Marwick Goerdeler (KPMG), PricewaterhouseCoopers (PwC) and UTI Infrastructure Technology And Services Limited (UTITSL)
• Centrally Empanelled Implementing Agency: Accenture, HP India, Infosys Technologies, L&T Infotech, Tata Consultancy Services (TCS) and Wipro
Status of SSDG

- Project Proposal approved for **30 States/UT’s** with Rs 105.16 Crore released so far.
- **23 States/UT’s** have published RFP’s for selection of Implementing Agency
- 17 States/UT’s have completed bid process and are in process of issuing Letter of Intent (LoI) to Implementing Agency (IA)
- 9 States had started project implementation
Mobile Service Delivery Gateway

**Mobile Seva:** Mobile Seva offers a unique platform which provides multiple mobile based channels (e.g. SMS, USSD, IVRS, m-Apps) for delivery of public services over mobile devices.

**Mobile Governance:**
Mobile Governance is widening the reach and access to all citizens in the country, especially in the rural areas by exploiting the much greater penetration of mobile phones in the country.
Purpose of MSDG

The MSDG delivers **Government services over mobile devices** using mobile applications installed on the user's mobile handsets. MSDG provides different set of mobile based services to the backend departments and citizen. It provides seamless integration with backend department through existing **NSDG/SSDG** eGovernance exchange infrastructure.
Services Offered under MSDG

- SMS Gateway
- Unstructured Supplementary Services Data (USSD) based services
- Interactive Voice Response Systems (IVRS) based Services
- Mobile Applications and M-Gov Application Store
Current Status of Mobile Service Delivery Gateway

Depts. / Agencies Integrated: 1,841
No. of Push SMS Transaction:
- Till Date: 5,399,90,83,658
- August 2015: 53,752,460
App Downloads:
- Till Date: 3,93,711

Charts showing cumulative data over different categories.
Meghraj (GI Cloud Initiative)

• Meghraj is the name given to the initiative of Government of India for its new program which is going to take advantage of the Cloud Computing. Meghraj is just a name coined for the purpose (Megh=Cloud, Raj=Rule i.e. Rule of Cloud Computing).

• Purpose of Meghraj:
  It will enable the government to leverage cloud computing for effective delivery of e-services.

NIC is providing Cloud services under the umbrella of ‘MeghRaj’.
'MeghRaj' (GI Cloud Project) :
Advantages of GI Cloud

- Optimum utilization of existing infrastructure
- Rapid deployment and reusability: Any software made available by any government of department in India can be made available to other departments as well without additional costs.
- Manageability and maintainability: It provides single point for maintaining Information & Communication Technology (ICT) infrastructure in India.
- Scalability: According to the demands from the citizens of India, infrastructure of the government can be increased accordingly.
- Efficient service delivery
- Security: A security framework for the entire GI Cloud will lead to less environmental complexity and less potential vulnerability.
- Increased user mobility
- Reduced effort in managing technology
- Ease of first time IT solution deployment
- Cost reduction
- Standardization: GI Cloud shall prescribe the standards around interoperability, integration, security, data security and portability etc.
National Optical Fiber Network

The Government has renamed National Optical Fibre Network (NOFN) as BharatNet.

The government's ambitious National Optical Fibre Network (NOFN) project aims to provide 100 Mbps high-speed broadband connectivity to 2.5 lakh gram panchayats by December 2016. This network will be supported by a High Capacity Network Management System and Network Operation Centre.
BharatNet – Touching every sphere, every life

Facilitates the rollout of
• e-Governance
• e-Health
• e-Education
• e-Banking
• Public Internet Access
• Various other services to rural India
NOFN Scheme

- Approved by Cabinet – 2011
- Estimated total cost of the Project – Rs. 72,778 Crore
- Funded by Universal Service Obligation Fund
- Designed by
  - Telecommunications Consultants India Ltd (TCIL)
  - Centre for Development of Telematics (C-DOT)
- Revised Timelines:
  - 50,000 gram panchayats by March 2015
  - 1,00,000 gram panchayats by March 2016
  - 1,00,000 gram panchayats by December 2016
Implementation of NOFN

• Bharat Broadband Network Limited (BBNL) was incorporated to execute the project
• Utilizes the existing fibre networks of Public Sector Units (PSUs):
  ▪ Bharat Sanchar Nigam Limited (BSNL)
  ▪ Power Grid Corporation of India Limited (PGCIL)
  ▪ RailTel Corporation of India Ltd. (RailTel)
Status of NOFN

According to Economic Survey 2014-15, the Govt. of India has completed cable laying in just about 5,000 villages under its plan to connect all 2.5 lakh Gram Panchayats by optic fibre by December 2016.
National Knowledge Network

National Knowledge Network (NKN) is a multi-gigabit network, whose purpose is to provide a **unified high speed network backbone for educational institutions** in India.

Government has approved the project on Establishment of National Knowledge Network in March, 2010 with an outlay of **Rs. 5990 Cr.** over a period of 10 years.

**National Informatics Centre (NIC)** is the implementing agency.
NKN Status

• Participating institutions at the edge will connect to the National Knowledge Network seamlessly at speeds of 1 Gbps or higher.

• 1070 institutes in areas such as Health, Education, Science & Technology, Grid Computing, Bio informatics, Agriculture, and Governance are connected to NKN.

• 368 institutions under National Mission on Education through Information and Communication Technology (NMEICT) are connected to NKN.
e-Taal (Electronic Transaction Aggregation and Analysis Layer)

www.etaal.gov.in
e-TAAL

‘We can manage what we can measure’

• e-TAAL aims to measure volume of e-Transactions in real-time
  – e-Transactions Aggregation & Analysis Layer
• e-TAAL is a national portal, that connects all e-Gov portals
  – all National & State portals that provide G2C Services
• Enables Ministries/ States / Departments to monitor e-Transactions in real-time
e-Taal

NIC in collaboration with DeitY has developed eTaal application

- Act as an indicator of scale of services being delivered to citizens
- Providing quick view of transactions performed electronically, and analyzing services with various filters “by the Time-Period, by the State/Department, or by the geography
- Measuring the number of transactions performed by various e-Governance applications on a real time basis
- Provides an integrated view of e-Transactions using “Web Services Technology”
- Enable the Ministries/Departments implementing e-Governance projects in getting real-time view of their projects and take remedial steps, interventions where needed.
NeGP Outcomes

✓ An average of 40 crores e-Transactions per month (http://etaal.gov.in)

✓ Establishment of core ICT Infrastructure across the country – SDC, SWAN, NSDG, SSDG, Mobile Seva, GI Cloud, Pay Gov India

✓ General Awareness on e-Governance in the country

✓ Institutional mechanism built for e-Governance Standards, Technical Assistance to Departments, R&D, HRD & Trainings, Project Assessment, Innovation, etc.

✓ Establishment of Common Services Centers across the country

✓ Capacity Building at various levels of Government

✓ Citizen rights on time bound delivery of service
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15. http://www.slideshare.net/nasscom/meghraj-nasscom
Thank you!