Citizen Centric e-Government
State e-Governance Consultation Workshop

September 9, 2011  Gandhinagar

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Department of Information Technology
Ministry of Communications & IT,
Government of India
India: Diversity & Development

1.2 billion people, 70% rural

Multi-lingual – 22 Official Languages
Multi religious
Multi-ethnic

Federal Structure
35 States & Union Territories
600,000+ villages

Multi-party
Multi-tiered democracy
240,000+ Local Bodies
Indian Economy: Global Positioning

<table>
<thead>
<tr>
<th>Country</th>
<th>GDP (PPP) (US $ trillion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>13.02</td>
</tr>
<tr>
<td>China</td>
<td>10.04</td>
</tr>
<tr>
<td>India</td>
<td>4.24</td>
</tr>
<tr>
<td>Japan</td>
<td>4.20</td>
</tr>
<tr>
<td>Germany</td>
<td>2.57</td>
</tr>
</tbody>
</table>

Source: Investment Commission, India-2010
GDP Growth

<table>
<thead>
<tr>
<th>Year</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006-07</td>
<td>9.40%</td>
</tr>
<tr>
<td>2007-08</td>
<td>9.00%</td>
</tr>
<tr>
<td>2008-09</td>
<td>6.70%</td>
</tr>
<tr>
<td>2009-10</td>
<td>7.20%</td>
</tr>
<tr>
<td>2010-11</td>
<td>8.60%</td>
</tr>
<tr>
<td>2011-12</td>
<td>9.00% projected</td>
</tr>
</tbody>
</table>
Growth in IT/ITeS Sector

FY 2009-10 (Actual)
- Revenues ~ US$ 73.9 bn
- Contribution to GDP: 6.1%
- Direct employment: 2.29 million
- Indirect employment: 8.2 million

FY 2010-11 (Estimated)
- Revenue ~ US$ 88 bn
- Contribution to GDP: 7%
- Direct employment: 2.5 million
- Indirect employment: 9.0 million

Slide Courtesy - Nasscom Strategic Review 2010 & 2011
Over 885.99 mn telecom subscribers

100 mn Internet users

12.32 mn broadband subscribers

Fastest Growth in the world

Lowest Tariffs in the world

Rural penetration expected to reach 36% by 2011
Sharp Socio-Economic Disparity

- 550 mn people below poverty line
- Infant Mortality Rate - 61 per thousand
- HDI value in 2010 - 0.519
- HDI Rank - 119/169 countries
- India’s performance to impact MDGs globally

Slide Courtesy - UNDP India
Rights Based Policy Frameworks

- Right to Information
- Right to Employment
- Right to Education
- Right to Food
- Right to Public Services

Proposed
Use of ICT for MDGs

- e-Governance
- Human Resource Development
- Development of ICT Industry
- Sustainable Development
Way Forward

- Quality Education
- Health Services
- Financial Inclusion
- Skill Upgradation
- Employment Generation
- Green Technologies
Thank You

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NeGP Vision

“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 realise the basic needs of the common man.”

May 2006
Strategy to Realize Vision

• Focus on Services & Service levels
  ➢ Business Process Reengineering & Change Management
  ➢ Creation of Service Delivery Platform

• Centralized Initiative

• Decentralized Implementation

• Institutional Framework
Strategy to Realize Vision

- Emphasis on Public Private Partnerships
- Capacity Building
- Standards for Interoperability
- Awareness and Communication
- Third party Impact Assessment
New Elements included in the Strategy

- Use of Mobile Technology
- Common Platforms - Cloud Computing
- Electronic Service Delivery Law
- Citizen Engagement Framework
Institutional Framework

Prime Minister’s Committee

Apex Committee

Centre

National Institute of Smart Government

INDUSTRY

Apex Committee Chief Secretary

State

State e-Mission Team

NIC

DIT

NEG D

NEG D

NEG D

NEG D
Virtualization

Focus Area
• Maximize utilization
• A Step toward Green Data Centre
• Increased cost effectiveness by pooling of hardware resources
• Reducing time for application deployment

Solution Available
• Server Virtualization
• Storage Virtualization
• Application Virtualization

Challenges
• Virtualization can only be implemented on the infrastructure under the scheme and for willing departmental infrastructure
• Solution should support heterogeneous environment
• Application virtualization is within the scope of the user department requirement
## State Data Center (SDC)

<table>
<thead>
<tr>
<th>Status</th>
<th>No. of States</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDC Operational</td>
<td>14 (Gujarat, Tripura, Rajasthan, Tamil Nadu, Puducherry, West Bengal, Andhra Pradesh, Meghalaya, Karnataka, Manipur, Orissa, Sikkim, Haryana, Kerala)</td>
</tr>
<tr>
<td>Implementation at advanced stage</td>
<td>2 – Maharashtra, Nagaland</td>
</tr>
<tr>
<td>Implementation in progress</td>
<td>4 – Uttar Pradesh, Andaman &amp; Nicobar, Jharkhand, Mizoram</td>
</tr>
<tr>
<td>Implementation yet to start</td>
<td>3 - A&amp;N, Jharkhand, Mizoram</td>
</tr>
<tr>
<td>Bid Process in progress</td>
<td>7 – J&amp;K, Himachal Pradesh, Lakshadweep, Uttarakhand, Chhattisgarh, Bihar, Madhya Pradesh</td>
</tr>
<tr>
<td>RFP yet to be published/ under revision</td>
<td>4 – Punjab, Assam, Goa, Arunachal Pradesh</td>
</tr>
<tr>
<td>DPR under preparation</td>
<td>2 - Daman Diu, D &amp; N Haveli</td>
</tr>
<tr>
<td>Opted out</td>
<td>2 – Delhi, Chandigarh</td>
</tr>
</tbody>
</table>
Scope of ESD Act

• Mandatory electronic delivery of all public services within five years from the enactment of the ESD Act

• Within 180 days of enactment
  – All departments to identify services to be e-enabled
  – All departments to fix a cut off date for electronic delivery
  – Manner of Delivery of Services and Service Levels
  – Provide for a Grievance Redressal Mechanism

• While introducing Electronic Delivery of Services, department will provide for Assisted Access also
Oversight Mechanism for ESD Act

• Electronic Service Delivery Commissions - Centre and State Level

• Chief Commissioner and a maximum of 2 Commissioners

• Function of the Electronic Service Delivery Commission:
  – Monitor the implementation of the ESD Act
  – Appellate mechanism for non-introduction of Electronic Services
  – Preparation of annual report on implementation of the Act
  – Push for joined up services

• Penal Provision
  – Penalty of Rs. 5,000 to be levied on defaulting officials
Enablers

- **Right to Information Act, 2005 - Section 4 (1)**
- **Information Technology Act, 2000 (amended in 2008)**
  - Provides legal recognition for electronic transactions
  - CCA Rules provision electronic signatures
  - Service Delivery through Service providers
- **Administrative Reform Commission**
  - Legislative framework for e services
- **UIDAI – UID based authentication for services**
- **Increasing Tele-Density and Broadband Penetration**
4. (1) Every public authority shall—

(a) maintain all its records duly catalogued and indexed in a manner and the form which facilitates the right to information under this Act and ensure that all records that are appropriate to be computerised are, within a reasonable time and subject to availability of resources, computerised and connected through a network all over the country on different systems so that access to such records is facilitated;
The Smart way forward

“A clear roadmap with a set of milestones should be outlined by the government of India with the ultimate objective of transforming the citizen-government interaction at all levels to the e-Governance mode by 2020. This may be enshrined in a legal framework keeping in consideration the mammoth dimension of the task, levels of required coordination between the Union and State Governments and the diverse field situations in which it would be implemented.”
Public Services Guarantee Act, MP

- Seeks to punish government officials for failure or delay in providing services
- Rs 250 for every day’s delay in provision of service
- 25 services offered by Energy, Labour, Public Health Engineering, Revenue, Urban Administration, General Administration, Social Justice, SC and ST Welfare, and Food and Civil Supplies departments
- Maximum limit for providing the income and domicile certificates would be three days (presently – no limit)
State Initiatives

• Maharashtra Mandatory Electronic Delivery of Public Service legislation
  ➢ Make it mandatory for all government officers/departments to provide electronic (online) service to citizens for all citizen centric services. Initially, electronic service can be limited restricted to:
    - Availability of information/forms
    - Online submission of applications by citizens
    - Status tracking

• Government of Rajasthan
  ➢ 3% of plan budget of all Government Departments for e-Governance initiatives.
  ➢ Departments to identify a minimum of two G2C services and rollout these services through CSCs within next 6 months.
M Governance Road Map

• Draft Consultation Document for Mobile Governance Policy Framework released on 28 Mar 2011 – over 35 responses received
  - Integrating mobile platform as an interface for e-gov services
  - Standards - Technical & Security
  - Integrating Mobile Service Delivery Gateway with SSDG

• Notification of Mobile Governance Policy by Aug 2011

• Development of MSDG by Dec 2011

• Enablement for integration of all MMPs with MSDG by Mar 2012
Suggested Framework Mobile Governance
Most Relevant Services

• Information-based services
• Interaction-based services
• Transaction- & Payment-based services

Focus on reaching the remotest of villages with public services
Examples of Most Relevant Services

• Agriculture info related to crops, pests, soil, prices

• E-District Services

• Transport

• Alerts related to emergencies, government notifications and campaigns, weather information (for fishermen and farmers), tax reminders, pensions

• Alerts to nearest hospitals and police stations during accidents/ disasters

• Reporting suspicious activity to Law Enforcement agencies

• Acknowledgements and status updates related to delivery of public services

• Grievance registration and tracking

• Reporting issues to local government (potholes/ waste disposal/ etc)

• As mobile-wallet to buy travel tickets and pay fines / facilitating financial inclusion
Examples of Most Relevant Services

• Maps and location-based services using GPS

• Livelihood enhancement (job ads, availability of jobs under NREGA)

• Alerts to people identified under various government schemes

• Seeking appointments with doctors

• Mobile-based application filing, such as RTI filing, applying for government services, licence renewals, etc.

• Opinion polls and feedback gathering; citizen engagement during policy formulation

• Reporting: Leakages in water pipes; faults in street lighting

• Elections / mobile-based polls
Objectives of Shared Technology Platform

• Shared resource of reusable software artifacts covering common processes across Government

• Expeditious procurement and implementation

• Adherence to standards for inter-operability

• Migrating from a capex to an opex model

• Adoption of re-engineered systems and best practices

• Pool IT resources – available on demand
Possible Support from Managed Service Provider

States offering Platform-based services

Service Offerings
- Infrastructure as a Service (IaaS)
- Platform as a Service (PaaS)
- Software Development as a Service (SDaaS)
- Software as a Service (SaaS)

Service Level Agreements driving efficiency & availability

Platform-based Services

May deliver services to other States

GIS
Mobile Gateway

State e-Infrastructure
- State Data Centre (SDC)
- State Service Delivery Gateway (SSDG)
- State Portal

Proactively approach Depts with service options -- Depts to pick most suitable offering
Evolution of Platforms

• Leverage existing Service Providers

• Leverage e-infrastructure - SDC, SSDG, SWAN and State Portals

• Use of Virtualisation Techniques

• Platform services to Line Departments/States proactively

• Successful offerings may be extended to other States
Way Forward

- Working with States in facilitating establishment of Shared Platforms
- Evolving Governance Framework for operation of Platforms in consultation with States
- Funding and Capacity Building support to States
Common Services Centers

- 100,000 + CSCs across 600,000 + villages
- **G2C & B2C services**
- Implementation on a PPP model
- Challenges: Power, Connectivity & G2C
- Upscale to 250,000 Rural Local Bodies
Due to termination of SCAs in Andhra Pradesh, Haryana, Maharashtra, Tamil Nadu, and Uttarakhand around 4537 CSCs are reported to be non operational.
State Portals, SSDG & e-Forms

• State Portal
  - Repository of Government Information and services
  - Enables citizens to download & submit forms electronically

• State Service Delivery Gateway (SSDG)
  - Provides seamless interoperability & exchange of data across depts
  - Provides common set of specifications & a single point access to all depts
  - Intelligent routing to the destination field office
  - Transaction Log & Time stamping

• E Forms
  - Facilitates standardized, interoperable format
  - For electronic service delivery

This will enable assured electronic delivery, acknowledgement and status tracking of application from citizen
National e-Governance Service Delivery Gateway (NSDG) - MMP messaging middleware for interoperability

State Portal / India Portal / SCA Portal

NSDG

Standards Based Communication

External Agencies

Dept. 1

Dept. 2

Dept. 3

- Core in the e-Governance application architecture
- IIS/IIP e-Gov standards based on XML & SOAP
- Envisaged as a cluster at the National level & SDCs
- Shared services
What does eGov Exchange offer?

• Legacy systems join the SOA with minimal effort

• Gateway separates/decouples/shields the backend from the frontend

  ➢ Security – Authentication and Authorization (Who ? Which services)
  ➢ Joined up services
  ➢ Integrated/collaboration services
  ➢ Value added services by private players eg. US
  ➢ Verification services invoked from front end => reduced overload on the backend
  ➢ Works as a catalyst in ensuring adherence to Standards.
  ➢ Each department service to manage just one interface for ‘n’ clients.
Benefits in the Long Term

• Shared common services like UID, Payment Gateway and Mobile Gateway

• Search directory of services

• State data asset - ideal scenario applications without attachments.

• Change management tool - eGov exchange works as a broadcast medium
**SWAN**

**Deliverables**

Setting up of State Wide Area Network across all the States/UTs.

**Physical progress**

<table>
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<th>Status</th>
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<tr>
<td>SWAN implemented</td>
<td>27</td>
</tr>
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<td>Implementation at advanced stage</td>
<td>2 – Mizoram, Nagaland</td>
</tr>
<tr>
<td>Implementation in progress</td>
<td>1 - Rajasthan</td>
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<td>Bid Process initiated</td>
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<tr>
<td>RFP/BoM under preparation/revision</td>
<td>3 – Daman Diu, D &amp; N Haveli, A &amp; N*</td>
</tr>
<tr>
<td>Opted out</td>
<td>1 – Goa has its own network</td>
</tr>
</tbody>
</table>
27 SWAN implemented

2 Implementation at Advance stage

1 Implementation in Progress

3 Bid Process Initiated

1 RFP/ BoM under preparation/revision

1 Opted Out from SWAN Scheme
SWAN : New initiatives

• Bandwidth Enhancement
  • Upto 34 Mbps from SHQ to DHQ
  • Upto 8 Mbps from DHQ to BHQ

• Integration of Networks & Data Centers
  • DIT has now initiated the process to Integrate all State SWANs & SDCs with NKN for Network redundancy and seamless sharing of information.
Leveraging Cloud Computing

- **IaaS**: Consolidation and Virtualization of State Data Centre
- **PaaS**: Repository of Common Services
  - authentication/authorisation, e-payment, directory, registration, content management, e-Portal, Integration and other gateway services
- **SaaS**: eGov services to Citizens, sharing of citizen facing services across States.
Cloud Architecture

Service Provider

Software (SaaS)
Platform (PaaS)
Infrastructure (IaaS)

Common Services

SDCs & NIC Data Centers

Virtualised Resources
- Compute
- Networking
- Storage etc.

Service Consumer
- Department
- User

Service Developer
- Software Developer
- System Integrator
- Infrastructure Developer

Security

Standards
Citizen Engagement Framework

- Citizen-centricity at core of NeGP
- Citizen Engagement embedded in project approval
- DIT to approve Citizen Engagement process of Line Departments/ States
- Central Funding for Citizen Engagement
Citizen Engagement Process

1. Undertake Need Analysis
2. Define Degree of Engagement
3. Create Engagement Team
4. Undertake Engagement
5. Institutionalize Inputs
Awareness & Communication

• Building NeGP as an Umbrella Brand

• Creating awareness:
  ▪ Mass Media
  ▪ Outreach
  ▪ New Media

• Motivating Stakeholders

• Creation of Demand Driven Environment
Leveraging Social Media - Facebook pages
Independent Impact Assessment

• Implementation by Line Departments/States
• Impact Assessment by DIT

• Number of trips to Government offices reduced significantly
• Waiting time reduced in the range 20-40%
• Significant Reduction in Bribery
Capacity Building Scheme

• Scheme approved for Rs 313 crores

• State e-Mission Teams:
  • Programme Level Support
  • Appraisal and Coordination
  • Hand holding of Line Departments
  • Ensure Interoperability and adherence to Standards

• Training/Orientation of Stakeholders
  • Leadership Sensitization Training
  • Specialized training of Operational Level Officers

• Support to State Administrative Training Institutes
Standards - Notified

- Policy on Open Standards
- Biometric standards
- Metadata and Data Standards (MDDS)
- Network and Information Security
Standards – Notified

- Localisation and Language Technology Standards
- Guideline for usage of Digital Signature in e-Governance application
- Quality Assurance Framework
Right To Information Act, 2005

Right to seek Information
Service Level: within 30 Days

Imposition of penalty in case of default Rs.250 per day

Empowerment
Transparency & Accountability
MGNREGA - Right to Employment, 2006

Linkage of BPL Database and Job Registration

42 Mn Households Employed in 2009-10

48% Women, 55% SC/ST
Right to Free & Compulsory Education, 2009

Education to all - Age 6 to 14 yrs

Government to establish Schools in neighbourhood within 3 years

Special provision - who have not completed elementary education
Right to Public Services

Enacted – Madhya Pradesh
Proposed – Delhi, Bihar, Maharashtra

SLAs for certificate – 3 days
Penalty - Rs 250 Per day
25 services covered

Public Service Delivery Bill by Central Government
Right to Food: National Food Security Act Proposed

Coverage of Entitlement
Rural - 46%
Urban - 28%

Assured delivery of foodgrain-
35Kg/Month/Family @
Wheat – Rs. 2/Kg
Rice - Rs. 3/Kg
Policy on Open Standards

- Adopt Single and Royalty-Free (RF) Open Standard progressively within a domain.
- Avoid any technology lock-ins while ensuring interoperability.

Released in Nov’10 to provide the framework for selection of Open Standards
Released in Nov’10 and Iris image Standard in March’11 to enable the sharing of biometrics data seamlessly
Released in December 2009 for semantic interoperability

Metadata & Data Standards

For Person and Land identification like name, address etc.

Being used for capturing data for UIDAI and NPR

Released in December 2009 for semantic interoperability
Network and Information Security

eSAFE- Electronic Security Assurance Framework

9 Guideline documents to aid in the implementation of the international standard ISO 27001

7 Guidelines released in Feb 2010 and 2 in March 2011 for ensuring secure systems
Localisation and Language Technology Standards

Character Encoding Standard – Adopted Unicode 5.1.0 for representation of multilingual text.

- Will enable Localization of applications for all the constitutionally recognized Indian languages.


- Will ensure data portability across various applications and platforms.

Released in November 2009 for multilingual support
Digital Signature

Guideline for usage of Digital Signature in e-Governance application

- Help in understanding and guide usage of PKI technology

The Digital Signature Certificate (DSC) Interoperability guidelines issued to enable interoperability of DSC’s issued by various Certifying Authorities (CA)

Released in December 2010 and December 2009 respectively
Quality Assurance Framework

Ensures quality in e-Governance applications.

Two documents released - “Quality Assurance Framework” and “Conformity Assessment requirements”

Released in June 2010 for ensuring quality
Service Delivery Platform

- Call Centre
- State Data Centre
  - State Portal
  - SSDG/NSDG
  - MSDG
  - e-Forms/ m-Forms
- Payment Gateway
  - Information List Services
  - List Offices
  - List e-Forms
  - Standards based Message Routing, Authentication
  - Guaranteed Delivery & Transaction Log
  - Time-stamping & Status Tracking

- UID
- Internet
- SWAN

Govt. Departments at various levels

- State
- District
- Blocks
- Talukas

User

- Registration
- Revenue
- Transport
- Municipalities

CSC

SHQ
Collector's Office

Tehsil / Taluks

Payment Gateway

User
Education

The Government of Haryana keeping in mind schools

Film Courtesy- Intel India
Telemedicine

• 2.6 Mn people diagnosed and treated in Tripura
• Tele-Medicine Pilot projects in Punjab, Himachal Pradesh, Tamil Nadu & West Bengal
G2C Services being delivered through CSCs

**CSC for Issuing Certificates**
- Copy of Record of Rights
- Certificate of Birth/ Death
- Domicile Certificate

**CSC for Diagnosis**
- Agriculture Department, West Bengal is using CSCs for Soil Testing

**CSC for Information**
- Results
- Agriculture Market Prices
- Agriculture Extension related

**CSC for Data Collection**
- CSC VLEs are being used for activities related to NREGA Job Card
- School survey
- Cattle Survey in Jharkhand

**CSC for Awareness**
- Consumer Affairs Department, West Bengal is using CSC for creating awareness and paying Rs 600 per year/ CSC
- Health Camps

**CSC for Transactions**
- Utility Bills
- Electricity/ BSNL
B2C Services- Financial Inclusion

Financial Inclusion

• Provide basic financial transactions- Cash Transfers, balance enquiry, loans

• Access to other financial instruments- loans, micro credits, insurance

• VLE to act as Business Correspondent
B2C Services- Health Services

Telemedicine

- Improve access to doctors
- Provide basic diagnostic facilities
- Electronic Health Record
NeGP Mission Mode Projects (MMPs)

Central (9)
- Banking
- Insurance
- Income Tax
- Central Excise
- MCA 21
- Pensions
- Passport *
- e-Office (Pilot)
- Immigration and Visa *
- National ID / UID

Integrated (7)
- India Portal
- NSDG
- CSC
- e-Courts
- EDI
- e-Biz
- e-Procurement

State (11)
- Land Records /NLRMP
- Transport
- e-District (Pilot)
- Commercial Taxes
- Treasuries
- Municipalities
- Police – CCTNS
- Agriculture
- Gram Panchayats
- Employment Exchange

*Initially taken jointly

Gone Live
Industry
Under Implementation
Design & Development
PPPs in e-Governance

Extant Policies and Guidelines focus only on physical infrastructure

- Procurement of private finances as a major objective
- E-Gov projects require greater focus on strategic control, technological intensiveness and obsolescence, interoperability and BPR

Institutional Framework

- Appraisal and approval as per GFR and MOF guidelines
- Dedicated Project Teams and adequate ring fencing through appropriate structuring of service provider
**Operational / Legal Framework**

- Guidelines on Operational model, DPR, Strategic Control and Standards already issued
- RFP standardization specifying risk matrix and MSA underway
- Toolkit and Guidance Notes to be prepared

**Financial Framework**

- Business model and risk transfer to be appraised at conceptual stage
- Policy to be formulated-
  - Project Development including Viability Gap Funding
  - e-Governance Projects Development Fund
Financial Inclusion

Film Courtesy- FINO & Centurion Bank of Punjab
Human Resource Development

- National Policy on Skill Development: 100 Mn trained persons by 2022
- Special focus on training of women – 25,000 women to be trained in 2011-12
- Software Support for 22 constitutionally recognized Indian Languages
- National Knowledge Network: 1000 Academic & Research Institutions on 10 GB network
Roadmap

- Semiconductor Wafer Fabrication manufacturing facilities
- Electronics Development Fund for promoting innovation and R&D in electronics
- Software Technology Parks
- National Localization Research and Resource Centre (NLRRC) to proliferate localisation
Sustainable Development

Use of Green Technologies - Solar powered kiosks, Green Data Centers

Use of GIS & remote sensing for Watershed Management

Enhancing Agricultural Productivity through ICT