



# SHARED SERVICES MODEL OF KARNATAKA FOR e-GOVERNANCE



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DPAR(e-GOVERNANCE), GOVERNMENT OF KARNATAKA

# Shared Services for e-Governance in Karnataka delivered through 6 'I'- Strategy

- Institutional Framework
- Infrastructure(Core)
- Internal Business Process Re-engineering
- Investment(Business) Model
- Internal Capacity Building
- Innovations

# Policy Framework aims at...

Single Window Delivery  
Mechanism For All Services

**“Anywhere  
& Anytime  
Any Device” Services to Citizen**

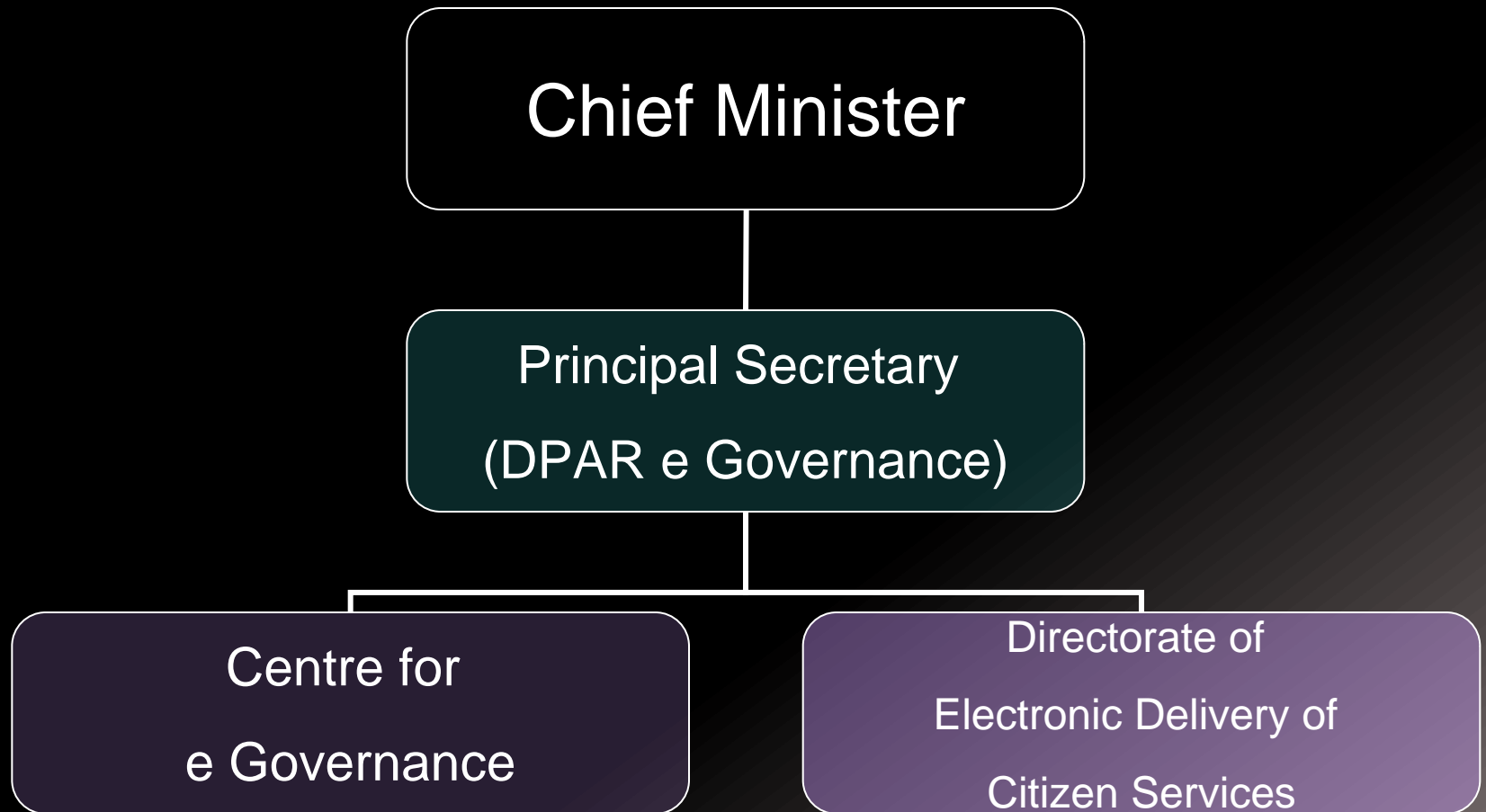
Total Transparency

Faster decision making



# Organizational Framework)

Karnataka is the only state with an exclusive Department for e-Governance



# Roles & Responsibilities of Center for e-Governance (CEG)

- Providing Core Infrastructure like Connectivity ( KSWAN) and Centralized Computing Infrastructure( SDC) for various Departments of GOK
- Implementation of Core enterprise level applications common to all departments( HRMS, e-Proc)
- Provide Technical Consultancy to all the Departments

# Responsibilities of EDCS Directorate

- Implementation of Projects for delivery of Citizen Services in Urban and Rural Areas ( Bangalore One, Karnataka One , Nemmadi/CSC)
- To facilitate the issue of digitally signed documents under e-Governance Services
- To implement e-District Project

# Infrastructure- (Core e-Infrastructure)

- Connectivity – KSWAN
- Centralized Computing Infrastructure- SDC
- Citizen Service Delivery Channels- B<sub>1</sub>,K<sub>1</sub> , Nemmadi & CSC
- Core Applications- cutting across all the departments( e-Proc, HRMS)
- Government Business Centers- For digitisation of data,scanning,printing etc

# Internal Business Process Re-engineering

- Government Process Reengineering one of the critical elements of e-Gov projects
- Focus of Transformation rather than Translation
- Effected by closely working with Departments by following best practices of change management.

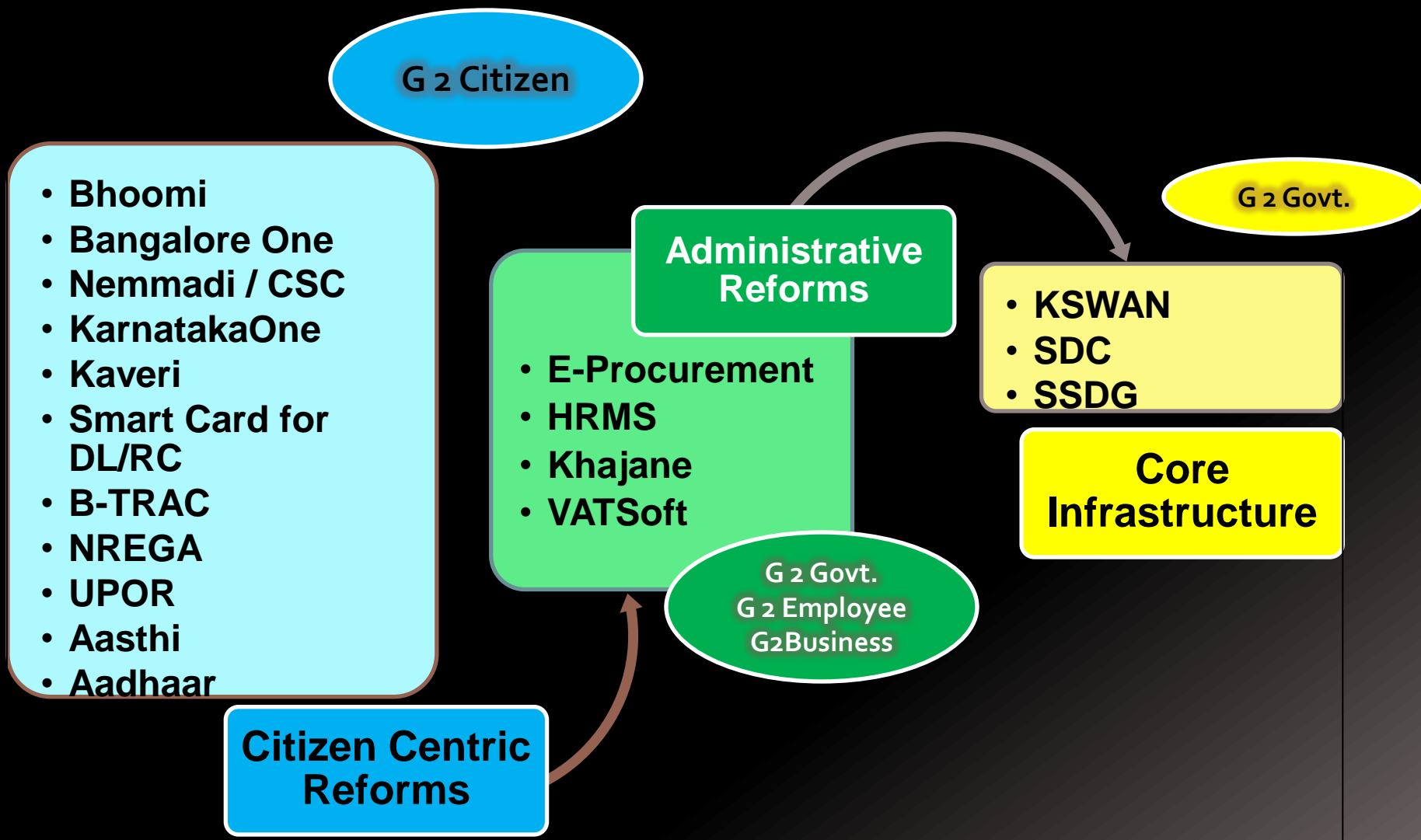


# Investment(Business) Model

- Transaction Based Model-
  - ▣ Implemented in projects where there is steady stream of revenues
  - ▣ Encourages Private Partner to maximize the transactions.
- Capex and Opex on a QGR Model
- Implemented in projects where there is heavy investment

# Internal Capacity Building

- Under NeGP, E governance Consultancy Support to Departments through CeG
  - ▣ Process study (as is to be)
  - ▣ Gap Analysis
  - ▣ Functional requirement Specification
  - ▣ Detailed Project Report
  - ▣ RFP preparation
  - ▣ Bid process management
- Continuous Trainings/ workshops/Conferences



# E-Governance Innovations

# Innovations aims at...

## Happy Citizen

### Milestones Achieved

**1 Million**

Bangaloreans visit BangaloreOne each month to avail services

**45,000** RTCs issued every day through **1002** centres

**5000** computerized property registrations every day across state

**29 lakh** property covered under Online Property Tax System

## Smart Govt.

### Milestones Achieved

Computerized Pay-bill of **5 Lakh** state employee per month

Over **10000** tenders worth **40,000 Cr** using e-Procurement

**Automatic Traffic Challans** by linking of Traffic System with RTO Database

**45,000 Cr** of Govt. expenditures & receipts tracked through Khajaane Sys.

# Citizen Service Delivery Projects

# Objectives

- Delivery Multiple Services of Government Departments and Private Companies under One Roof( One Stop Shop)
- Bring in More Transparency ,Efficiency , and Accountability in Service Delivery Mechanism
- Offering Services Closer to the Citizens Home
- Delivering services through multiple e-Channels
- Helping Departments to focus on their core functions

# Citizen Service Delivery Projects

- Implementation Model- Public Private Partnership Model( PPP)
- Business Model-
  - BOOT( Build Own Operate & Transfer)
  - Transaction Charges based model
    - Based on category of services
    - Based on Slabs( Transaction Volumes)
  - Pay As U Use Model

# BANGALORE ONE



# BangaloreOne – The Journey

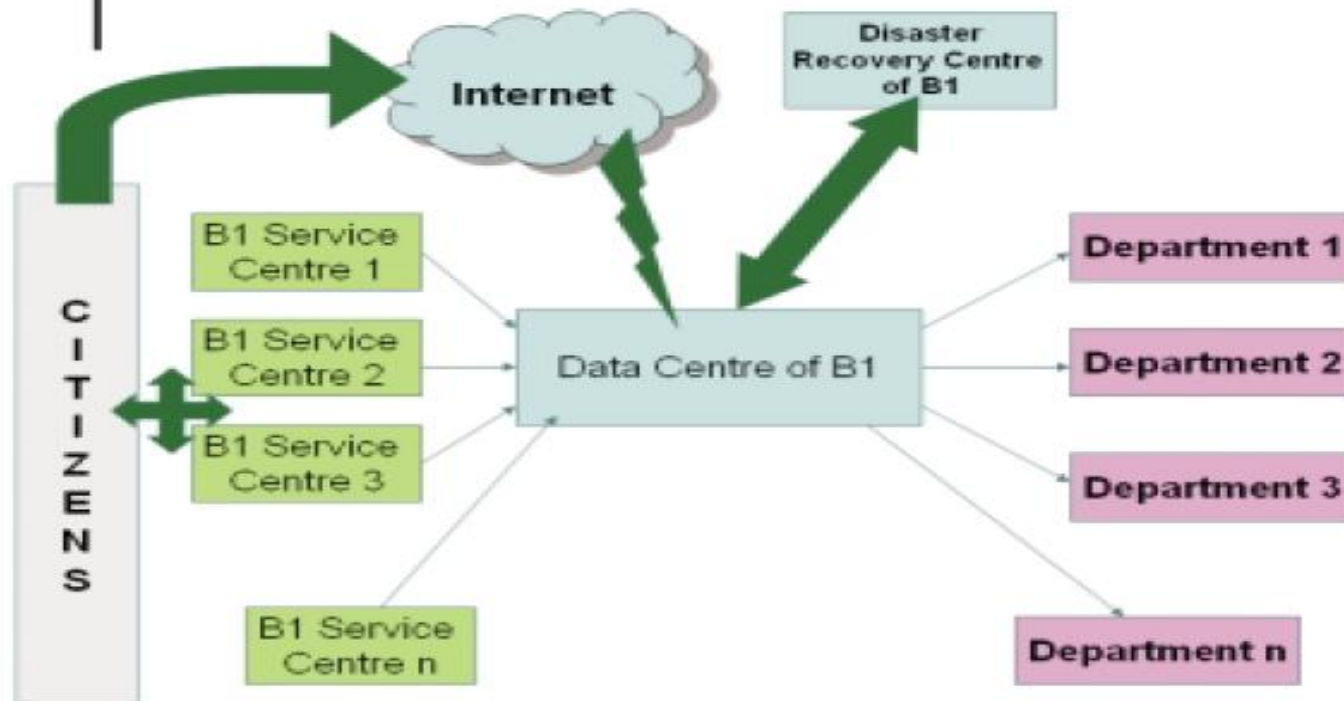
- Project launched on 2<sup>nd</sup> April 2005
- Started with 14 centers on the same day
- Initially launched 15 services
- Partners
  - EDCS Directorate
  - CMS Computers Ltd – Raminformatics Ltd  
(Partner for Software)
  - Axis Bank

# BangaloreOne – “one stop –non stop”

- B1 Centers operate all 365 days
- 17 Centers are open 24 hours
- 56 centers operate from 8 AM to 8PM (Shift 1 and 2)
- Services are available through portal [www.bangaloreone.gov.in](http://www.bangaloreone.gov.in)
- Any service any counter
- Electronic Q Management System.
- Payments through Cash, Cheque, DD and Credit cards.
- Real Time MIS reports are made available to departments as per the requirements.

# BangaloreOne - Architecture

Figure 1 : Functional Architecture of B1



# One Roof! All Services!

**10** lakh footfalls every month !

**75** Centres

**100** centres targeted

**24X7** service  
all 365 Days  
Since 20**05**



**38** services of  
**28** departments

**100** Services Targeted!

**90 Cr/ month**  
Turnover  
In PPP model  
Replication in other  
cities in the state

# **Bangalore One - ONE STOP NON STOP SHOP**

TECHNOLOGY PARTNERS  
  
**CMS COMPUTERS LTD.**  
UNIVERSAL SOLUTIONS



# Bangalore One Services(G2C)

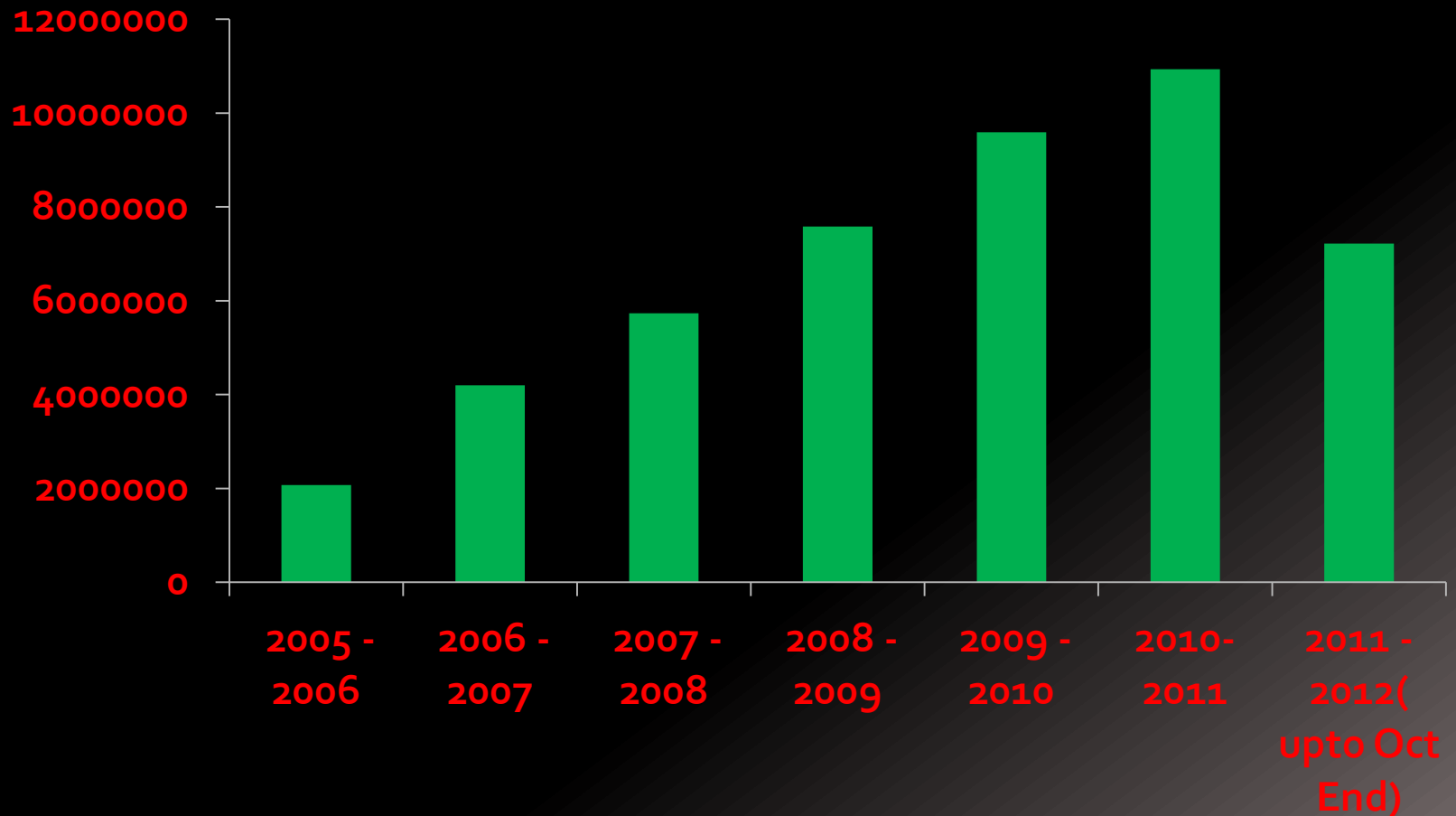
- **Bill / Fee/Tax Payments-** Electricity, Water ,BSNL Land Line/Mobile, Property Tax, Attestation Fee of Home Departments, Traffic Violation, Subscription fee from Registered Workers, e-Auction Payments etc
- **Travel and Holiday-** KSRTC, KSTDC and Railway Tickets , Bus Passes
- **Sale of Applications-** Passport, Job Applications
- **Others-** Application for Photocopy/ Re-valuation and Re-totaling of Answer Scripts from PUC and BU Students, Registration & Renewal of Shops and Commercial Establishments



# Bangalore One Services( B2C)

- **Bill Payments-** Airtel Land Line and Mobile, Vodafone, Spice, TTL, Reliance
- **Travel and Holiday-** Flight ticket Booking
- **Entertainment-** Movie Ticket
- **Others-** Western Union Money Transfer, ING Vysya Life Insurance Renewal Payments, Dish TV recharge Payments, Registration for Private Jobs(LAQSH)

# Bangalore One – Growth of Transactions





# One Stop! Non Stop Services!



## National Web Ratna Award

## CSI NIHILENT e-Governance AWARD

Finalist in Microsoft e-Governance Award

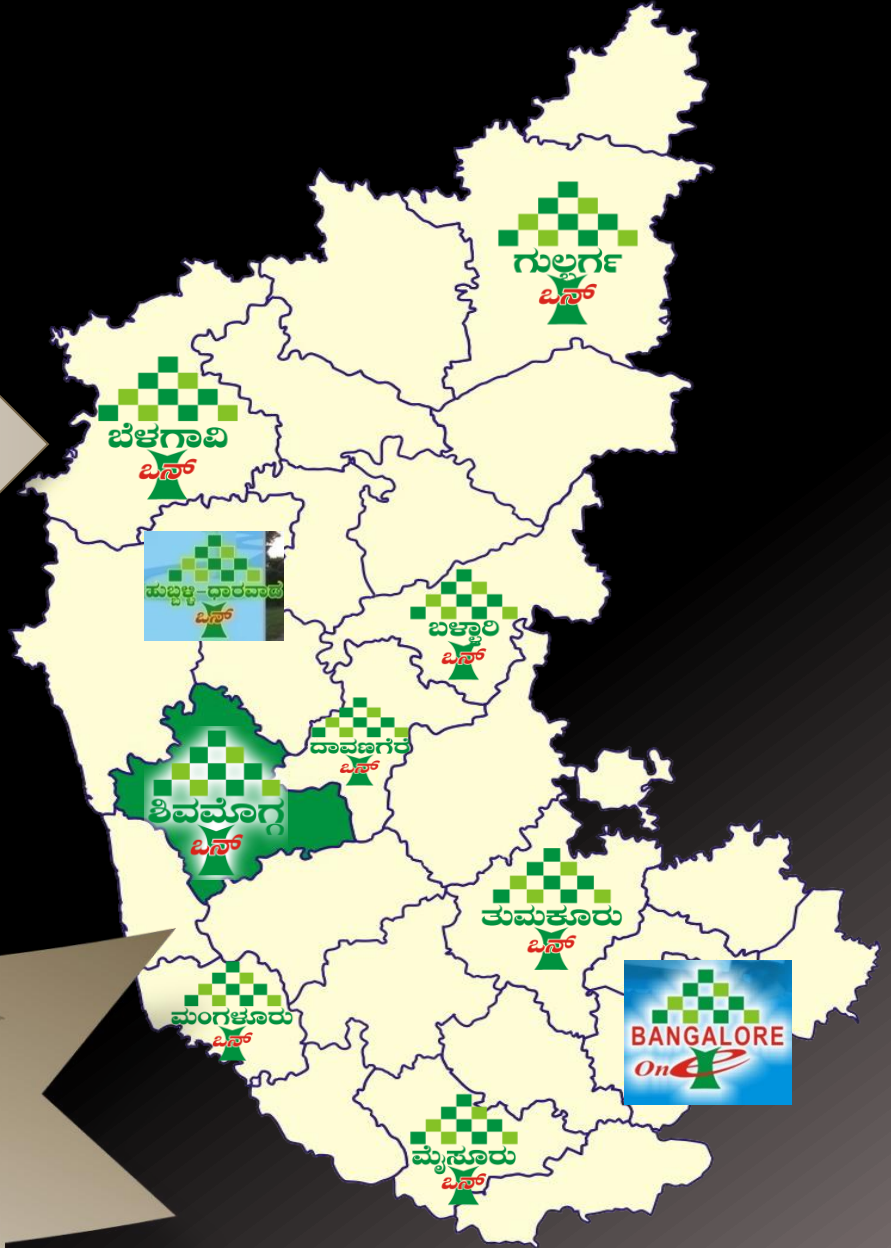
# India Tech Excellence Award

# Karnataka One – The Journey

- Pilot launched on 4 Feb 2008 – Hubli-Dharwad One
- Expansion of Karnataka One was launched on Feb 8 2010 by Hon'ble Chief Minister of Karnataka
- Karnataka One is operational in 9 cities of Karnataka
- 8 cities were launched in a record time of 6 months
- Partners
  - EDCS Directorate
  - Operations Partner -CMS Computers Ltd
  - Software Partner- Ram informatics Ltd
  - Banking Partner- Axis Bank for Hubli-Dharwad and ING Vysya Bank for 8 cities

K-1

9 cities launched  
35 centres



*Lighting up  
Karnataka*

# One stop Service shop! - Karnataka

9 cities  
35 centers

8.00AM to 8.00 PM  
365 days a year



B-1 to other  
cities

"Pay as you Use"  
Model

Any time  
Any where  
services from K-1  
portal



# Karnataka One in Pictures



*World Class facilities for World Class Service*

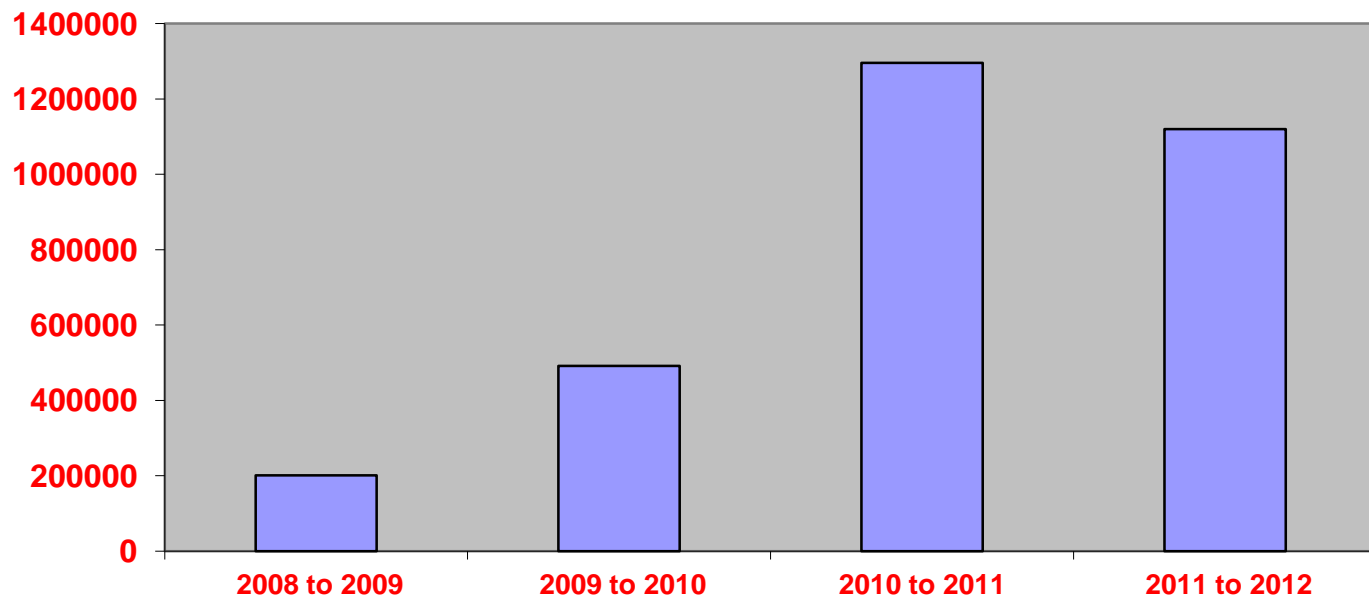
# Karnataka One Services(G2C)

- **Bill / Fee/Tax Payments-** Electricity, Water ,BSNL Land Line/Mobile, Property Tax, Subscription fee from Registered Workers, e-Auction Payments,
- **Travel and Holiday-** KSRTC and Railway Tickets , Bus Passes
- **Sale of Applications-** Passport, Govt Job Applications
- **Others-** Application for Photocopy/ Re-valuation and Re-totaling of Answer Scripts from PUC, Application for new water connection, Miscellaneous services for water consumers( meter repair,tap relocation,disconnection etc)

# Karnataka One Services( B2C)

- **Bill Payments-** Airtel Land Line and Mobile, Vodafone
- **Others-**ING Vysya Life Insurance Renewal Payments, Dish TV recharge Payments,

# Karnataka One – Growth of Transactions





NEMMADI

# E Servicing Rural Karnataka

**800** Tele centers

**203** Back Offices

**44** Citizen Services

**10** lakh rural citizens avail services each month



Key Services related to RTC, Pension, Income /caste... Certificates, Ration Card....

**Free-of-cost** information to rural citizens  
**Over the Counter and Workflow based services**

# Bringing IT to Villages!

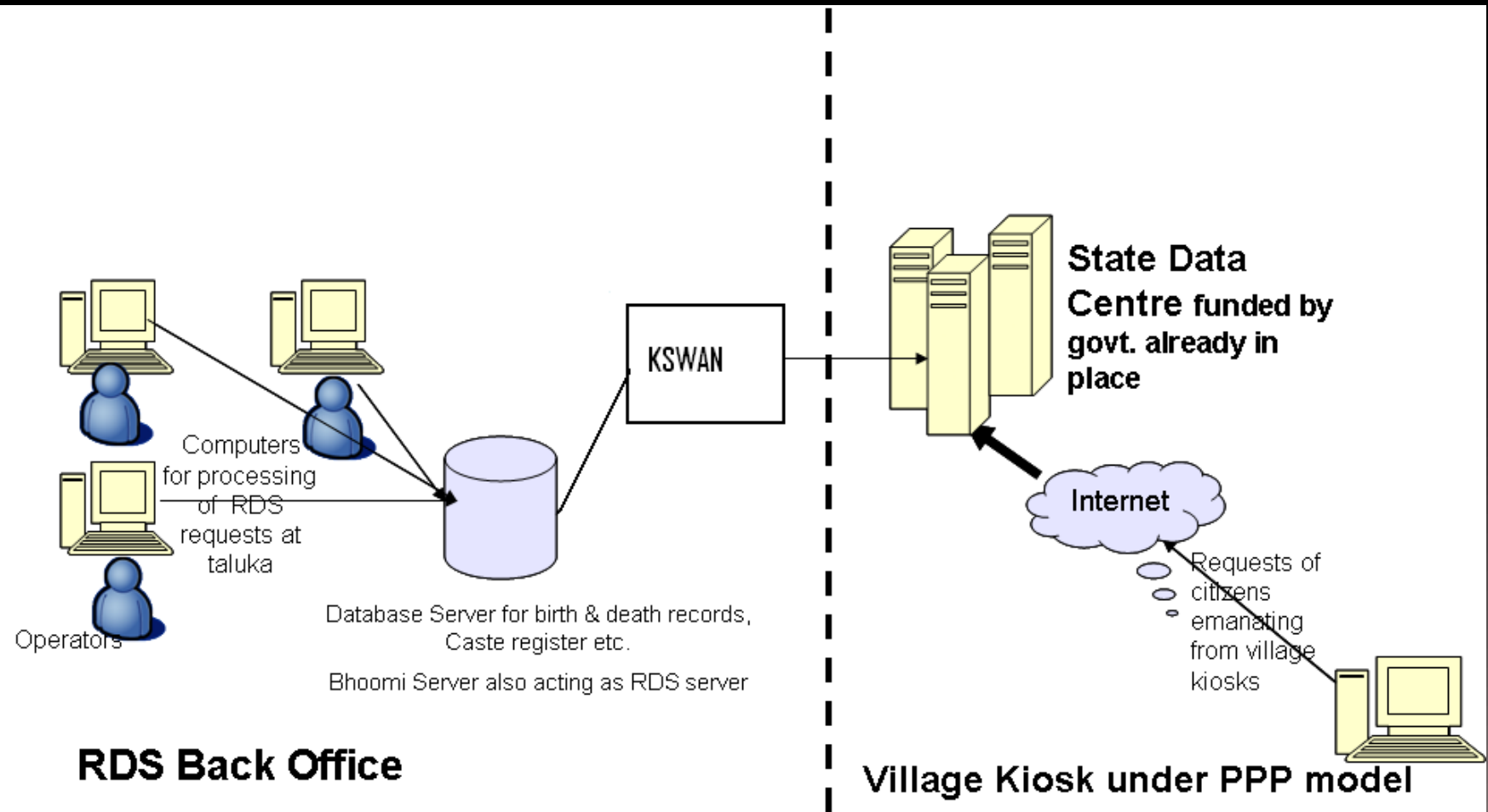


- 43 G2C Services
- Income and Caste Certificates, Social schemes etc
- Land Records(RTC)
- Over the Counter Services introduced(OTC) in phased manner
- Digitally Signed Certificates issued at Taluka and Hobli Level

# Nemmadi- Applications

- RTC
  - Web Application
  - Bhoomi (Land) Records –RTC (Current year and Old year) & Mutation
- RDS (Rural Digital Services)
  - Client Server Application
  - Services and Schemes

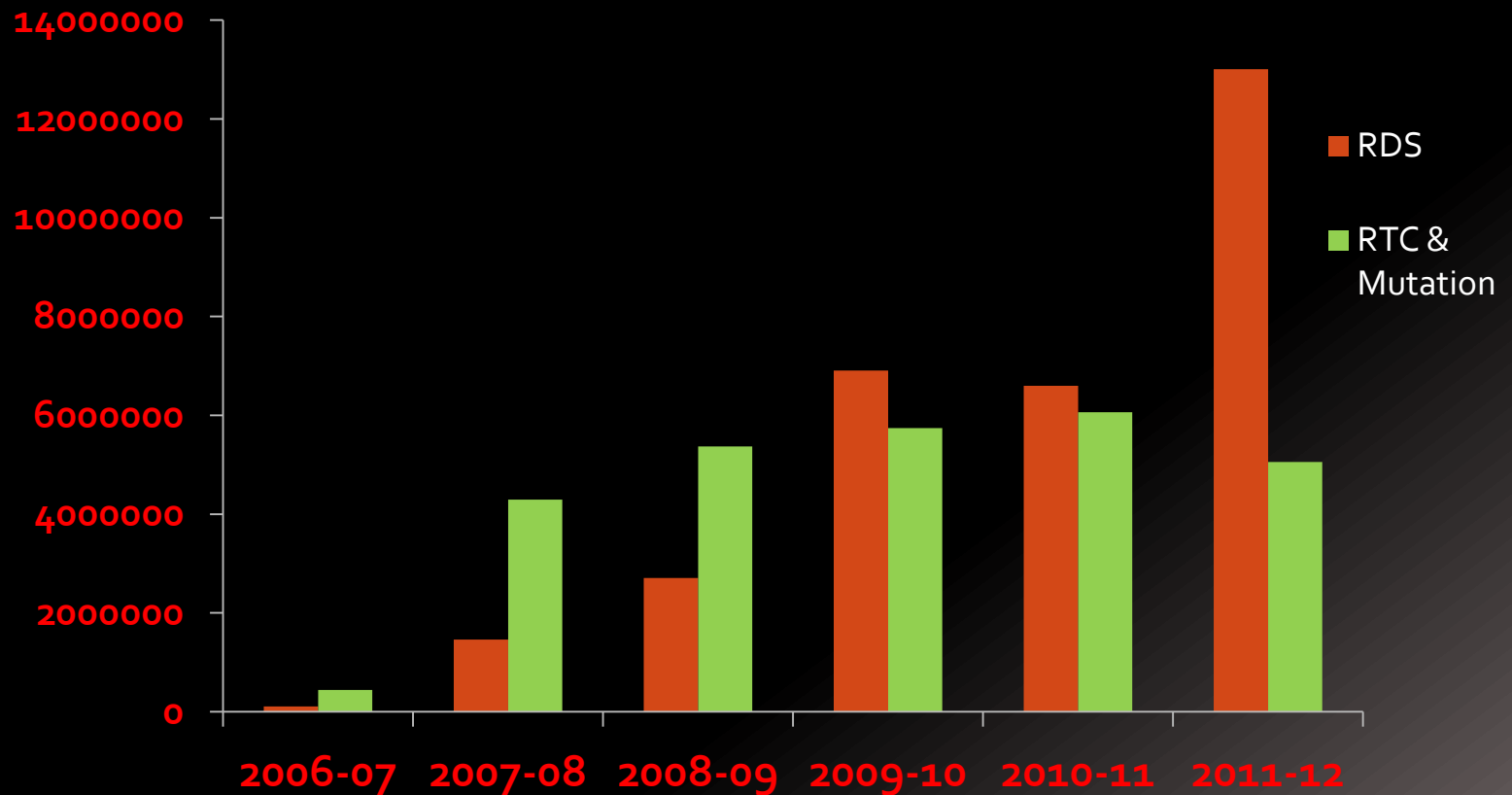
# Nemmadi- Architecture



# Nemmadi Services(G2C)

Birth certificate	No tenancy Certificate	Agriculturist Certificate
Death certificate	Agri Labour Certificate	Non-Creamy layer certificate
Population certificate	Land holding certificate	Caste Certificate for SC/ST
Living Certificate	Residence Certificate	Caste Certificate for Cat-A
Solvency Certificate	Bonafide Certificate	Solvency Certificate
Land less Certificate	Income Certificate	Caste & Income Certificate
Birth registration	Death registration	Unemployment Certificate
OBC Certificate for GOI Jobs	Agri Family member Certificate	No Govt. Job certificate for compassionate appointment
Non-Re-marriage Certificate	Small & Marginal Farmer Certificate	Income certificate for compassionate appointment
Surviving Family Member Certificate		

# Nemmedi–Growth of Transactions



# Nemmadi-New Enhancements

## Complaint Management System (Issue Tracking System)

Issue Tracking System - Microsoft Internet Explorer provided by PricewaterhouseCoopers

File Edit View Favorites Tools Help

Address <http://202.138.105.8/main/raiserhome>

Search Go Links

Department of e-Governance

Welcome Praveen, [SLA](#) [Change Password](#) [LogOut](#)

**Issues** **Dashboard** **RDS Pendency**

Register Issue

Issue ID	Issue Description	Issue Category	Status	Location	Created Time
ISS95	RTC/RDS Hologram not available in kiosk	Operational	RESOLVED	Doddakawlande	Monday, 10th October, 2011 09:45:51 pm
ISS93	Tonner not available in kiosk/Back office	Operational	REGISTERED	Yelawala	Monday, 10th October, 2011 09:25:24 pm
ISS92	Operator Over charges for RTC/RDS Transaction	Operational	REGISTERED	Yelawala	Monday, 10th October, 2011 09:21:38 pm
ISS91	Tonner not available in kiosk/Back office	Operational	REGISTERED	Mysore-Kasaba	Monday, 10th October, 2011 09:18:16 pm
ISS90	Pendency should get clear under irrespective of user	Operational	REGISTERED	Dodda Malur	Monday, 10th October, 2011 09:16:04 pm
ISS89	Application:Photo not	Technical	REGISTERED	Ramanura	Monday, 10th October, 2011

Issue ID ... Search by ID

**Filters**

Select Status ...

Select District ...

Select Category ...

Search

Done

start SQL Query Analyzer - ... SQL Server Enterpris... Gmail - My Resume - ... Issue Tracking Syste... 3 Microsoft Office ... (2:24) 12:55 PM



# Awards

- Oscar of Asia's public sector IT, 2007 - by Govt. Technology award in Phuket (Thailand)
- Microsoft e-Governance award, 2007 - by Microsoft
- National award for e-Governance, 2008 -by Dept. of Administrative Reforms and Public Grievances (India)

# State Data Centre

# Current SDC

- Setup in January 2005, with 110 sq. ft of server farm area and expanded to 500 sq ft in August, 2008
- Models supported – Co-location & Managed services
- Used as DR site for certain applications
- 28 departments are hosting 60 departmental applications
- 14 racks are populated with servers, storage and networking components



# Current SDC Infrastructure

- 82 Physical servers
- 120 TB of storage space
- Adapted virtualization of servers in 2009
- Virtualization software used – VMware and MS Hyper-V
- More than 100 servers in SDC are virtualized on 7 physical servers.

# Benefits of Virtualization

## Provisioning of Server

- Time taken for provisioning of servers reduced by 80%

## Uptime

- 100% uptime since the date of implementation

## Server Consolidation ratio

- 7:100 (100 servers has been virtualized on 7 physical servers)
- Same 7 servers would now cater to the requirements of 100

## Server Utilization

- CPU utilization increased from 10 % to 40 %
- Memory utilization increased from 25 % to 50%

## Restoration Time

- Reduced by 80%

## Cost

- Reduction in hardware procurement cost
- Reducing in power & cooling cost
- Reduction in space cost
- AMC cost

# Cost benefits due to Virtualization

- Savings in real estate space - 330 sq.ft
- Reduction in rack space - 10 racks
- Power saving – 50 KW
- Savings in hardware procurement – 2 Crores
- Reduction in AMC cost – 20 Lakhs P.A.
- Annual savings due to reduction in power & cooling  
– Rs 5 Lakhs

# New SDC



- Space

About 1500 sq. ft of server farm area

- Model

Has been setup & operated on BOOT model for a duration of 5 years, by the Datacenter operator (DCO)

- Features

Tier II+ with uptime of 99.749%

- Can accommodate 46 racks and expandable up to 56 racks
- 100 TB SAN storage
- 24 servers
- Redundant connectivity from 2 different service providers

# Benefits to Departments

- Physical Security
- 24x7 monitoring of servers
- Support from SDC support team
- Data Security – Firewall, IPS, Antivirus
- No procurement & maintenance cost of hardware and software, for the departments
- Vendor support, which ensures faster resolution of issues
- High Availability - Servers, Storage, Network
- Data convergence
- Centralization of departmental data
- Can be used as Disaster Recovery (DR) site



# Connected Government State Information Highway!

Voice, Video and  
Data

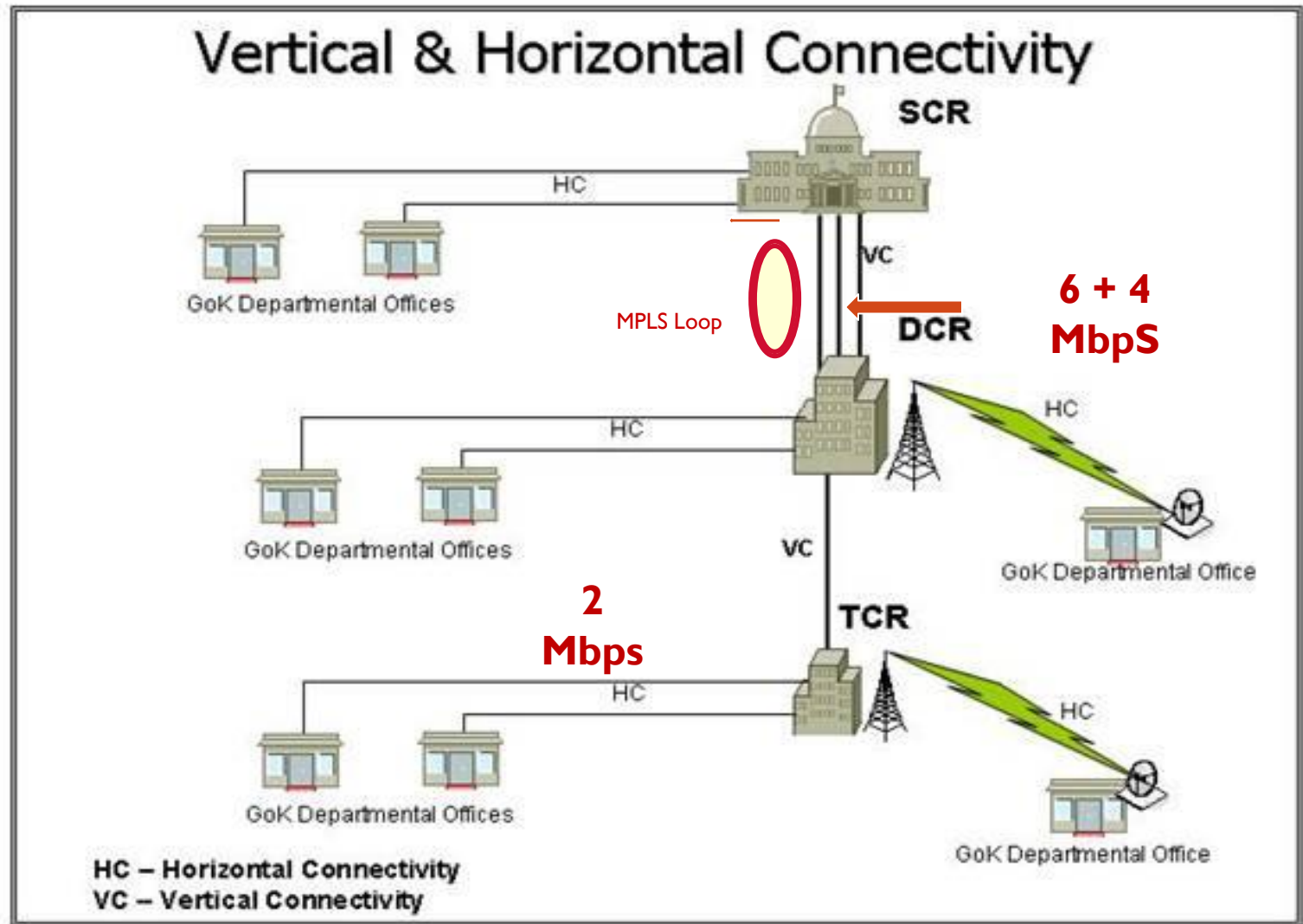
95 departments &  
3000 offices  
connected



Mobile Video  
Conferencing

Get Connected!  
Stay Connected!

# KSWAN Architecture

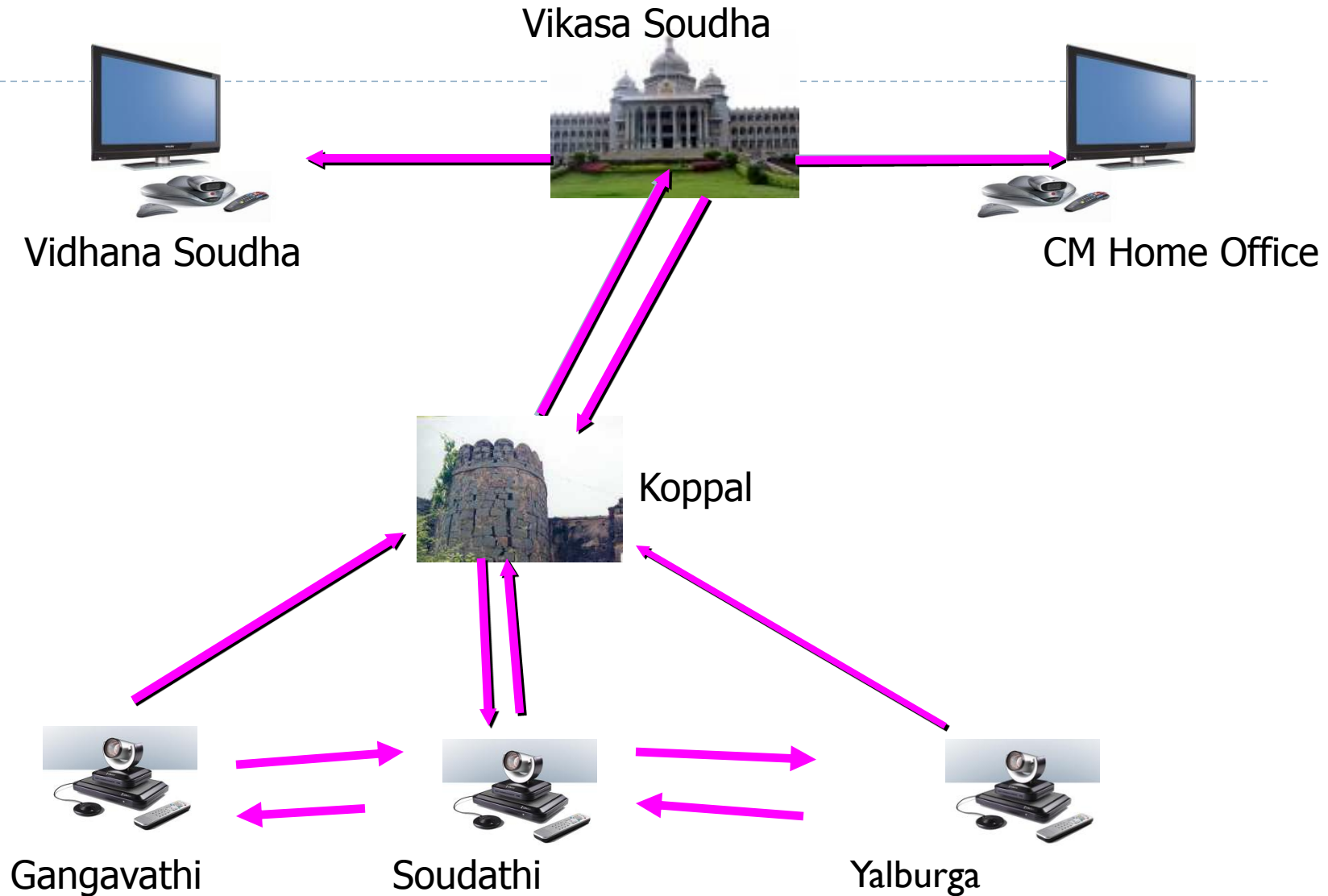


# KSWAN

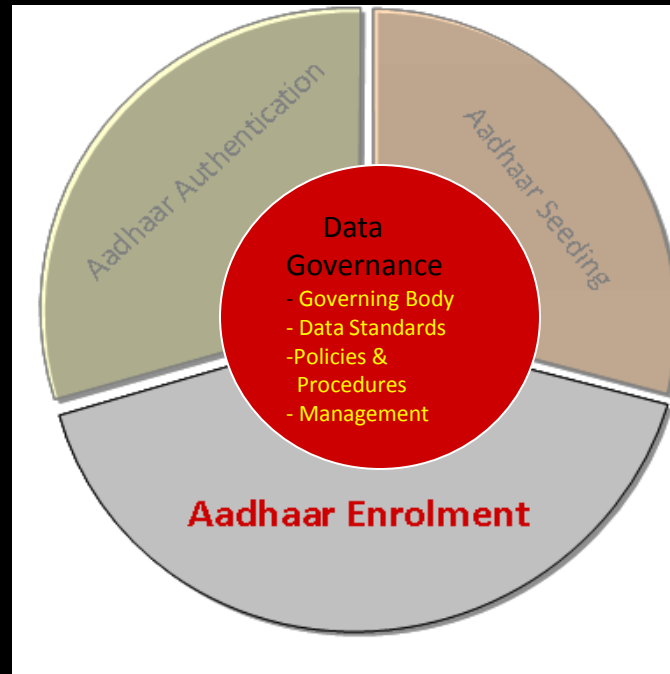
## Video Conference and IP Phone Features

- 2300 offices have been provided IP phones.
- Fully Studio Based 45 Video conferencing facility is available in all 30 Districts.
- Dedicated video conferencing studios available in 9 places in the state.  
i.e (Vidhana Soudha, Vikhasa Soudha, MS Building, CM Home office Krishna, High Court, Aranya Bhavan, VV towers, Karnataka Information Commission)
- Mobile VC VAN commissioned for conducting VC from remote locations.
- 126 Government business centres established at taluka level.
- High definition VC facility is available in High Court and Circuit benches.
- Dedicated Video Conferencing facility is available in 29 District courts and 27 District Prison for conducting sessions.

# Video service - State to District and up to it's Taluka's



# Aadhaar – The Big Picture

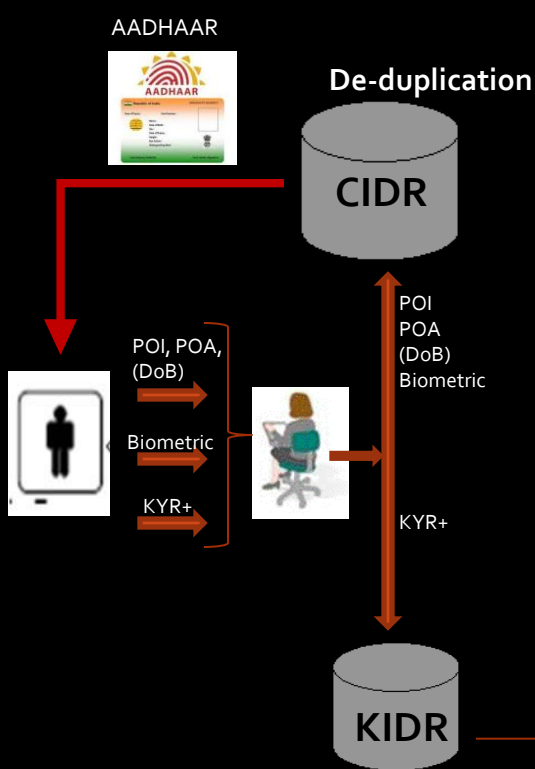


## ***Vision***

*“All Services & Benefits disbursements of the Government of Karnataka shall **leverage potential** of “Aadhaar” to achieve **accountability, efficiency and overall effectiveness** through “Aadhaar” authentication.”*

# How does UID Work?

## Aadhaar Enrolment Centres



Aadhaar Enrolment

## Bottom up Seeding



## Department's Resident Touch Points

## Karnataka Resident Data Hub (KRDH)

	NREGA	SSA	Ration Card BPL / APL	Old Age Pension	UID	Women / Child Welfare
Ramesh M						
Abdul	Key <sub>NREGA01</sub>					
...						
Ramaiah T	Key <sub>NREGA02</sub>	Key <sub>SSA</sub>				
...						
Lakshmi P						
...						
Citizen <sub>Reg</sub>						

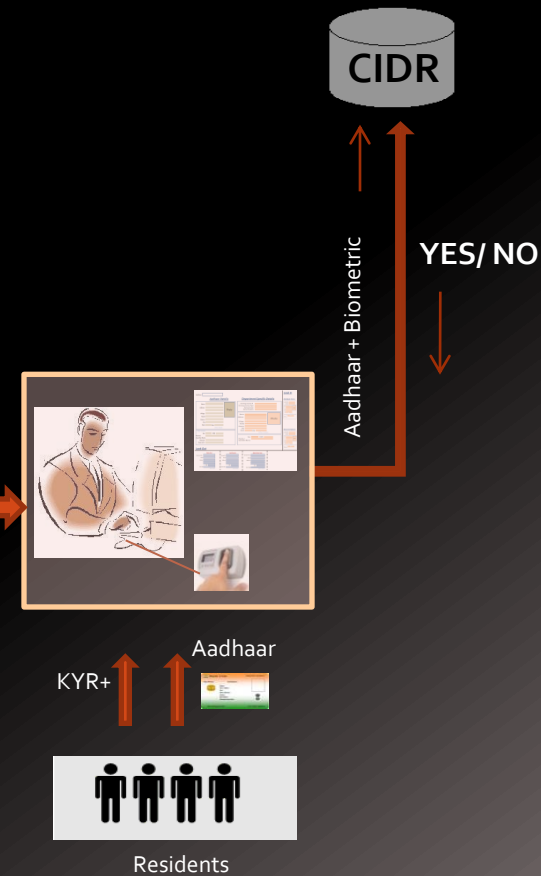
## Department's Database

Primary Key	Name	UID	DoB	FN	Dept Details
Key <sub>NREGA01</sub>		47...			
Key <sub>NREGA02</sub>	Ramaiah	98...			
...					
Key <sub>NREGA10</sub>	Abdul	67...			
Key <sub>NREGA 5M</sub>					

## Top Down Seeding (Aadhaar, KYR+)

Aadhaar Seeding

## Department's Service Delivery Touch Points



Aadhaar Authentication

# Broad Approach

**Top  
Down**

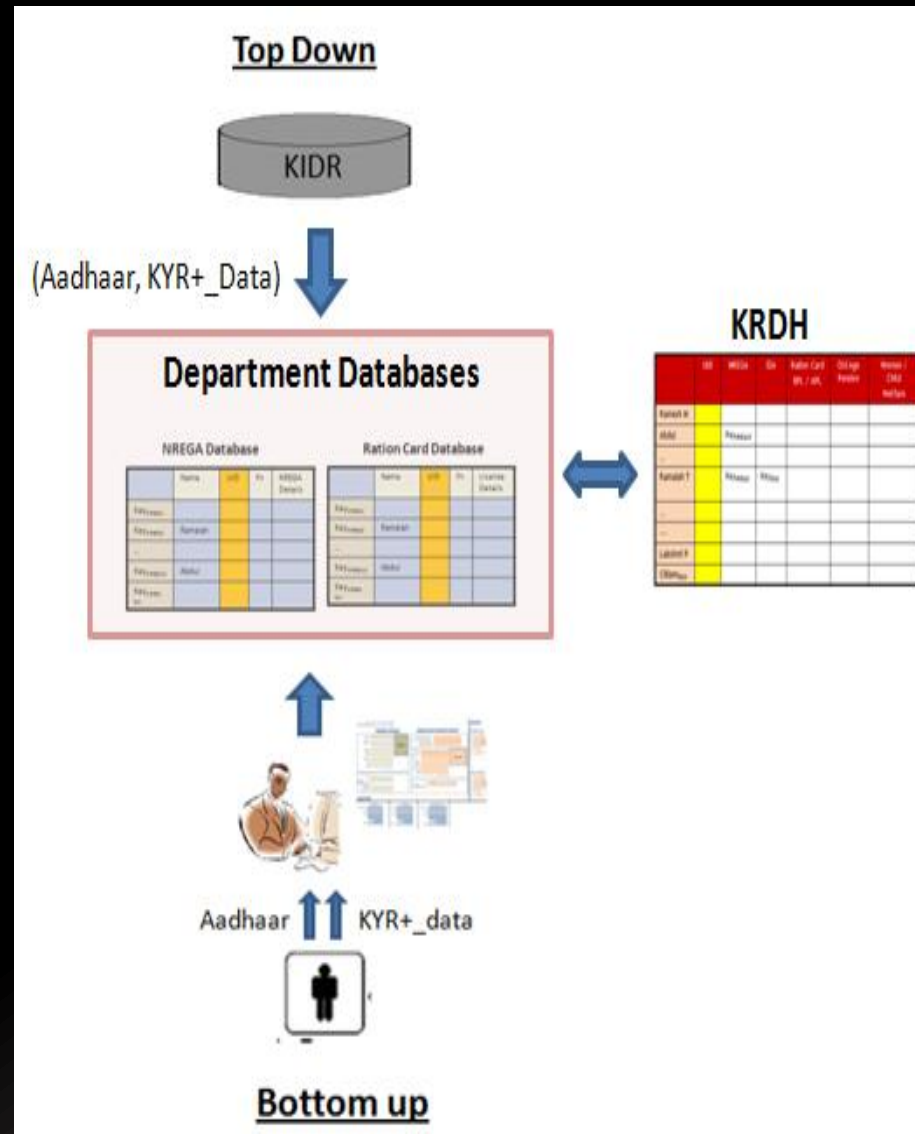
Seed Aadhaar through  
KYR+ data gathered  
during UID enrolments.

Resident Voluntarily  
submits KYR+ and  
Aadhaar

**Middle  
Approach**

**Bottom  
Up**

Seed Aadhaar at the  
"Resident Touch Points",



# Rationale for Multi Tier Approach

- It is not mandatory that a resident has to provide KYR+ data during enrolment.
  - However, with recent GO it has made mandatory to provide KYR+ details.
- KYR+ data is captured for 8 services and schemes.
  - Different approach required for beyond KYR+ related services
- KYR+ data are entered manually during enrolment or during data capture at the resident touch points.
  - Hence, there is a possibility of human error in entry the KYR+ data.



# Rationale for Multi Tier Approach (CONTD.)

- While seeding there is a possibility of complete mismatch of “Names” between the department’s database entry and Aadhaar Name field, which may be due to:
  - Human mistake
  - Intentional attempt
  - Legacy errors in the department’s databases.
- Multi tier approach will increase the confidence level in seeding i.e. “Have I reached the right Charlie?”

# UID Enabling through KRDH

## Karnataka Resident Data Hub (KRDH)

	NREGA	SSA	Ration Card BPL / APL	Old Age Pension	UID	Women / Child Welfare
Ramesh M			X			
Abdul	Key <sub>NREGA10</sub>					
...						
...						
Ramaiah T	Key <sub>NREGA2</sub>	Key <sub>SSA2</sub>				
...						
---				X		
Lakshmi P						
Citizen <sub>50m</sub>						

## NREGA

	Name	DoB	FN	UID	NREGA Details
Key <sub>NREGA1</sub>					
Key <sub>NREGA2</sub>	Ramaiah				
...					
Key <sub>NREGA10</sub>	Abdul				
Key <sub>NREGA 5m</sub>					

UID

UID

Add/Del Message

Add/Del Message

## SSA Card

	Name	DoB	FN	UID	SSA Details
Key <sub>SSA1</sub>					
Key <sub>SSA2</sub>	Ramaiah				
...					
Key <sub>SSA 10 00</sub>					
Key <sub>SSA50m</sub>					

UID



Is a Repository of keys of databases of various services & Schemes



Not amalgamation of databases

THANK YOU

# e-Procurement

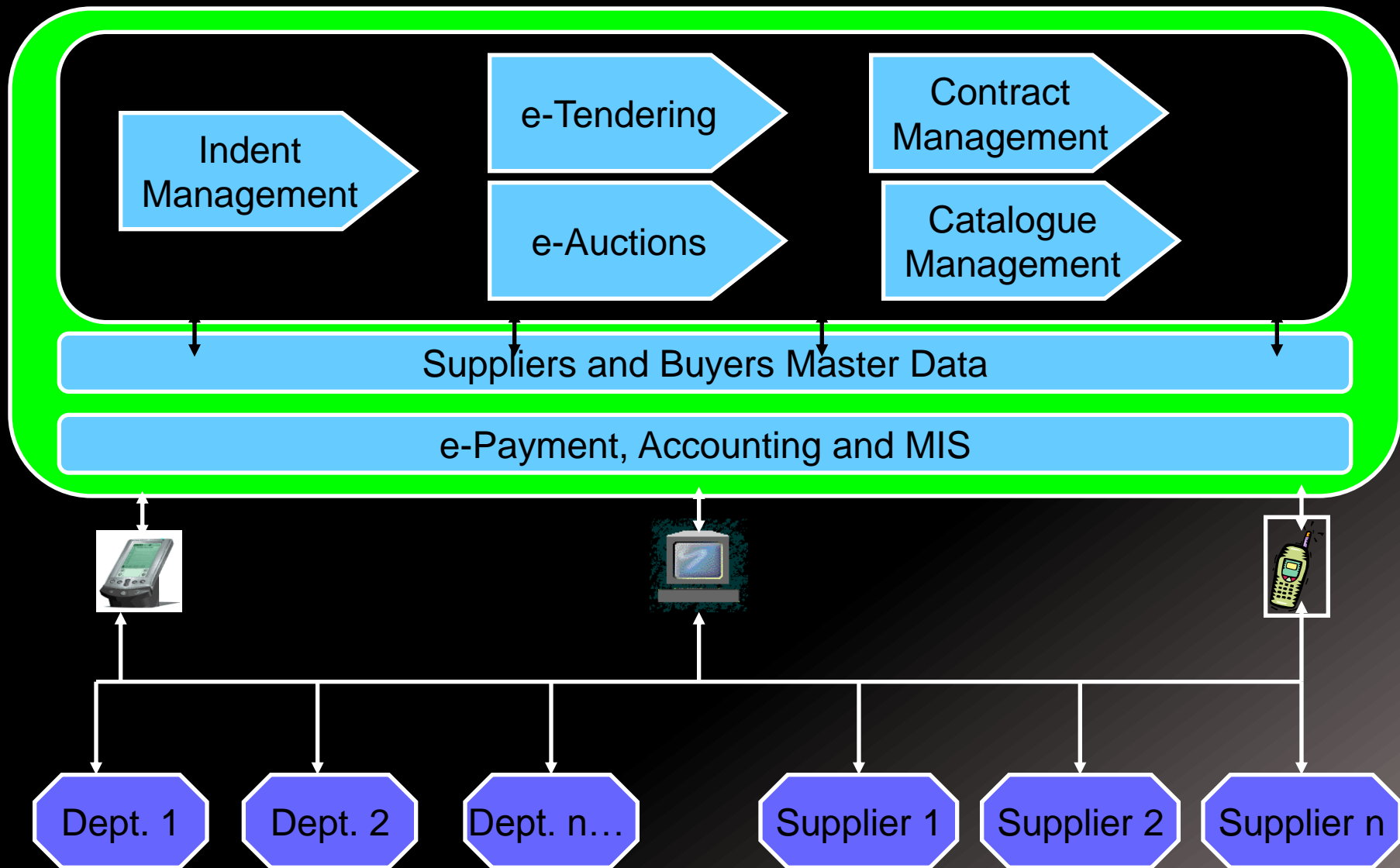
# e-Procurement

- Ushering 100% Transparency in Procurement

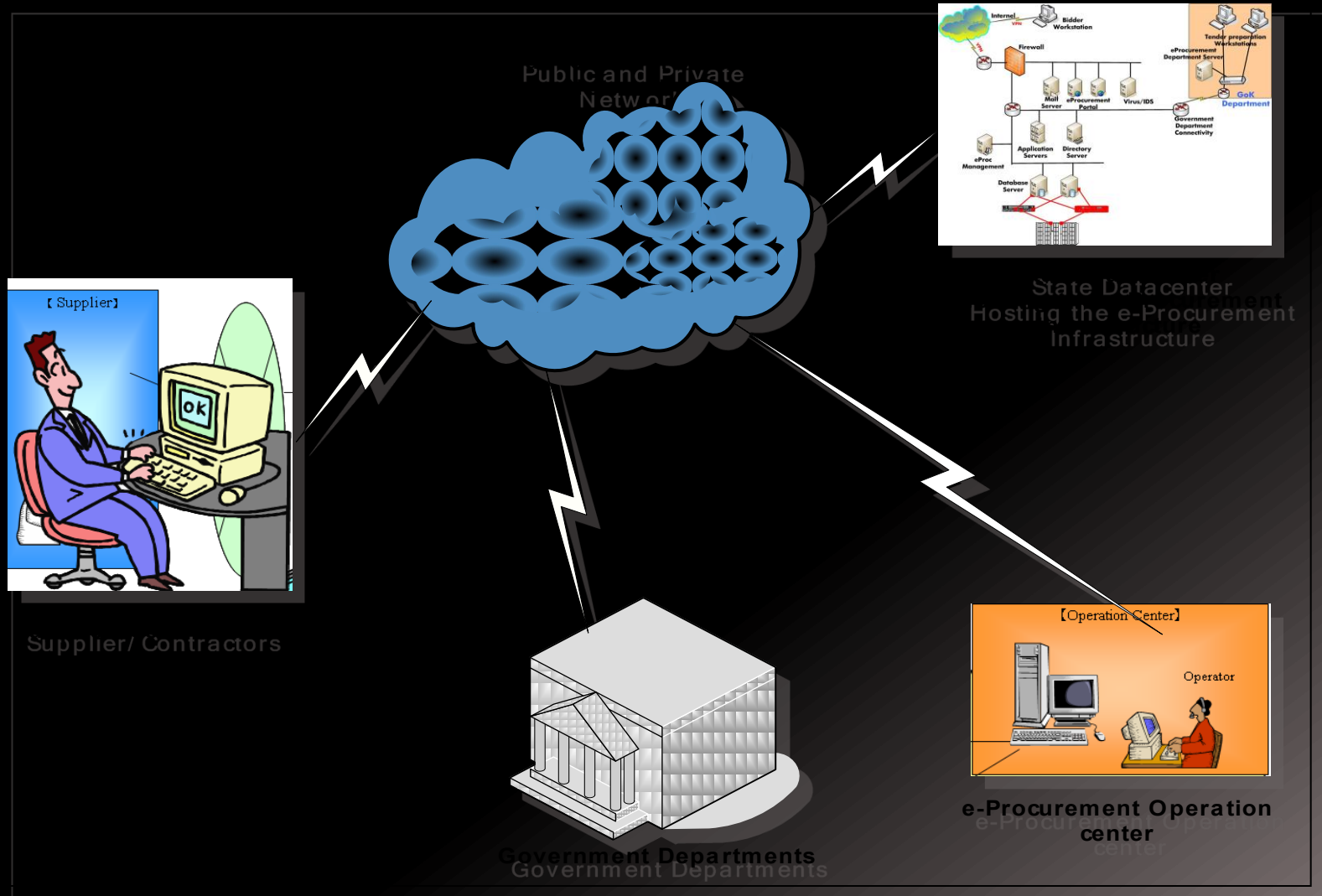
# Unique Features

- Single Unified End-to-End Electronic Platform for procurement of Works, Goods and Services
- Procurement activities categorized into modules viz., Indent Management, e-Tendering, e-Auctions, Contract Management, Catalogue Management, Supplier Registration.
- PKI-enabled workflows for all transactions
- Single point one-time vendor registration
- Free access and download of tender documents
- Complete security and Total confidentiality in submission of bids
- Total Electronic Payment Integration including EMD refunds
- Flexible to address customized requirements
- Legal backing of KTPP Act
- Supported by strong institutional framework

# System Architecture



# Overall Architecture





# Business Model

- Public Private Partnership
  - ▣ Build
  - ▣ Operate
  - ▣ Transfer
- No initial investment by Government
- Transaction-based Revenue Model
  - ▣ Bidder Registration / Renewal
  - ▣ Tender Processing Fee
  - ▣ Contract / Catalogue Management Fee
- Incremental Approach (Pilot followed by Rollout)

# Year-wise Progress

Parameter	2007-08	2008-09	2009-10	2010-11	2011-12	Total
Departments / Boards / Corporations	7	19	31	58	46	161
PSUs / Central Government Organizations	--	--	02	03	--	05
No. of Govt. Users	205	1003	1874	3966	2762	7335
No. of Suppliers Registered	130	1775	4420	7700	6268	20293
No. of Tenders Published	15	1262	4883	14166	19543	39779
Value of Tenders Published (Rs. in Crore)	57.32	10226.2	25630.4	33553.93	15609.9	85077.77
Training (nos.)	855	1034	2936	3803	1893	10521
DSC (nos.)	205	1003	1874	3966	1602	8650

# Impact

- **Tenders**
  - 10% reduction in tender premium (save approx. Rs. 8000 cr.)
  - 2-3 fold increase in bidder participation
  - 40% reduction in tender cycle time
- **Procurement Process**
  - High Level of transparency and accountability
  - Higher bidder / citizen confidence
  - Improved IT Literacy
  - Streamlined Procedures due to Unified Platform
- **Political Economy**
  - Increased Political Will
  - Enhanced Political Ownership
- **Participation of Central Government organisations – Cloud Model**

# Impact in Irrigation Dept

	2008-09	2009-10	2010-11
<b>No. of Tenders</b>	33	633	1155
<b>Value of Tenders (Rs. Crores)</b>	7.86	191.65	721.58
<b>Average Bidder Participation</b>	<b>2.70</b>	<b>5.06</b>	<b>6.26</b>
<b>Tender Premium (%)</b>	<b>-2.42</b>	<b>-6.17</b>	<b>-7.05</b>
<b>Tender Evaluation Cycle Time (days)</b>	129.74	44.60	47.97

# Impact in BBMP

	2009-10	2010-11
<b>No. of Tenders</b>	1539	774
<b>Value of Tenders (Rs. Crores)</b>	6056.39	417.74
<b>Average Bidder Participation</b>	<b>7.98</b>	<b>12.94</b>
<b>Tender Premium (%)</b>	<b>-4.79</b>	<b>-10.24</b>
<b>Tender Evaluation Cycle Time (days)</b>	95.58	88.71

# Impact in PWD

	2008-09	2009-10	2010-11
<b>No. of Tenders</b>	699	1276	2550
<b>Value of Tenders (Rs. Crores)</b>	1251.42	2623.81	2164.89
<b>Average Bidder Participation</b>	<b>1.58</b>	<b>4.19</b>	<b>7.01</b>
<b>Tender Premium (%)</b>	<b>21.02</b>	<b>13.58</b>	<b>5.46</b>
<b>Tender Evaluation Cycle Time (days)</b>	<b>109.91</b>	<b>103.44</b>	<b>56.01</b>

# Questions?

**THANK YOU**