Sensitization Workshop

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State e-governance Service Delivery Gateway (SSDG)

e- Pramaan

Mobile Seva Presentation
State e-governance Service Delivery Gateway (SSDG)

A Messaging Middleware for Integration & Interoperability
Current Set-up

- Data exchange between various departments in a paper format
- Computerization without interoperability
  - Each department has a separate front-ends
  - Citizen needs to visit and remember multiple locations for their various requests
  - No unified face of government
Without Gateway
With SSDG
(Example Scenario)

- PWD
  - Standards Based Communication

- RTO
  - Standards Based Communication

- Land Records
  - Standards Based Communication

- CSC/State Portal

- Election Commission
  - Standards Based Communication

- Municipal Services
  - Standards Based Communication

- TAX
What Is SSDG?

- SSDG is a standard based Message Exchange
- Interoperable –
  - Helps Service Access Provider (SAP) to Communicate with Service Provider (SP) with appropriate authentication
  - Based on IIP/IIS standards
  - XML based data communication
- Secure
  - Authentication between SAP and services is achieved through mapping
  - PKI support
  - XML signature
  - uses MD5/SHA-2 Certificate
Cont...

- 24 X 7 availability
- Decouples front end from the business logic
- Useful for joint services
- No vendor locking – Developed using all open source technologies
Who Will Benefit from SSDG?

- Government Departments
- Service Access Providers (Citizen Service Centre)
- Citizens
Service Level of SSDG

- 95% of the transactions will have a response time of 3 seconds else it will constitute a violation.

- (Note: Performance may vary depending on the Hardware Components used.)

- 24X7 Availability
SSDG Solution

- Applications
- Connectors
- SSDG
  - SSDG Stack
    - CentOS
    - JBOSS
    - Postgres

Service Access Providers (SAP) or Service providers (SP) Implemented by IA

Consultancy to Implementation Agencies provided by C-DAC

C-DAC Support
Roles and Responsibilities of C-DAC

- C-DAC will provide SSDG software product
- C-DAC will also provide the optimized SSDG software stack containing:
  - Operating System
  - Application Server
  - RDBMS
- C-DAC provides Software Installation Kit contains four DVDs-
  1. SSDG Stack- Operating system
  2. SSDG product Installer
  3. SSDG Connectors – Java and .NET
  4. Manuals ,SSDG prerequisite software – Java, PostgreSQL, Apache
     Load Balancer /Database Clustering packages .
- C-DAC will provide necessary patches, service packs and upgrades of SSDG over a period of 1+3 years
- C-DAC will provide technical support for SSDG product and the optimized Stack
- C-DAC will provide the training to the Implementation Agency (IA) and the state personnel.
SSDG software solution
Installation
SSDG Stack

SSDG Stack

Operating System
Database
Application Server
Installation
SSDG Stack

- Sequence of Stack Installation
  - Operating System
  - PostgreSQL (v 8.3.7)
  - JDK (v 1.6 update 23)

- Note: JBoss is installed through installer while installing the messaging component
Installation
SSDG Software Product

- Messaging Engine
- Database Component
- Gateway Services Directory (GSD) Web Component
- Monitoring Component
SSDG Architecture
Installation of SSDG

- SSDG Database Component
- Messaging Solution Part 1
- Messaging Solution Part 2
- SSDG Website Component
- Hyperic Server (Optional – No support by C-DAC)
- Hyperic Agent -all servers (Optional – No support by C-DAC)
SSDG Messaging

- Installation of Messaging contains two components
- JBoss Application Server – The JBoss Application Server is marked by default for installation.
- SSDG Messaging Solution – It is divided in two parts, Part 1 and Part 2. Both parts need to be installed separately.
- SSDG Messaging Part 1 (GatewayMessaging.ear) – Core component of messaging module used for validation, routing and service resolution.
- SSDG Messaging Part 2 (GatewayResendingMessaging.ear) Component use to resend message to SP in case of Gateway-SP communication failure
- Note: Both Part 1 and Part 2 should not be deployed in same server.
SSDG Website Component

- Also known as Gateway Services Directory (GSD)
- Central registry - Web interface
- Contains information about
  - SAP, SP and services that are availed and provided by SAP and SP respectively and are available through the Gateway at any particular point of time.
- Listing services, searching for services, service resolution and authentication of SAP is done by the GSD.
- Whenever a service gets registered in GSD, it programmatically gets registered in NSD.
SSDG Database - Database for SSDG Components
Central registry of all Gateways and their services in the Gateway Constellation.

If any service is not available in the local Gateway (GSD) then gateway can resolve the service with the help of NSD but for this Gateway should already be registered with NSD.

Service Registration-When any service gets registered in SSDG through Website Server, it automatically gets registered with NSD which has correct information about all the services in the gateway constellation.

Gateway Registration is necessary for every gateway to be a part of the gateway constellation and to resolve a services of other gateways through National Services Directory (NSD).

To register gateway with NSD, IA has to fill the GSP Form sent it to C-DAC, NSD system generates the Gateway ID for each SSDG.
Select Choice

- SSDG Messaging
- SSDG Database
- SSDG Website
- SSDG Monitoring

Designed, managed and maintained by cdacmumbai

Next Quit
SSDG Monitoring Component Installation has two parts:

- Installation of Hyperic HQ Server
- Installation of Hyperic HQ Agent

Note: Hyperic Agent must be installed on server which is to be monitored.

IA can use Monitoring tool of their preference to monitor servers and ensure maximum availability and uptime. We have provided free version of the Hyperic, which you can use for monitoring the servers. You can find documentation regarding Hyperic at this link:
http://support.hyperic.com/display/DOC/HQ+Documentation.

C-DAC does not provide support for configuring Monitoring Server.
Connectors

- Designed for easy programming interface
- Facilitate easy integration with SSDG
- Helps in achieving interoperability
- Ensure compliance to IIP (Interoperability Interface Protocol) and IIS (Interoperability Interface Specifications) messaging standards available in Java and .NET used by SSDG
- Two types of connectors
  - Generic Connectors (SP and SAP end)
  - Application Specific Connectors (SP and SAP end)
ASC is developed by IA

**SAP Side**
- Send a Request from SAP to avail SP service through SSDG
- ASC takes data from SAP and converts it into the format understood by SP
- ASC uses API of Generic Connector to send the payload as per IIP/IIS standards

**SP Side**
- Based on the payload and details provided by GC-SP, ASC-SP sends request to appropriate SP
- ASC-SP sends back the appropriate response to SAP through SSDG
C-DAC provides GC in two flavors - Java, DotNET

SAP Side
- Purpose of GC is convert payload into IIP/IIS standard to bring interoperability

SP Side
- Checks whether the message sent by SSDG is valid or not
- Valid message should be passed to ASC at SP by extracting the payload and other necessary details
- Invalid messages are sent back to SSDG by populating necessary error codes
Connectors in SSDG

- SAP Application Specific Connector
- SAP Generic Connector
- SP Generic Connector
- SP Application Specific Connector
Connectors

+SAP Connectors
   1. Generic Connectors
   2. Application Specific Connectors

+SP Connectors
   1. Generic Connectors
   2. Application Specific Connectors
Working with Connectors
Role of Connectors

Basically, connectors need to cater to two types of communication requirements.

- Communication with SSDG, both from SAP and SP side as per the gateway standards and carrying the request and response to and from the citizens.
- Fulfillment of application specific needs which vary as per the factors like application vendor, application development platform etc.

As a consequence, there exist two different types of connectors, the Generic connector for catering to common requirements pertaining to the gateway and Application Specific connector fulfilling application related needs.
Connectors at SAP Side
Application Specific – SAP Connector

To be developed by Implementation Agency

- Take data from SAP and will convert into the format understandable to SP
- Use SAP Generic Connector’s API’s to send the payload to SSDG.
Generic - SAP

Provided by C-DAC (Available in DVD-3 in SSDG Installation Kit in two flavors Java and DotNet)

- Take request packet from SAP ASP connector
- Put in desired format to communicate with SSDG
- Forward it to SSDG
Connectors at SP Side
Provided by C-DAC (DVD-3 of SSDG Installation kit)
Available in Java and DotNet flavors

- Check validity of the received message
- Extract payload and forward to ASP at SP Side
- Invalid messages back to SSDG with appropriate error messages
Application Specific - SP

To be developed by Implementation Agencies

- Understand the received payload
- Generate request for appropriate service at SP side
- Send necessary response to SAP through SSDG
SSDG Verbs
*(Messages, Flows)*
What SSDG Provides …

- Interoperability with Services and/or applications and seamless exchange of data between stakeholders in heterogeneous e-Gov ecosystem
- IIP/IIS/IGIS/GCSS e-Governance standards are used to achieve this, Standards Based on W3C XML, SOAP
Gateway E-Governance Standards

- IIP – Interoperability Interface Protocol
- IIS – Interoperability Interface Specification
- IGIS – Inter Gateway Interconnect Specification
- GCSS – Gateway Common Services Specification

- Standards Based on W3C XML, SOAP, HTTP
- Standards maintained by DIT, MCIT GoI
SSDG Verbs
(Message Types)

- IIP – protocol for SAP-SSDG-SP communication
- Specifies Message Exchange Patterns, Message types and formats
- Gateway Message Envelope (GME) schema is basis for each protocol message

- SAP –to- SSDG interaction
  - SUBMIT_REQUEST synchronous / asynchronous
  - SUBMIT_POLL
  - DELETE_REQUEST
  - DELETE_ACKNOWLEDGEMENT
  - DELETE_RESPONSE

- SP –to- SSDG interaction
  - SUBMIT_RESPONSE

- Common
  - SUBMIT_ACKNOWLEDGEMENT
  - SUBMIT_ERROR
If a request made by SAP is sent to SSDG and responded by SP in same call cycle, then it is a Synchronous Request.

Response from SP sent back in same request cycle
Asynchronous
SUBMIT_REQUEST

SAP (portal) → Gateway → SP (Back off)

Asynchronous Submit Request

Submit ACK

Submit poll

Submit ACK

Submit poll

RESPONSE

Asynchronous Submit Request

Submit ACK

Submit poll

Submit Response

Submit ACK

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**SUBMIT_REQUEST synchronous**
- **SAP-to-Gateway**
- *Synchronous Request* – If a request made by SAP is sent to SSDG and responded by SP in same call cycle, then it is a Synchronous Request.
- Response from SP sent back in same request cycle

**SUBMIT_REQUEST asynchronous**
- **SAP-to-Gateway**
- *Asynchronous Request* – If a request made by SAP is served by SP at some later point of time, then it is an Asynchronous Request. The connection breaks down after the request is made and response to the request is sent at a later stage. Request and response are separate execution cycles in the case of asynchronous communication.
- SSDG returns an **acknowledgement** for the same to SAP.
- The acknowledgement contains an **ID (correlation-id)** for the request. Using this ID, SAP can track the status of the processing of the request by SP using **poll operation** on SSDG.

**SUBMIT_POLL**
- **SAP-to-Gateway**
- To fetch response to an earlier submit request message, using correlation-id of earlier submit request
SAP-to-SSDG Interaction

**SUBMIT POLL**
- **SAP-to-Gateway**
- To fetch response to an earlier submit request message, using correlation-id of earlier submit request

**SUBMIT RESPONSE**
- **Gateway-to-SAP**, in response to SUBMIT_REQUEST or SUBMIT_POLL
- Message body may include payload returned from the back office (SP).

**SUBMIT ACKNOWLEDGEMENT**
- **Gateway-to-SAP** in response to either a SUBMIT_REQUEST or SUBMIT_POLL
SP-to-SSDG Interaction

- **SUBMIT_RESPONSE**
  - SP-to-Gateway
  - Message body may contain payload returned from back office

- **SUBMIT_ACKNOWLEDGEMENT**
  - SP-to-Gateway
  - In response to a submit request message from Gateway
  - Gateway-to-SP
  - In response to a submit response from back office
SUBMIT_ACKNOWLEDGEMENT

- **Gateway-to-SAP** in response to either a SUBMIT_REQUEST or SUBMIT_POLL
- **SP-to-Gateway** in response to a SUBMIT_REQUEST message from Gateway

- **SUBMIT_ERROR**
  - Generated when Gateway or SP cannot process the client message
  - Error code in message body
**DELETE_REQUEST**
- **SAP-to-Gateway**
- At Gateway it will delete previously submitted request and SP response for asynchronous type of requests.
- Gateway will return either DELETE_RESPONSE or DELETE_ACKNOWLEDGEMENT
- By default, resources related to a transaction will be deleted by Gateway, after 60 days(**) of a submit request, If no DELETE_REQUEST is sent by SAP

**DELETE_ACKNOWLEDGEMENT**
- **Gateway-to-SAP** in response to DELETE_REQUEST
- Indicates deletion process at Gateway not yet been completed.

**DELETE_RESPONSE**
- **Gateway-to-SAP** in response to DELETE_REQUEST
- When all resources relating to the correlation-id (a async submit request) have been successfully deleted by Gateway.
High Usability Service
PAN Verification through eSangam
Integration for Value-Added Services
Payment Gateway

eDistrict Application

State Portal 1

State Portal 2
Integration for Value-Added Services
Payment Gateway

eDistrict Application

Portal 1

Portal n
eSangam Value Additions

- Standardized Communication
- \( m \times n \) Service Integration \( \rightarrow \) Single Point Registration
- Integration among Heterogeneous Applications \( \rightarrow \) Interoperability
- Offloading Authentication and Identity Management \( \rightarrow \) Gateway
Contact us

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Email us at: ssdg-mumbai@cdac.in

Website:
http://nsdg.gov.in/administration/index.jsp
Thank You
e-Pramaan
A National e-Authentication Service
Basic Authentication
Three Major Issues with Basic Authentication

1. **Do you think that ID/Pwd pair alone is enough to safeguard your account?**
   - Need 2-factor authentication

2. **Can you have a Unique ID for all your web accounts?**
   - Need Unique Credential for all services

3. **Can you access all available e-Gov services in a single login session?**
   - Need SSO
Why e-Pramaan?
e-Pramaan: Need

• Several e-Governance initiatives undertaken across country
  • Need for e-Authentication of users accessing online services through web/mobile

• Lack of standard, consistent and robust e-Authentication mechanisms
  • Inadequate and disparate across various applications
  • Mostly offline methods
  • There is a lack of uniformity in the authentication methods
  • To provide different kinds of identity proofs for accessing public services which are fairly similar leading to a sub-optimal end-user experience

• Framework for e-Authentication
  • To enable secured electronic authentication as part of the service delivery strategy for various Govt. Depts. and Agencies
  • Need of Unique username/user-id to access any State or Central Govt. e-Gov service
  • There is a lack of Single Sign On(SSO) for registered government services.
e-Pramaan: Authentication Levels

**Level 1**
- Login Id:
- Password:
- Crypto Token containing DSC

**Level 2**
- Login Id:
- Password: [Login]
- One-Time Password

**Level 3**
- Login Id:
- Password: [Login]
- Crypto Token containing DSC

**Level 4**
- Login Id:
- Password: [Login]
- Finger Print Biometric

Dear User,
Your OTP code for Level 2 authentication is 602365
## e-Pramaan: Authentication Levels

<table>
<thead>
<tr>
<th>Sensitivity Level</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Experience</td>
<td>Minimal Inconvenience</td>
<td>Minor Inconvenience</td>
<td>Significant Inconvenience</td>
<td>Substantial Inconvenience</td>
</tr>
<tr>
<td>Scenarios</td>
<td>Information with minimal impact in case of theft</td>
<td>Information having social impact but no financial impact</td>
<td>Information having social and financial impact</td>
<td>Information having Very High social and financial impact</td>
</tr>
<tr>
<td>Authentication Method</td>
<td>Username/Password</td>
<td>OTP</td>
<td>Digital Signature Certificate</td>
<td>Biometrics</td>
</tr>
</tbody>
</table>
e-Pramaan: Services Offered

- Strong Authentication for e-Governance Services
- Consistency in government processes for e-Authentication
- Services delivered to the authorized recipient
- Single Sign-on (SSO) across government department applications
- Avoid duplication of authentication infrastructure and reduce cost and efforts
- Provisioning of guidelines for determining the authentication assurance levels
• Aadhaar based authentication in e-Authentication mechanisms
• 4 levels of authentication for services with different sensitivity levels
• Authentication can be availed for internet-based or mobile-based e-Gov services
• Website Authentication (to counter Phishing attack) using Digital Certificates
• Flexible Authentication Chaining: Services can easily set their minimum authentication level as well as customise authentication chaining
• User De-Registration (in case of duplication/fraudulent users)
1. User request for login to a Service Provider (SP1)
2. User chooses to authenticate through e-Pramaan
3. SP1 redirects user’s request to e-Pramaan
4. e-Pramaan asks for user credentials
5. After validation of credentials, e-Pramaan sends allow / deny message to SP1 in the form of authenticated token.
6. User will now also be able to access other SP(SP2, SP3....) services for which he/she
Co-existence of e-Pramaan with Aadhaar and Gateway Constellation

- **e-Pramaan Service**
  - **Level 1**: User Name + Password
  - **Level 2**: User Name + Password + OTP
  - **Level 3**: User Name + Password + Digital Certificate
  - **Level 4**: User Name + Password + Aadhaar Credentials (Biometrics)

- **Govt. Department / SP**

- **Channel of Communication**
  - **Alternate Channel of Communication**

- **e-Gov Gateways**
  - NSDG
  - NSD
  - MSDG
  - SSDG

- **Aadhaar Authentication Ecosystem**
  - ASA (CDAC)
  - ASA (CDAC)
  - CIDR (UIDAI)
# e-Pramaan and Aadhar

<table>
<thead>
<tr>
<th>Feature</th>
<th>e-Pramaan</th>
<th>Aadhaar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Registration</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Online verification of data during Registration</td>
<td>Yes, through Aadhaar and PAN</td>
<td>--NA--</td>
</tr>
<tr>
<td>Authentication of users of e-Governance (Web based) Services</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Authentication of users of m-Governance (Mobile based) Services</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Single Sign-on for multiple e-Gov services</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Website Authentication</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Step-Up Authentication</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Unique Identity</td>
<td>Yes, Digital Identity to access e-Gov services provided online and through mobile</td>
<td>Yes, Personal Identity to avail Government Welfare services in person</td>
</tr>
<tr>
<td>Web session Management</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Aadhaar based Verification of users through CIDR</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Supports Aadhaar based Authentication</td>
<td>Yes</td>
<td>--NA--</td>
</tr>
<tr>
<td>Govt. Dep. Need to register separately for availing ASA services</td>
<td>No, e-Pramaan will setup ASA service as well</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Leveraging UIDAI Assets

- e-KYC (Optional) functionality of Aadhaar ecosystem for verifying users registering on e-Pramaan.
- Level 4 Aadhaar Authentication - C-DAC as an ASA in Aadhaar ecosystem
- Aadhaar verification services
Single Sign On (SSO) with SAML

- Single Sign on in e-Pramaan is offered using SAML 2.0
- SAML 2.0 is an XML-based protocol.
- SSO is facilitated for the user convenience without compromising security.
- Authenticated token for each user is signed by the server using XML-signatures.
- User can access multiple services of the same level without logging in every time.
User requests SP for a service through e-Pramaan

1. SP identifies the level of request & forward a Signed SAML request to e-Pramaan.

2. e-Pramaan verifies the SP, Creates an Authenticated Website Seal and asks the user to enter his credentials.

3. Verify client credentials

4. Once the credentials are verified, e-Pramaan redirects the digitally signed authenticated token to SP containing user’s credentials etc.

5. If response is positive user is forwarded to respective service page.
Integration of MMPs/Departments with e-Pramaan Project

In the first four years (tentatively), e-Pramaan will be integrated with the following Mission Mode Projects (MMPs)/departments

<table>
<thead>
<tr>
<th>MMP/Departments</th>
</tr>
</thead>
<tbody>
<tr>
<td>J&amp;K SSDG and State Portal services, A &amp; N Administration Services</td>
</tr>
<tr>
<td>e-District applications of Madhya Pradesh, Kerala and UP</td>
</tr>
<tr>
<td>SSDG services and State Portals, India Portal</td>
</tr>
<tr>
<td>NSDG Services and Other MMPs</td>
</tr>
</tbody>
</table>
Process Flow for Citizen

Registration
- Level 1: Username & Password
- Level 2: One Time Password (OTP)
- Level 3: Digital Certificate
- Level 4: Biometrics

Service Enrolment
- Service A
- Service B
- Service C
- Service E
- Service F
- Service G
- Service P
- Service Q
- Service R
- Service X
- Service Y
- Service Z
e-Pramaan: Benefits for Citizen

• Single Window Access: e-Pramaan implements Single Sign On across all registered e-Gov services.

• Secure Communication: Regardless of SSL channel for communication, e-Pramaan provides an encrypted and secure communication channel.

• Strong Authentication: A reliable service for citizen to get strongly authenticated without compromising the security.

◆ Mutual Authentication: A citizen and an e-Gov portal both are authenticated to each other when e-Pramaan used.
Authentication as a Service: A strong authentication system based on well accepted industry standards and protocols.

Flexible Authentication Chaining: Services can easily set their minimum authentication level and also go for customised authentication chaining.

Compliance with Aadhaar: e-Pramaaan proposes to use Aadhaar-based authentication for Level 4.
Process Flow for Govt. Departments
Conclusion and Future Enhancements

Solutions like the proposed e-Pramaan are the path ahead for addressing the pressing issues of privacy and security.

The Road Ahead:

- Voice Biometrics: Voice authentication or Voice recognition protocols use the person's unique voiceprint to control access to information.

- Behavioural Biometrics: Daily routine activities like driving, using computer, talking on phone are governed by a person's ability, approach, knowledge, preference or strategy which varies and is thus could be used for authentication.

- Graphical User Authentication (GUA): User password is selected from a set of images, in a specific order, presented in a graphical user interface.

- Mobile ID for Level 3 Authentication

- e-Pramaan also provides the flexibility of introducing upcoming new authentication techniques and hence, providing advanced authentication in lower cost.
Thank You
A GOVT. OF INDIA INITIATIVE
A Centralized Platform for Delivery of Government Services over Mobile Devices

https://mobileseva.gov.in
What is Mobile Seva?

- Mobile Seva Platform is an integrated platform for delivery of government services to citizen over mobile devices using SMS, USSD, MMS, Voice, LBS, WAP or mobile applications.

**Subsystems**

- Mobile e-Governance Service Delivery Gateway (MSDG)
- SMS Gateway
- M-Gov Application Store
- Mobile Payment
- USSD
- IVRS
- Other components (GPRS/3G, CBS etc.)
Mobile Seva – Overall Status

SMS Gateway launched in Jul 2011
- PUSH SMS: 1006+ Depts. integrated; 91cr.+ SMSes sent
- PULL SMS: Short codes 166 & 51969 obtained by DeitY; 317+ services integrated!

Mobile AppStore launched in Jan_2012
- 299+ live m-apps already hosted; over 1,83,193 downloads
- 61 Generic apps hosted for social sector & certificate services
- Most popular apps: AADHAAR-Enrollment-Status, RTI-Directory, EVM-Tracking

➡️ http://apps.mgov.gov.in

Real-time status 24x7 on mgov portal (www.mgov.gov.in) & regular posts on social media (www.facebook.com/DIT.MGOV, @mgovindia)

M-payment solutions available through cards, net-banking & IMPS

USSD & IVRS Services in Pilot Stage
Architecture
166/51969/9223166166 has been allocated for SMS services by the Department of Telecom, to Mobile Seva for providing Government Services on SMS. This codes is the single point of access for all the pull based SMS services.

Following is the format of SMS Pull request:

Department will provide API in the prescribed format

SMS Gateway Service of MSDG (Notification Service – Push Model)

Oh great, my Ration Card request has been accepted and being processed.

CSC.

Dept/SSDG/NSDG

Mobile Seva

SMS Notification Message

Department of Civil Services

Department 1

Department 2

Citizen Service Centre

Mobile Service Provider 1 (e.g. BSNL)

SMS G/W

MSDG

Mobile Seva

Let's apply for Ration Card. For this let's apply through CSC.
PULL SMS FLOW
SMS Gateway Service of MSDG (Status Check Services – Pull Model)

Let’s check the status of my Ration Card that I had applied for.

Let’s send my reference number to 51969. If the reference number with citizen is XXXX, then he/she will type “GOA RATIONC XXXX” in the SMS and will send to 51969.

Oh great! My Ration Card is ready and has been dispatched.

Mobile Service Provider 1 (e.g. BSNL)

Department of Civil Services

Department 1

Department 2

Mobile Seva

Dept/SSDG/NSDG

MSDG

SMS G/W
Unstructured Supplementary Service Data (USSD) is a GSM communication technology used to send messages between a mobile phone and an application server in the network. It is very much similar to SMS, but USSD is session oriented as well as Interactive.

Advantages

- Session oriented
- A menu based service
- Flexible to design dynamic menus
- Accessible directly from phone screen
- Extremely user friendly
- Very Secure
- Almost 7 times faster than conventional SMS!
Unstructured Supplementary Service Data (USSD) Flow
IVRS (Interactive Voice Response System) is an example of computer-telephone integration (CTI). The most common way for a phone to communicate with a computer is through the tones generated by each key on the telephone keypad. These are known as dual-tone multi-frequency (DTMF) signals.

Advantages

- Interactive Voice Response (IVR) systems save organizations time and money by freeing employees up for other duties.
- They can also enhance customer satisfaction by giving quick answers to simple questions and by being available outside regular business hours.
- Intelligent call routing allows your customers to reach the right agent every time.
- A menu based service
Push Outbound Call: Department will originate pre-recorded voice call to citizen. These services are on payment basis.

Missed Call: Citizen will give missed call to a number then department will initiate outbound call on that number.

Menu Driven Pull Call: Citizen can also request for specific information through our IVRS services. Citizen can avail this service by calling our IVRS number 166 / 022-26209367.
Mobile Seva IVRS No. :

- 166 (For MTNL and TATA Users)
- 022- 26209367(For Other Telecomm. Operators)
In AppStore we will host all Central/State Govt Department Mobile Application for their Services.

Citizen could avail Central/state Services through mobile phone.

C-DAC willing to create mobile applications for Central/State Govt Department for that Back end is necessary.

Related API’s to be provided by respective departments. AppStore hosted 299+ live applications.

Apps availability on Android, J2ME and iOS Platform.
Mobile Seva AppStore at Glance

M-Health
- mSwasthya Vaccination Alerts
- mSwasthya BP Monitor
- mSwasthya Medicine Monitor
- mSwasthya Diabetes Monitor

AADHAAR
- AADHAAR enrollment status
- Aadhaar Bank Service

Language Computing
- mTranslater
- Multilingual KeyBords
The term M-payment describes a payment process that is interrelated with a purchase through a mobile channel at the same time. The initiation, confirmation, authorisation or realisation of the financial transaction requires a mobile, electronic means of communication.

Channels of M-payment with Mobile Seva
- Integrated with Credit / Debit Card through PayGov India
- SMS-based integration with IMPS through PayGov India
- M-Payment through Internet Banking
- Integration with existing m-Wallet
Payment Flow

- **Users**
  - Mobile
  - IVR

- **Payment gateway**

- **NSDL Payment gateway engine**

- **Departments.**

- **Business (back office)**

- **Reporting Extranet User**
Fast Onboarding: self-registration for govt depts

Create account at http://services.mgov.gov.in
(Expedited vetting follows)

PUSH SMSes:
(i) through dashboard from the account
(ii) through programmatic interface
   (msdgweb.mgov.gov.in)

PULL SMSes
(i) Provide API for MSDG to send messages
(ii) Define keywords, sub-keywords, responses
    e.g.: SMS “GOA RATIONC XXXX” to 51969
User can access the Mobile Seva Services using web or API

- **Through Web:**
  https://services.mgov.gov.in/

- **Through API:**
  http://msdgweb.mgov.gov.in/esms/sendsmsrequest
Registration Process with Mobile Seva

For registration user can apply through the link below
http://services.mgov.gov.in/registrationForm.jsp

Then Mobile Seva team send them the documents of agreement through the mail.

User print this agreement on legal stamp paper and this agreement dually signed by user and legal authority of Mobile Seva Team.

After this process user can go through the Login with credentials provided by Mobile Seva Team using web portal or API based service uses.
Mobile Governance Portals

- **https://Mobileseva.gov.in** – mGovernance Information Portal
- **https://services.mgov.gov.in** – SMS Gateway Portal
- **https://apps.mgov.gov.in** - App Store Portal
- **http://msdgweb.mgov.gov.in/esms/sendsmsrequest** - API
1. Push SMS Integration: Current Status

562 Departments are using push sms service.
Approximately 34,87,98,852 SMSes have been pushed so far by integrating Departments.

2. Pull SMS Integration: Current Status

239 Services are available on the shortcode: 166/5169.
Approximately 12,04,602 SMSes have been pulled so far by integrating Departments.

3. m-App Development: Current Status

213 Live mobile applications (m-Apps) and 61 Demo m-Apps are hosted currently on the m-App Store.
“Mobile Seva” wins the prestigious
2014 United Nations Public Service Award
and Bags second place in the Asian and Pacific Region under the
Category 3: Promoting whole of Government Approaches in the information age.
m-Governance

Mobile Seva [India]
Thank You
A GOVT. OF INDIA INITIATIVE
A Centralized Platform for Delivery of Government Services over Mobile Devices

https://mobileseva.gov.in
What is Mobile Seva?

- Mobile Seva Platform is an integrated platform for delivery of government services to citizen over mobile devices using SMS, USSD, MMS, Voice, LBS, WAP or mobile applications.

**Subsystems**

- Mobile e-Governance Service Delivery Gateway (MSDG)
- SMS Gateway
- M-Gov Application Store
- Mobile Payment
- USSD
- IVRS
- Other components (GPRS/3G, CBS etc.)
Mobile Seva – Overall Status

**SMS Gateway launched in Jul 2011**
- PUSH SMS: 1006+ Depts. integrated; 91cr.+ SMSes sent
- PULL SMS: Short codes 166 & 51969 obtained by DeitY; 317+ services integrated!

**Mobile AppStore launched in Jan_2012**
- 299+ live m-apps already hosted; over 1,83,193 downloads
- 61 Generic apps hosted for social sector & certificate services
- Most popular apps: AADHAAR-Enrollment-Status, RTI-Directory, EVM-Tracking

→ [http://apps.mgov.gov.in](http://apps.mgov.gov.in)

Real-time status 24x7 on mgov portal ([www.mgov.gov.in](http://www.mgov.gov.in)) & regular posts on social media ([www.facebook.com/DIT.MGOV](http://www.facebook.com/DIT.MGOV), @mgovindia)

M-payment solutions available through cards, net-banking & IMPS

USSD & IVRS Services in Pilot Stage
Architecture
166/51969/9223166166 has been allocated for SMS services by the Department of Telecom, to Mobile Seva for providing Government Services on SMS. This codes is the single point of access for all the pull based SMS services.

Following is the format of SMS Pull request:

Department will provide API in the prescribed format

SMS Gateway Service of MSDG (Notification Service – Push Model)

Oh great, my Ration Card request has been accepted and being processed.

Citizen Service Centre

Department of Civil Services

Department 1

Department 2

Mobile Service Provider 1 (e.g. BSNL)

Mobile Seva

Dept/SSDG/NSDG

MSDG

SMS G/W

SMS Notification Message

Lets apply for Ration Card. For this lets apply through CSC.
PULL SMS FLOW
SMS Gateway Service of MSDG (Status Check Services – Pull Model)

Oh great! My Ration Card is ready and has been dispatched.

To check the status of your Ration Card, you need to send your reference number to 51969. If the reference number is XXXX, you can type "GOA RATIONC XXXX" in the SMS and send it to 51969.

Great! Your Ration Card is ready and has been dispatched.
USSD and Advantages

Unstructured Supplementary Service Data (USSD) is a GSM communication technology used to send messages between a mobile phone and an application server in the network. It is very much similar to SMS, but USSD is session oriented as well as Interactive.

Advantages

• Session oriented
• A menu based service
• Flexible to design dynamic menus
• Accessible directly from phone screen
• Extremely user friendly
• Very Secure
• Almost 7 times faster than conventional SMS!
Unstructured Supplementary Service Data (USSD) Flow
IVRS and Advantages

IVRS (Interactive Voice Response System) is an example of computer-telephone integration (CTI). The most common way for a phone to communicate with a computer is through the tones generated by each key on the telephone keypad. These are known as dual-tone multi-frequency (DTMF) signals.

Advantages

• Interactive Voice Response (IVR) systems save organizations time and money by freeing employees up for other duties.

• They can also enhance customer satisfaction by giving quick answers to simple questions and by being available outside regular business hours.

• Intelligent call routing allows your customers to reach the right agent every time

• A menu based service
IVRS Services

- Push Outbound Call: Department will originate pre-recorded voice call to citizen. These services are on payment basis.

- Missed Call: Citizen will give missed call to a number then department will initiate outbound call on that number.

- Menu Driven Pull Call: Citizen can also request for specific information through our IVRS services. Citizen can avail this service by calling our IVRS number 166 / 022-26209367.
IVRS Flow

Mobile Seva IVRS No.:

- 166 (For MTNL and TATA Users)
- 022- 26209367 (For Other Telecomm. Operators)
Mobile Seva AppStore

- In AppStore we will host all Central/State Govt Department Mobile Application for their Services.
- Citizen could avail Central/state Services through mobile phone.
- C-DAC willing to create mobile applications for Central/State Govt Department for that Back end is necessary.
- Related API’s to be provided by respective departments. AppStore hosted 299+ live applications.
- Apps availability on Android, J2ME and iOS Platform
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m-Governance

Mobile Seva [India]