



Cloud based Working Concept for E-Governance Citizen Charter

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Abstract— *The Government services can be provided with the help of internet and the related projects have been developed in India and many other countries. This is what we call e-Governance today. The main focus of this paper is on Citizen Charter; therefore, we also limit the scope of e-Governance up to this only. Cloud computing offers an easy means of achieving the application model of e-Governance with multi-tenancy. This paper also covers the effects of Cloud Computing in e-Governance.*

Keywords— *Citizen Charter, Cloud Computing, E- Citizen Charter, E-Governance, Government to Citizen, ICT, Issues in Citizen Charter.*

I. INTRODUCTION

Delivering services to the citizen is the main concern for all the government around the world. And, in India this challenge is very big because of its diversity and population. Citizen Charter provides the basic duties and commitment of any organization (Government) towards its citizen. But there are lots of issues that affect successful implementation of Citizen Charter; we will discuss these issues and their solutions in this paper. Now-a-days Governments are providing citizen services via e-Government, it is a must that there is opportunity for all citizens all over the country to have some form of access to these e-Government services.

Cloud computing model can offer an easy means of achieving the unified application model across all local government entities with multi-tenancy.

We will also discuss the effect of Cloud on E-Government Citizen Charter if applied.

II. E- GOVERNANCE

Governments have launched various e-Governance project at all levels to provide services and information to the citizens and businesses. ICT (Information and Communication Technologies) has been used in various level of Government for enhancing e-Governance level. E-Governance delivers various web-services irrespective of the geographical and language barriers.

E-Governance covers various relationships as follows [1]:

1. Government to Citizen (G2C)
2. Citizen to Government (C2G)
3. Government to Government (G2G)
4. Government to Business (G2B)

The object of E-Governance is to provide a SMARRT Government. SMARRT means Simple, Moral, Accountable, Responsive, Responsible and Transparent Government [1].

III. CITIZEN CHARTER

Citizen's Charter is a document which represents a systematic effort to focus on the commitment of the Organization towards its Citizens in respects of Standard of Services, Information, Choice and Consultation, Non-discrimination and Accessibility, Grievance Redress, Courtesy and Value for Money. This also includes expectations of the Organization from the Citizen for fulfilling the commitment of the Organization [2].

A good Citizen's Charter should have the following components [2]:

1. Vision and Mission Statement of the Organization
2. Details of Business transacted by the Organization
3. Details of 'Citizens' or 'Clients'
4. Statement of services including standards, quality, time frame etc. provided to each Citizen/ Client group separately and how/ where to get the services
5. Details of Grievance Redress Mechanism and how to access it
6. Expectations from the 'Citizens' or 'Clients'
7. Additional commitments such as compensation in the event of failure of service delivery.

A. Issues of Citizen Charter

Issues that may affect successful implementation of Citizen Charter are:

1. Response to citizen or degree of open communication (network of communication)
2. Limited awareness of the Charter among the Citizens.
3. Poor or inadequate consultations with stakeholders and lack of citizen involvement throughout the Charter cycle.
4. Poor service delivery standards and under-performance.
5. Insufficient feedback from citizens about quality of service, limiting the impact of the Charter.
6. Improper training of the staffs of the organizations.
7. Poor Resource Allocation

IV. E-CITIZEN CHARTER?

There are number of communication channel present in today's world and electronic media is one and most favorable of them. We can use Internet as a type of communication medium and provide a better citizen charter which can be used by every citizen in spite of their diversity & location.

The Government services can be provided with the help of internet and the related projects have been developed in India and many other countries. This is what we call e-Governance today. The main focus of this paper is on Citizen Charter; therefore, we also limit the scope of e-Governance up to this only. Most of the above mentioned issues of CC's can be solved if we develop citizen charter in the form of web based services.

Some of the Benefits of e-Citizen Charter are:

1. Internet as a citizen's choice of medium.
2. Transparent services to public.
3. Personalized, up-to-date and consistent Information can be stored and used accordingly.
4. Convenient for Citizen as well as for Government.
5. Trustworthy and Reliable.
6. Involvement of Citizen can rise significantly.
7. Citizens easily get to know how Government works and monitor progress.
8. Government compensates for mistakes and uses feedback information to improve its products, services and procedures.

V. CLOUD COMPUTING AND CHALLENGES OF E-GOVERNANCE [3]

A. Data Scaling

As we know the e-Governance projects deals with the huge amount of data (of citizens), so, the option of scaling of databases according to the data should be there.

Cloud databases support high-end scalability and also distributed scalability. These databases can be used for on-demand scalability of e-Governance applications.

B. Auditing and logging

In e-Governance services tracing is required at periodic interval. Information Technology Services can be used for controlling corruption in Government Departments. Regular Audits (process as well as security audits) must be done to ensure high security of the system.

Cloud can make audit process easier by analyzing huge amount of data and detecting any fraud. With the help of cloud a defense mechanism can be developed to enhance the security.

C. Rolling out new Instances, Replication and Migration

Government works at different levels to provide services to its citizens. Therefore e-Governance applications should be present at different levels of Government (departments, states, cities, districts and municipalities etc.). A project in a district can be applied for other district also by creating its replication. So, all e-Governance application should have this option available.

Cloud offers excellent architecture to support the feature of Replication, new Instances and Migration.

D. Disaster Recovery

Natural disasters like floods, earthquakes, wars and internal disturbances could cause the E-Governance applications not only loose data, but also make services unavailable

Cloud virtualization technologies give the facilities of backups and restoring. It also gives such application and facilities by which migration and disaster recovery becomes possible.

E. Performance and Scalability

Commonly e-Governance technologies are required to meet the growing numbers and demand of citizens. If implemented, the E-Governance portals could become the biggest users and beneficiaries of Information Technology.

Scalability is inbuilt in Cloud Architecture. E-Governance applications can be scaled to larger extent with the help of Cloud.

F. Reporting and Intelligence (Better governance)

Various factors like data center usage; peakload hours, consumption level, power usage etc. are to be monitored for the better utilization of resources. Different services provided by the Government can become better and citizen friendly if they can be visualized properly.

Different frameworks like MapReduce (Apache Hadoop) can process large dataset available on clusters of computers. Cloud computing offers easy integration with these types of frameworks.

G. Policy management

Government has certain policies in terms of dealing with citizens. E-Governance also adheres to these policies. Along with the infrastructure and data center, policies have to be enforced for day to day operations. Cloud helps in implementing these policies in data centers. Policies like securities, application deployment etc. are too applied on data centers seamlessly.

H. Systems Integration and Legacy Software

The main advantage of e-Governance can be the data sharing between different applications. This shared data can be used for different purposes in the Government. The information technology empowers e-Governance in co-relating data across application and share messages across different systems for the betterment of the end user (citizen). Service Oriented Architecture (SOA) of Cloud provides awesome solution for integration of various applications. Also, the applications which are already built can be easily moved onto cloud.

I. Obsolete Technologies and Migration to New Technologies

Software and platforms becomes obsolete on the arrival of their newer versions. Moving to newer version of software is never an easy task, lots of security patches exist in between the shifting, which must be dealt with great care. Cloud deal with this requirement very effectively. The different versions of software exist in parallel at the same time. Firstly, the versions are tested and then the application can be migrated into the newer one.

J. Going Green

E-Governance provides facilities to the citizen to the root level. Therefore, large data centers and massive hardware support are to be provided by the Government to fulfill the need of large number of citizens. The power usage, air-conditioning and electronic waste could create bio-hazard.

An AT&T-sponsored report from research firm Verdantix announced that cloud computing could allow companies to save an estimated \$12.3 billion off their energy bills, annually. This energy savings would directly translate into carbon emission savings of 85.7 million metric tons per year by 2020 [4].

VI. GOVERNMENT TO CITIZEN (G2C): MODEL AND ITS SERVICES

As the Government is for the people, by the people and to the people, serving citizens is the motto leading to the nation's development [5]. Governments provide numerous services to its citizen. G2C is the communication link between Government and Citizen in E-Governance model.

The different services provided by the G2C model are:

1. Information about all Government Departments.
2. Different Welfare Schemes.
3. Various forms (one way /two way) used by the citizens.

VII. E-CITIZEN CHARTER: THE ADVANTAGE

Applications in E-Governance are varied as small to very complex.

This particular application of Citizen Charter is proposed for the Tehsil level, where all the certificates are issued for the citizens.

A. Citizen Charter helps the citizen in the following ways:

1. They are able to know the required information about the particular certificate.
2. Apply for the particular certificate online.
3. Submit their data for the required certificate easily.
4. Get the knowledge about the time taken and requirement for the particular certificate.
5. Can use their data for applying multiple certificates.
6. Can track the status of their applied certificate.
7. Can participate in Government working at Tehsil level.

B. Citizen Charter (Application) helps the Government in the following ways:

1. Government can take corrective decision based on the data collected through this application.
2. Redundancy of data is not present, if citizen's data is collected through this Cloud Application.
3. Government can track the working at Tehsil level.
4. Corruption can be reduced at lower level of Government department i.e. Tehsil.
5. Can track the Certificate issued.

VIII. CITIZEN CHARTER APPLICATION: THE WORKING CONCEPT (ALGORITHM)

1. Start
2. Citizen login to the System
3. Authentication Check (verify login details)
 - a. If success then goto step 4
 - b. Else
 - i. Register new user and goto step 2
 - ii. Password retrieval if forgotten and goto step 2
4. Various modules available to user/citizen are:
 - a. CRUD his/her detail (profile).

- b. Retrieve, update, and delete his /her academics/professional certificates.
 - c. Can check rules and regulations of the department (Tehsil) and various certificates issued at the Tehsil level.
 - d. Can apply online for various certificates.
 - e. Can check the status of applied certificates.
 - f. Participate (Grievances/feedback) for the better working of the Tehsil level Government.
5. Logout
 6. Stop

All user data will be kept at Cloud, so that all the benefits of Cloud discussed (at point V) above can be used / implemented for the better governance.

IX. CONCLUSION

Study in this paper concludes that the Cloud provides an effective solution to almost every problem faced today in E-Governance. The Cloud offers seamless integration with all the technologies present today. E-Governance Citizen Charter can be heavily benefited with the introduction of Cloud Framework.

Lots of research has to be conducted before implementing Cloud in E-Governance. Before, moving to the cloud computing, one should have the security issues in mind. Security of any cloud-based services must be closely reviewed to understand the protection of information.

X. FUTURE SCOPE

We are working on the Application/Implementation model of this paper. And in near future we will give the Cloud based Application and Implementation model for Citizen Charter at Tehsil level Governance.

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