e-Governance Towards Cloud

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Abstract

With the rapid growth and success of internet, our lives have changed in all aspects we interact, learn and work. Nowadays, almost all organizations along with governments are delivering their services over and through internet. Effectiveness and efficiency of the government and its sustainability are the major factors for the development of e-Governance. This paper identifies how cloud provides a platform for the e-governance initiatives and how cloud-based e-governance system provides advantages to government.

1. Introduction

With the huge success and swift growth of information and communication technologies (ICTs), our lives are also affected in the way we work, learn and interact. Nowadays, many organizations, along with governments are delivering their services through internet. E-governance is the use of ICTs to promote more efficient and effective government, facilitate more accessible government services, allowing greater public access to information, and making government more accountable to citizens. This would involve delivering services to the public via the Internet, telephone, public access centers, wireless devices or other communications and information systems.

e-Governance based on latest information and communication technology is a major driving force for governments around the world in both developed and developing countries. Effectiveness and efficiency of the government and its sustainability are the major factors for the development of e-Governance. Thus, the United Nations has developed an index called the e-Government Development Index (EGDI)to standardize the relative development of e-Governance in countries around the world. In fact, UNESCO has come forward to provide some aid in establishing basic ICT infrastructure for municipalities intended to assist in the process of developing an e-governance capacity and provide shared access to ICTs for both local government staff and the public. Some PCs, a LAN, Internet access, a website and training were provided under the project. Building on these initial activities, a second project is being developed to conduct training in e-governance for the municipalities.

In e-Governance, the Government services will be made available to the citizens in a convenient, efficient and transparent manner. E-Governance seeks to achieve efficiency, transparency and citizen's participation. Enabling e-governance through ICT contributes to Good governance, Trust and Accountability, Citizen's awareness and empowerment, Citizen's welfare, Democracy, Nation's economic growth.

2. E-government and E-governance

E-Government is about governments interacting, conducting business and delivering services to their citizens and private companies electronically through the use of Information and communications Technology (ICT). Hence, ICT is an enabler in the realization of e-Government applications which involve Government to Government (G2G), Government to Citizens (G2C), Government to Business (G2B), Business to Citizen (B2C) transactions amongst others.

E-Government is one of the driving forces for ICT Strategy (e-strategies) development and implementation. All key stakeholders including the Government, Private Sector, and Citizens benefit from successful implementation of ICT e-strategies.

Table 2. Government Compared to Governance

GOVERNMENT	GOVERNANCE
Superstructure	Functionality
Decisions	Processes
Rules	Goals
Rules	Performance
Implementation	Coordination
Outputs	Outcomes

Table 3. e-Government Compared to e-Governance

E-GOVERNMENT	E-GOVERNANCE
Electronic Service Delivery	Electronic Consultation
Electronic Workflow	Electronic Controllership
Electronic Voting	Electronic Engagement
Electronic Productivity	Networked Societal Guidance

The terms "e-Government" and "e-Governance" are currently in most buzzwords and sometimes used interchangeably. A clear distinction must be developed between the two. e-Government and e-Governance can be defined as two very distinct terms.

e-Governance is a broader topic that deals with the entire range of the relationship and networks within government regarding the usage and application of ICT whereas e-Government is a narrower discipline dealing with the development of online government services to the citizen and businesses such as e-tax, e-transportation, e-procurement, e-participation amongst others.
Table 2. Government Compared to Governance

e-Governance is a broader concept that identifies and reviews the impacts of technologies on the practice and administration of governments and the relationships between public servants and the wider society, such as dealings with the elected bodies or outside groups such as not for profits organizations, NGOs or private sector corporate entities. e-Governance includes a sequence of necessary steps for government agencies to develop and administer to ensure successful execution of e-government services to the public at large.

"E-Government refers to the use by government agencies of information technologies that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions [World Bank, 2004; italics added by author]. Synonyms for e-Gov include digital government, one-stop government, and online government.

1. Cloud Computing

Cloud computing is entering our lives and changing the way people radically consume information. Clouds transform IT infrastructures

with an emphasis on making them flexible, affordable, and capable of serving millions of users, satisfying their computing or storage demands. The design of early cloud computing systems has evolved from, and was dominated by, the concepts of cluster and grid computing. Currently, as the concepts of the cloud become advanced and mature, cloud networking and communication processes begin playing a central role. Cloud Networking has emerged as a promising direction for cost-efficient and reliable service delivery across data communication networks. The dynamic location of service facilities and the virtualization of hardware and software elements are stressing the communication network and protocols, especially when datacenters are interconnected through the Internet.

Cloud Computing is a new paradigm in a service oriented model which delivers business applications and other IT resources as a services over the internet. It is a collection of infrastructure and application software which provides services to the consumers on the pay-per use basis. Characteristics of the cloud are: (i) the usage of the resources are on demand and are paid as it is actually consumed. (ii)is scalable and support the varied load of traffic, and (iii) can be accessed over the network.

2. E-government Application Architecture and Cloud Computing

The application architecture includes: core business logic and business processes, necessary workflows and various application components. The integration of various subsystems is a critical element in the e-government architecture.

Scalability and interoperability are key issues in e-governance architecture subject to all interconnect are which are deployed. Cloud computing is a shared environment, multi-tenanted and internet-based service delivery model. It provides an attractive alternative to a common man and to the businessman to transact and do business online. Following are the key features of cloud which helps to host e-governance applications over the internet.

1.   High Availability
2.   Accessibility
3.   Scalability
4.   Service Orientation
5.   Information Security
6.   Interoperability

3. Benefits Provided by Cloud Computing to e-governance

Cloud provides lucrative benefits for the government to host the e-governance application s on the cloud which are as follows
1. Reduced total cost of ownership.
2. Minimizes labor cost.
3. Increases Go-to market Times and Speed to Launch
4. High Availability

4. Conclusion

E-Governance along with the cloud computing offers integrated processes and provides a uniform set of services. Cloud Computing forms the core to platform the e-governance initiatives. The paper discusses the key features and benefits of cloud computing which helps to support and complement e-Governance.

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