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Implement E-Government Based Approach on Cloud computing

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ABSTRACT

A new approach to developing e-government in the state is currently providing personalized online services to citizens and businesses looks. The cost is generally considered one of the main obstacles to the provision of such services to developing countries has been improving faster than they are. In this paper, we provide a cloud computing based methods to overcome these barriers in implementing e-government services using cloud computing capacity to be. Today, with the increasing development of e-government services, the integration of these services in terms of economy, culture, etc., for almost a century, it has become an indispensable and inseparable from life .This integration that being by cloud computing techniques, in addition e-government costs decrement and facilitate using the services for clients, help to spread using of e-government services and thereupon significantly decrease government costs.
KEYWORDS: Cloud Computing; E-Government; Cloud Architecture; Online Services; Citizen, government development, technologies.

I. INTRODUCTION

In recent years, developing countries have paid great attention to global cloud calculations. For instance, IBM has established cloud computing centers in China, India, Vietnam and Brazil. And other global companies such as Microsoft, VMWARE, Parallels sales force and are active in the developing world. Similarly, companies based in developing world and storing data on the cloud bandwagon they jumped on the cloud. [14]

Government And At Throughout World At Now Promotion And Presentation License The Necessary Direction Improvement Services And Method The New To Best Form Possible To Performance Activity The Day To Day Own To Special At Organization The State That Interaction Direct With Citizenry Is The Pay . Using the newest technologies is very important in order to reduce the time required to process a minimum, with the aim of improving communication with citizens through the provision of services is more effective and more. [13]

E-government is simply using the Internet for information and communication technologies that could include improvements in the processes of sustainable development. So, e-government, is nothing new in the use of these new tools will lead to new innovations. Governments were among PC users. The global spread of the Internet, which effectively integrates information and communication technology based on open standards, along with the reform of public administration known as New Public Management, for good reaps in a new wave of interest in relation to the matter and make it increasingly this is faster. E-Government promises to make government efficient, responsive, transparent and legitimate and is also creating a rapidly growing market for goods and services, with a variety of new business opportunities is.

E-Government refers to the use of information and communications technologies (ICT) to improve the efficiency, effectiveness, transparency and accountability of government for more serving service for all citizens. [5]

E-government can be seen as simply the online citizen services, but in its broadest sense, refers to a technology-enabled transformation of government - the government's best hope to reduce costs, improve service, while promoting economic development, increase transparency the government to improve service delivery and public administration, and facilitate the development of an information society and should solve many of the problems of this century.[6]

Cloud computing service provider's offer wide range of services and applications to enterprises, individuals, and government agencies such as database mining and management, information storing and sharing, and deploying web services that have the ability to solve complex scientific problems. The United States Government has shown great interest in the promising capabilities of cloud computing for governmental data storage and processing. As a matter of fact, the United States federal government has already started to implement cloud computing within their

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IT strategies. Among other IT-oriented technologies, cloud computing is perceived distinctive strategic tool to facilitate information sharing, applications processing and data storage. Moreover it can be seen as a cost-saving strategy comparable to other technological architectures. [13].

The remainder of the paper was organized as follows: In section II is about E-Government definition and challenges this is include of 5 sections, In section III we will explain about some approach for E-government on cloud computing, in section IV we want to describe about factors are important to have a successful E-Government cloud, in section V E-Government Benefits and Challenges are mentioned and Finally, in section VI is a conclusion of this paper.

II. E-Government Definition and Challenges

In this section we define and challenges in e-government. By the World Bank as "the use by government agencies of information technologies is the ability to transform relations with citizens, businesses, and other arms of government are defined. Provide better public services to citizens, improved interactions with business and industry, increasing services, citizen empowerment through access to information, or more efficient government management: these technologies can serve a variety of different finishes and raise be done to speed the process.

Web portals can interact with various levels of government service delivery for citizens to offer. Three levels are usually identified: information, communication and transaction levels which have an important role to play. IT services, public information via static web pages generated from databases to residents, tourists, businesses, associations, public administration, and other members of the government. Telecommunications services using groupware technologies such as email, discussion forums and chat to facilitate dialogue, participation and feedback in planning and policy-making procedures. Transaction services using online forms, workflow and billing system allows citizens and business partners to take care of your online business with the government. Typical applications include the use of transaction services to citizens social benefits, vehicle registration, fill out a change of address or requests for construction permits. For businesses, perhaps the greatest benefit from government contracts that are currently online purchase makes the buying process to be transparent to all.

The resulting benefits can be less corruption, increased transparency, greater convenience, revenueGrowth, and/or cost reductions."[2]. Development of e-government services beside many raised advantages, faced with challenges that must be considered in their development phase [3].

1) Tremendous data:

I have a wonderful, compounded by continuing desire to create unique solutions for each public service. In general, this type of learning is the result of multiple islands of data and duplicate results are often inconsistent.

2) Lack of Long-Term Programs and Contracts:

The lack of long-term contracts that prevent the state from receiving the full value of the advertising technology is updated. Sectional contracts reality often creates additional infrastructure that can be continued in the contractor of a contractor's pass to his successor. The government department responsible for cost control and enhanced services, the issues must be considered is the use of information technology.

3) The difference in technology environments:

The third challenge for public organizations is the difference in technology environments which impede the adoption of technology refresh programs and the introduction of innovating, new applications and strategies.

4) Methods:

Key benefits of accountability, transparency, safety, innovation and excellence of service, plus a focus on cost control and enhance the sharing of information. An additional step is moving to "Infrastructure as a Service," on-demand computing as a means to provide particular cloud computing resources, data administration, and public service on the Internet for more widespread use of electronic government services.

5) Human Accepting

It principally concerns with the usage made by the citizens. Then there is a challenge of accessibility, usage and acceptance of the e-government services. Even if the internet users are growing exponentially, there is a significant part of the people who may not be able to access e-government for various reasons.

In most countries users are often not professional users, they need the guidance to find the right way to perform their transactions. The successful implementation of e-government services requires facilitation of using of these services for all users [4].

III. Cloud Approach for E-Government

In the first type, cloud computing can be used for expensive hardware and software resources is indefinite time. The second type is defined by the integration of e-services cloud computing, in which people access services from a single electronic portal. Use any of the many benefits for both the government and the public cloud capacity to lead. Clouds in the capacity of public services, a new world is created in the C-state [3]. However, cloud computing is a next generation information technology where data and applications are centralized and accessible from multiple devices reseeded anywhere and at any time.

IV. Highlighted Success Factors

There are six highlighted success factors considered as pillars that form the cornerstones of e-Government initiative's success. If any of these pillars happened we should say we catch to the goals of successful e-government most likely the whole e-Government project will suffer seriously to achieve the set goals of e-Government. [13]

- **Reducing Costs:** On-line services to substantially compare to manual methods of handling operations, reduced costs of processing operations. Efficiency by streamlining internal processes and also to decide Faster and more aware of the services obtained using this model, we can serve many functions at the lowest cost service because everything on the internet.
- **Promoting Economic development**: Promote economic development - technology that enables the government to create a positive business climate by simplifying business and reducing its relations with the administrative procedures needed to comply with legal obligations, so it's a nice upgrade for any company it is easy to deploy. Direct impact on the economy, as in the case of e-procurement, which creates more competition and more market participants in the public sector there.
- **Enhancing Transparency and Accountability:** E-government helps to increase the transparency of the decision-making processes through the information available - Gov. Issues and minutes, budget and expenditure statements, the results and rationales for key decisions, and in some cases, allow the detection lines in Web applications by the public and the press in this case we can enhance accountability and transparency.
- **Improving Service Delivery**: Government services, the traditional and time-consuming process, lack of transparency, and leads to dissatisfied citizens and businesses. By putting government services online, e - government, bureaucracy, reduces and increases the quality of service in terms of time, content and access and so the basic infrastructure to serve all Internet services are now available in a network the Internet and services are more reliable in the world, and improves the speed and performance to provide the best services to citizens.
- **Improving Public Administration**- Office of e-Government components, such as treasury computerized integrated financial management information systems, management information systems, business management systems and human resource management systems, resulting in greater efficiency in the public administration and provide innovative new services and businesses. The features of this software can be downloaded to include data integration and cost control, cost management, human resources, audit, through intelligent data analysis and dissemination of financial information to the moment that makes the level of transparency and services is high.
- **Facilitate electronic community:** New e-government management of fresh blood. Not only provide ICT infrastructure and software tools needed for a loosely coupled network of governmental units to collaborate effectively leverage this technology to government agencies tends to lead naturally to institutional reform, it is difficult to maintain strictly hierarchical channels of communication and control when every employee can work and collaborate directly with anyone else over the Internet is one of the main advantages e - initiative the ICT the promote the includes other . Technology and management capacities needed - encouraged the Government, in turn, the development of new courses and modules in schools and universities strives to provide the necessary skills and capabilities to the market, which in turn raises the government will ease its services

V. E-Government Benefits and Challenges

Many of the opportunities for the expected use of cloud technology calculations in electronic government services. The opportunity for the government and society and the environment benefits of many. In the implementation of c-government on the other hand some of the challenges.

In continuing some of the most important of the benefits and challenges have been mentioned:

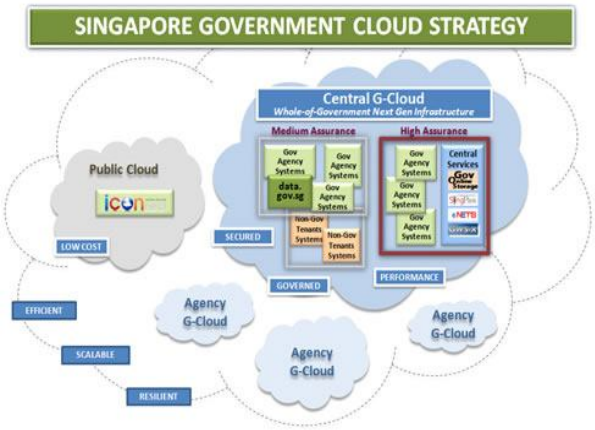

Figure 1. Singapore Government Cloud Strategy

I) Benefits

1) Increase Flexibility

One of the specifications is cloudy basic calculations that able to easy and unlimited scalability [6]. Customers should the access to virtualized resources big warehouse that allows them to cost due to the decrease in every unit increase in the number of units of an unexpected period in a method of the peak of efficiency and flexible and economical time's in. [7]

Therefore, operation and economical sustainability are balanced. In addition to these services in cloudy calculations on both sides automatically can be small and in any quantity at any time can supply [8].

2) Facilitate maintenance and technical support

Cloud providers of services maintain calculations programs have been purchased and preparing master and ready. They are also present on the day of information management software and technical support to complete the infrastructure ready to do that.

Here is superior to cloud it seems that services the government electronic especially for small offices by the government the skilled and professional employees and hire cheap prefer not experts in such a remote place is not working [9]. In addition to the cloud computer technology does not need promotion of installing software on the user's computer is that in addition to the facilities in the Master should be detailed as the result will be reduced maintenance and support of such challenges is ready to.

3) Rapid, easy and inexpensively scalability

Generally one of the main goals of cloud computing development provides cost effective services for large organizations and governmental entities. Clouds capabilities decreases dependency to hardware and software infrastructures for e-services development, and therefore Investment cost required changing the scale decreases and this process is also faster and easier [8].

4) Reduce infrastructures needed in both two sides and support costs

Cloud computing can actualize the sharing of physical devices and dynamic allocation of system resources, thus it decreases hardware requirements and reduce costs of the data center and user side computer. Also, the system software license is for the one-time investment costs especially for the government, therefore the government can use the mode of platform as services and software as services in a cloud computing environment and decrease its costs.

5) Help to the government

And like the implementation of the new electronic government services day one day after adding the electronic government estimated. One of the favorite Teleworking electronic services in recent years has been introduced. The estimated around the Europe online in his website estimated definition the way around (or from a distance) as estimated that occur in distant information technology and Communications (the amount of) unable to work in a place away from the work in the results is needed or in that work can be done and has been done to be custom [10]. With the combination of cloud computing and e-government services, employees will be able to connect

6) Help to government for better management

The nature of the important technology based on solutions is in recovery they reflect. This issue is vital for the survival of really to ensure the organization of many is that they are able to survive in disasters that may be infrastructures to blow. Disaster recovery plans in the clouds are providing organizations with more options to restore data rapidly and effectively compared to a traditional disaster recovery model [5]. It changes the disaster recovery concept by reducing costs and increasing operational speed. By using the cloud as a backup for disaster recovery, governments can be communication with the operational teams, and thereupon better manage rescue operations.

7) Increase services security and compatibility

The Cloud computing is promoting e-government system to provide many official services with unified work environment, that significantly improve the stability and compatibility. In other hand, most e-government services are the lack of an integrated management and security strategy, causing the governmental entities are acting independently. Although, cloud computing with characteristics of high-level system integration is conducive to foundation of management and security strategies in both sides e-government system.

8) More facilitate

In using and spread usage rates of e-services One of the main benefits of c-government for societies is improve level of social services such as health, education and cultural affairs with help expand of government service usage.

9) Help to improve environmental conditions

The exponential use of ICT devices in the governmental sector has created a negative effect on the environment as it increases the rate of carbon dioxide emission and involves in more power consumption. Cloud computing is comparatively more suited in reducing the power consumption and providing eco-friendly systems through virtualized services. Using the virtualized services would reduce up to 90 percent of typical PC power consumption [11].

II) Challenges

1) Security policies

In the e - government world, data security is one of the main challenges. Also, cloud computing environment provides multiple users and software access for sharing hardware and network resources to improve resource usage. However, different governmental entities unavoidably face with the situation sharing the same physical infrastructure. Thus the entities are deeply concerned about the security of important and sensitive data being released without security and privacy justifies [12].

2) Network infrastructure

As the cloud computing is entirely network-based and highly dependent on the network condition. Thus, the risks of network transmission delay or other problems are being increased after the e-government services moves to cloud computing environments, therefore system reliability is being reduced. On the other hand, such migration to cloud with the neglect network condition, imperil successof system implementation and its security.

3) Security considerations

In cloud computing, E-government service platform applications become more variegated. Though, the difficulty of application service management will also increase correspondingly. The public hopes to use the e-services without violation of personal privacy by the government. In this regard, the government must also consider the actual needs of the citizens and law standards. To ensure service availabilityand to prevent serious crime may be derived.Moreover, in order to fortify the security, the government may infringe the citizenship right in the cloud closely supervised activities at the same time.

4) Appropriate laws

In most cases can be seen that the laws have not been changed in proportion to the growth rate of technology. For instance, cloud computing includes many legal issues which are not fully present currently. In some countries, the gap between cloud computing technology and policy has been concerned, some governments have begun to formulate and improved relevant laws, but the speed of development of cloud technology goes much faster than the governmentlegislation does. Therefore, the cloud computing environment is still full of legal issues of uncertainty.

VI. CONCLUSION

In this paper, we propose the integration of cloud computing in e-government systems to use e-government services and the potential positive benefits of cloud computing for the people had. We conclude that cloud computing is the right and a cloud-based nature of e-government and e-government is a government and its people will benefit. In our future work, we intend to discuss in more detail the technical requirements for the preparation and implementation of a comprehensive framework for migration to cloud computing and how to discuss the ways the new.

Several countries around the world have tried to use or develop e-government solutions. Some of them are already implemented and achieved significant benefits from it, the cause is that you have to be new perspectives for the else just researchers the beginning and planning its use. However, developing countries considerably, with several obstacles in implementing solutions such as high costs and lack of infrastructure and trained staff to manage and maintain the professional services face lack of good management of human and financial resources on one of these obstacles. Cloud computing represents a solution for today and tomorrow for those countries as its major application domain behavior of all of these people as a service that has the ability to meet the Government's requirements for the establishment of e-government solutions.

REFERENCES

[1] M. Armbrust and ET. Al, Above the Clouds: A Berkeley Viewof Cloud Computing (2009).

[2] The e-government hand book for developing countries: unpan1.un.org/intradoc/groups/public/documents/apcity, World Bank, 2009.

[3] QusayIshaq, Muhammad Ehsan Rana: Towards Cloud-based e-Government Solutions for Developing Countries: Critical Success Factors and Expected Benefits

[4] A. Tripathi and B. Parihar, E-governance challenges and cloud benefits, 2011.

[5] D. C.Wyld and R. Maurin, Moving to the Cloud: An Introduction to Cloud Computing in Government: EGovernmentSeries (2009).

[6] R. Buyya, J. Broberg, and A.M. Goscinski, Cloud Computing: Principles and Paradigms, New Jersey: John Wiley andSons, 2011.

[7] B. Furht and A. Escalante, Handbook of Cloud Computing, New York: Springer, 2010.

[8] E.A. Marks and B. Lozano, Executive's Guide to Cloud Computing, New Jersey: John Wiley and Sons, 2010.

[9] W. Cellary and S. Streyjowski, E-Government Based on Cloud Computing and Service-Oriented Architecture, 2009.

[10] Available at:, http://www.eto.org.uk/faq/defn tw.htm.

[11] T. Velte, A. Velte, T.J. Velte, and R.C. Elsenpeter, Cloud Computing: A Practical Approach., New York: McGraw HillProfessional, 2010.

[12] C. Yeh, Y. Zhou, H. Yu, and H. Wang, Analysis of EGovernment Service Platform Based on Cloud Computing:Lecture Notes in Computer Science, 2010.

[13]Layne, K. and Lee, J. "Developing fully functional e-government: a four stage model". *Government Information Quarterly*, vol. (18), p. 122. 2001.

[14] Nir Kshetri, cloud computing in developing economies: drivers, effects and policy measures, PTC'10 Proceedings