A Comparative Cost Analysis of on Premises IT Infrastructure and Cloud-Based Email Services in an Indian Business School

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ABSTRACT

Cloud computing as a disruptive technology has given a chance to explore computing as a utility. The pay as you go model provides a flexible model to optimize cost. For different needs, cloud computing offers different models and services to balance the cost, time and resources. Faster communication is the need of each academic institute today to facilitate a good learning environment in a shorter and effective time frame. Email as a medium of communication gives a pace and substance to academic needs, especially in business schools. This paper aims to present a comparative analysis of the costs (on premises vs. cloud) for email implementation. Google apps for education have been considered for cloud based email service. Results show that the net present value (NPV) of cost for on premises infrastructure is more than NPV of cost for cloud based email service. This suggests cloud based email service is a cost effective solution for Indian B-schools to adopt.

Keywords: Business School, Cloud Based Email Service, Cloud Computing, Cost Analysis, Net Present Value (NPV), On Premises IT Infrastructure

INTRODUCTION

Business schools have adorned the higher education system in India. The budding managers are taught the inherent skills of effective communication and there is greater emphasis on online computer based education like email. There are around 4000 business schools in India (Reuters, 2012). The Indian Business Schools caters to the post graduate students who wish to pursue their careers in management domain. The management skills are honed in the process and Information technology plays a big role. Email acts as a platform through which digital messages can be sent at a faster pace regardless of the location. Email is facilitated in an
organization, traditionally through its own IT infrastructure which is expensive, time-consuming and needs quick updates as per technology changes. High initial investment may pose a big challenge for educational institutes that already suffer from the difficulty of handling resource shortages. Quality education demands the best technology infrastructure and a perfect communication system. The traditional infrastructure has their own mail servers, gateways, routing, folder maintenance, mailbox storage and archiving. Although their integration is easier, costs elude the advantages of on-premise email (Jamaata, 2010). This prompted the need for an on-demand model.

Email is considered as a starting point for the cloud computing model, since; a lot of IT budget in educational institutions is spent on the administration of emails. The cloud computing model for emails would be most intuitively and suitably managed in B schools. In case of a new course or an initiative, email on cloud would be easy to deal with and will be cost and time effective. There may be a sizeable savings in case of email migration to cloud. (Hardenburgh, 2012)

With the dramatic increase in the cost of the higher education (Golden, 2010), there is always a pressure of optimizing the running costs to efficiently run internal operations. Information technology infrastructure is one of the most important components of budgeting in educational institutions and especially for the Indian business schools, where the emphasis is on providing the best and holistic infrastructure. Therefore, to opt for better technology inline with the goals and missions of the business schools, cloud computing is a good way. Some of the considerations before migrating to cloud are to check the time taken to migrate the inboxes, creation of bulk user accounts and changing records in the DNS servers and transferring details.

The advantage of moving to cloud could be anytime, anywhere access and increased openness of students to new technologies. The functional capabilities will be improved and offline usage with better synchronization will take place. One of the examples of this is Google drive, which can be used offline and synchronization takes place once someone comes online. Some of the limitations of cloud are data security and risks. These issues could be overruled by encryption of data, firewalls and identity management. There could be customization and control as per the services by the cloud provider.

Cloud computing is a utility model which is both cost viable and scalable. The simplicity, agility and scalability features of web 2.0 are inherited by cloud model (Chandra and Borah, 2012). According to Aljabre (2012), small businesses can benefit greatly by cloud computing. “Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.” (Badger et al., 2011).

Clouds are of three broad types: Public, private and hybrid. It has three service models: Cloud Software as a Service (SaaS), Cloud Platform as a Service (PaaS) and Cloud Infrastructure as a Service (IaaS) (Badger et al., 2011). Cloud Computing goes with “pay as you go” approach. Email is one of the software as service and the top cloud providers for email in the market are Google, Microsoft, Cisco and Yahoo. There are other SME players which are catching niche areas like education and trying to provide them with customized service (For e.g.: Digital Campus). Table 1 differentiates cloud services from on premises.

Some of the steps that the business schools could take before making a decision to move to cloud are developing the knowledge base about cloud computing, evaluating the present infrastructure and usage, experimenting cloud solutions, choosing the correct solution and implementation management of cloud (Mircea et al., 2011).

This research article intends to do a cost comparison of the on-premises IT infrastructural solution with the cloud solution for email. The basic theme of cloud adoption in education is explained in the first section followed by research
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