A Study of Intranet over Cloud

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Abstract-   Generally, Intranet includes of internal web servers available to employees across the LAN or private dial up access in a business organization. Using the databases and other repositories of information and documents, these web servers bring assorted varieties of information to their employees and convey their messages in a precise time. The authorized employees use a frequent front end web browser to browse throughout the immense reservoir of information available within the organization. In this paper, author's main focus is to highlight the basic need, features, and current scenario of intranet over cloud. The paper has been written in a layman style so that a common man can understand it easily.

Keywords – LAN, Cloud, Cloud Service Provider, SaaS, PaaS, IaaS

I. INTRODUCTION

The stimulus for Intranet originated, perhaps from the success of e- mail within the business enterprises. The IT resource requirements are quite simple and normally existing hardware can meet the requirement of Intranet. Interestingly, the Intranet may or may not be connected to Internet and in case it is connected to Internet, security measures shall have to be taken to eliminate the chances of unauthorized access. Thus, Intranet provides access to corporate information repository to the authorized user with a minimal cost, time and effort.

The Intranet is gaining popularity, particularly among those business enterprises that are having branches and projects scattered over a wider geographical area. It is likely to be the key application of Internet. "The biggest impact of web will be how companies use it to stay in close contact with their customers", said Bill Gates once. However, the reliability and safety issues deserve closer examination. The basic block diagram of internet over cloud is shown in Figure 1 that is revealed the style of computing in cloud environment.
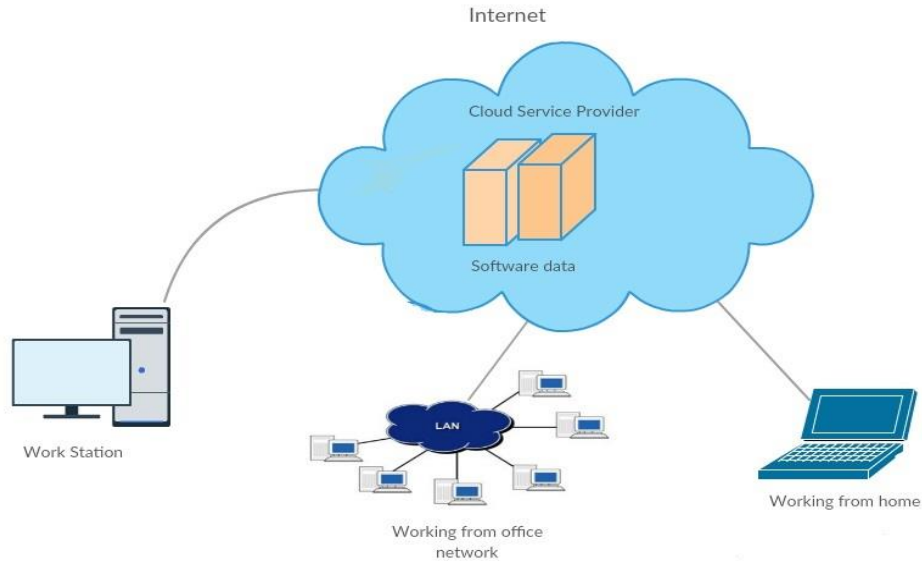
Figure 1. Structure of Internet over Cloud

The rest of the paper is organized as follows. Proposed embedding and extraction algorithms are explained in section II. Experimental results are presented in section III. Concluding remarks are given in section IV.

II. REVIEW OF LITERATURE

The history of computing began with the invention of abacus, though the era of modern computing started in 1941, with the first electromechanical computer "Z3". It was the world's first programmable, fully automatic computing machine (Nilam, 2014)[3]. John Mauchley and J. Presper Eckert built the ENIAC (Electronic Numerical Integrator and Computer) four years later. ENIAC was the first electronic general-purpose computer, Programmed to solve a full range of computing problems (Shurkin, 1996) [5]. The era of sixties and seventies was based on the mainframe systems, used by various industry. Cloud computing got its boost by the development and popularity of the internet, which was invented in 1969 by Advanced Research Projects Agency (ARPA) as a communication network that could survived a nuclear war. Keeping internet in mind, operating systems and application software were modified and accordingly were the attached peripheral devices, also stored information of the computer (Nilam, 2015)[4]. With the invention of Email and World Wide Web, combined with the fast networking technologies like ADSL and Ethernet, the networking became easily available almost everywhere (Freiberger & Swaine, 2000) [2]. Another milestone was reached in 2007 when Google began building large data centers for the benefit of students, so that they could tap the internet and to program and research from remote(Brodkin,2007) [1].

2.1 Characteristics of Intranet

The main qualities of Intranet are as follows:

A. Forum & Remarking Competences

Social intranets are all about fostering strong internal communication between employees and colleagues. As each employee expect, strong social intranet software will allow for threaded communication in forums or commenting, which comes along with many benefits at workplace.

B. Innovation Management

In order for a business organization's intranet to reach peak performance, it's essential that users are able to contribute and discuss new ideas freely. The whole concept of social intranet software is to foster collaboration that will create solutions to push the organization in a forward direction, which is almost impossible when there are restrictions and permission issues.

C. Information Detection

As the organization's intranet raise in size and scope, it will no doubt become more difficult to navigate given the wealth of content. Information discovery is a key part of daily business processes, which means the organization will be wasting precious time if social intranet software doesn't have a powerful search and categorization (tagging) system.

D. Clean & Meaningful Design

The design of the organization intranet is one of the most important focal points, as it can have a dramatic effect on user experience. Design and UI are related in many ways, but it's important to differentiate the two, as design focuses more on the visual look of the intranet than how it actually operates.

E. Stress-Free Deployment

Deploying a social intranet can be a time-consuming process, especially when it has to be done in-house. When evaluating intranet software and intranet features, it's crucial that the company providing the software handles the deployment process in full, or at least most of it.

F. Compatibility

Depending on how the business's network is set up, certain types of intranet software and intranet features may not actually be compatible right out of the box. Most reputable software companies offer solutions that can be used by the vast majority of modern businesses, although this is not true for all.

G. Content Ranking & Rating

A content ranking system is a great intranet feature for employees to tag content that was beneficial to them, which can help improve the company intranet over time. Employees should also be given the option to tag content with keywords, rate it with a 1-5 star system, and create comments, as internal communication and discussion are key aspects of any well-designed social intranet.

H. Document Sharing

Many social intranet features claim a big stake in idea sharing and internal communication, but they're not limited to intangibles. A platform that allows employees to share documents freely and easily is always preferred over the alternative, especially since certain documents are too large to be sent through email.

I. Simple Administration

The management can't rely on their IT department to handle every aspect of intranet administration. This is simply too much to ask, and it will take them away from other important tasks and projects.

J. Expertise Search

In medium-sized and large businesses, it's common for there to be so many employees that knowing "who is an expert in what" can be more easily said than done. What typically results is a great deal of wasted time, not to mention a chance that the right person for the job might not be found.

K. Employee Profiles

Somewhat of an extension of expertise search, it's important for the organization intranet to make it quick and easy for employees to learn as much about employees as possible. Employees should be given the opportunity to set up profiles similar to what might be found on a service.

L. Mobile Functionality

These days, many people do just as much work on their smart phones and tablets as they do on their laptops. The ability to access an organization's intranet from a mobile device is one of the most essential intranet features.

M. Spaces & Groups

In order to keep your social intranets as well-organized as possible, employee want to have the ability to create online workspaces for each department in the business organization. When departments have their own virtual workspaces within the community as a whole, discussions, documents, and content can be partitioned so that everything is located in one place and isolated from other aspects of the intranet.

III. INTRANET V/S CLOUD

An intranet wears many hats inside an organization. It's a website, communications channel and collaboration platform. It helps people work better by combining the best features of wikis, blogs, and document and content management systems. An intranet makes it easy for everyone inside an organization to contribute, not just a select few. While the thought of a distributed author model may seem daunting the benefits can far outweigh the drawbacks. Empowering employees with a voice and the freedom to share ideas with their colleagues can be a positive step forward to a culture of collaboration that embraces of tech-savvy age.

When intranets first came on the digital scene, they were basically just used to store company-wide data and broadcast information from a central location. They were not exactly built to collaborate. Since then intranets have evolved into a much more valuable tool for employees and organizations. Social technology is as much a part of our everyday routines as our morning java (they actually go nicely together). The rapid rise of social media has changed how people get things done and interact with each other. Smartphone's are everywhere. While it's natural for executives to fear the impact of making social features available on their intranet, the reality is employees use these tools in their personal lives every day and are capable of doing so at work, too.

Today's intranet has so much more to offer than its previous counterparts. It enhances communication and collaboration by giving people the tools they need to be productive, informed and engaged. An intranet helps people work better, anytime, anywhere.

With more companies and workforces going global and the rise of social technology, employees are working remotely more than ever before. Gone are the days when going to work only meant commuting to the office and doing your job during office hours? People are always connected and it's no different in the workplace. Employees want access to information fast and they need it to accomplish tasks. People want and need flexibility to succeed.

IV. NEEDS OF CLOUD BASED INTERNET

Cloud computing has been accredited with increasing attractiveness through cost reduction, greater flexibility, elasticity and optimal resource application. Here are a few situations where cloud computing is used to enhance the ability to attain business goals. Types of the basic services provided by cloud service providers shown in Figure 2. as below.
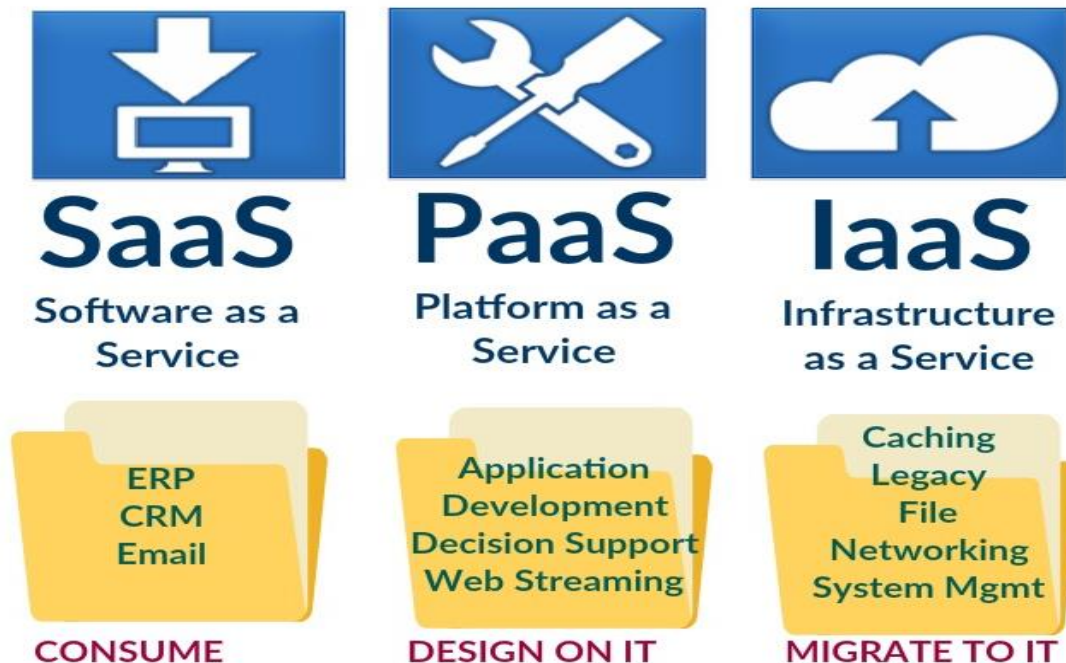

Figure 2. Cloud Basic Service Model

4.1 Infrastructure as a service (IaaS) and platform as a service (PaaS)

When it comes to IaaS, using an existing infrastructure on a pay-per-use scheme seems to be an obvious choice for companies saving on the cost of investing to acquire, manage and maintain an IT infrastructure. There are also instances where organizations turn to PaaS for the same reasons while also seeking to increase the speed of development on a ready-to-use platform to deploy applications.

4.2 Private cloud and hybrid cloud

Among the many incentives for using cloud, there are two situations where organizations are looking into ways to assess some of the applications they intend to deploy into their environment through the use of a cloud (specifically a public cloud). While in the case of test and development it may be limited in time, adopting a hybrid cloud approach allows for testing application workloads, therefore providing the comfort of an environment without the initial investment that might have been rendered useless should the workload testing fail. Another use of hybrid cloud is also the ability to expand during periods of limited peak usage, which is often preferable to hosting a large infrastructure that might seldom be of use. An organization would seek to have the additional capacity and availability of an environment when needed on a pay-as you-go basis.

4.3 Test and development

Probably the best scenario for the use of a cloud is a test and development environment. This entails securing a budget, setting up your environment through physical assets, significant manpower and time. Then comes the installation and configuration of the platform. All this can often extend the time it takes for a project to be completed and stretch the milestones. With cloud computing, there are now readily available environments tailored for employees and managers need at their fingertips. This often combines, but is not limited to, automated provisioning of physical and virtualized resources.

4.4 Big data analytics

One of the aspects offered by leveraging cloud computing is the ability to tap into vast quantities of both structured and unstructured data to harness the benefit of extracting business value. Retailers and suppliers are now extracting information derived from consumers' buying patterns to target their advertising and marketing campaigns to a particular segment of the population. Social networking platforms are now providing the basis for analytics on behavioral patterns that organizations are using to derive meaningful information.

4.5 File Storage

Cloud can offer the possibility of storing the files and accessing, storing and retrieving them from any web-enabled interface. The web services interfaces are usually simple. At any time and place have high availability, speed, scalability and security for the environment. In this scenario, organizations are only paying for the amount of storage they are actually consuming, and do so without the worries of overseeing the daily maintenance of the storage infrastructure. There is also the possibility to store the data either on or off premises depending on the regulatory compliance requirements. Data is stored in virtualized pools of storage hosted by a third party based on the customer specification requirements.

4.6 Disaster recovery

This is yet another benefit derived from using cloud based on the cost effectiveness of a disaster recovery (DR) solution that provides for a faster recovery from a mesh of different physical locations at a much lower cost that the traditional DR site with fixed assets, rigid procedures and a much higher cost.

4.7 Backup

Backing up data has always been a complex and time-consuming operation. This included maintaining a set of tapes or drives, manually collecting them and dispatching them to a backup facility with all the inherent problems that might happen in between the originating and the backup site. This way of ensuring a backup is performed is not immune to problems such as running out of backup media , and there is also time to load the backup devices for a restore operation, which takes time and is prone to malfunctions and human errors. Cloud-based backup, while not being the panacea, is certainly a far cry from what it used to be. Human beings can now automatically dispatch data to any location across the wire with the assurance that neither security, availability nor capacity is issues.

While the list of the above uses of cloud computing is not exhaustive, it certainly give an incentive to use the cloud when comparing to more traditional alternatives to increase IT infrastructure flexibility , as well as leverage on big data analytics and mobile computing.

V. CONCLUSION

The Intranet is an essential system for internal communication for all business organization. But, with the help of cloud, the scope of intranet can be increased. The intranet can give strength to the management for effective communication not only within the organization but throughout the world, 24 x 7 and whenever the management wants. Intranet gives power to control and watch the operating activities of business with the help of internet. The cloud helps as a bridge between organization and its internal communication system.

IV.CONCLUSION

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