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The Cloud Storage for Integrating Web Data Management Services

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Abstract:
We design and implement cloud storage, a prototype of storage cloud for computer scientists and graduate students to manage personal data that spreads over the web. (1) Integrates personal data with various meta info structures that come from different web sites and personal computers; (2) Provides a global, unified environment to users and supports user-defined file views via flexible combination of tags; (3) Offers an easy way to integrate new web services via a VFS-liked interface002E;

1. INTRODUCTION

Resource sharing in a pure plug and play model that dramatically simplifies infrastructure planning is the promise of "cloud computing". The two key advantages of this model are ease of-use and cost-effectiveness. Though there remain questions on aspects such as security and vendor lock-in, the benefits this model offers are many. This paper explores some of the basics of cloud computing with the aim of introducing aspects such as: Realities and risks of the model Components in the model Characteristics and Usage of the model the paper aims to provide a means of understanding the model and exploring options available for complementing your technology and infrastructure needs Cloud computing is a computing paradigm, where a large pool of systems are connected in private or public networks, to provide dynamically scalable infrastructure for application, data and file storage. With the advent of this technology, the cost of computation, application hosting, content storage and delivery is reduced significantly. Cloud computing is a practical approach to experience direct cost benefits and it has the potential to transform a data center from a capital-intensive set up to a variable priced environment. The idea of cloud computing is based on a very fundamental principal of reusability of IT capabilities'. The difference that cloud computing brings compared to traditional concepts of "grid computing", "distributed computing", "utility computing", or "autonomic computing" is to broaden horizons across organizational boundaries. Forrester defines cloud computing as: "A pool of abstracted, highly scalable, and managed compute infrastructure capable of hosting end customer applications and billed by consumption."Cloud Computing Models Cloud Providers offer services that can be grouped into three categories.

1. Software as a Service (SaaS): In this model, a complete application is offered to the customer, as a service on demand. A single instance of the service runs on the cloud & multiple end users are serviced. On the customers‟ side, there is no need for upfront investment in servers or software licenses, while for the provider, the costs are lowered, since only a single application needs to be hosted & maintained. Today SaaS is offered by companies such as Google, Sales force, Microsoft, Zoho, etc.
2. Platform as a Service (Paas): Here, a layer of software, or development environment is Encapsulated & offered as a service, upon which other higher levels of service can be built. The customer has the freedom to build his own applications, which run on the provider‟s infrastructure. To meet manageability and scalability requirements of the applications, PaaS providers offer a predefined combination of OS and application servers, such as LAMP platform (Linux, Apache, MySql and PHP), restricted J2EE, Ruby etc. Google‟s App Engine, Force.com, etc are some of the popular PaaS examples.
3. Infrastructure as a Service (Iaas): IaaS provides basic storage and computing capabilities as standardized services over the network. Servers, storage systems, networking equipment, data centre space etc. are pooled and made available to handle workloads. The customer would typically deploy his own software on the infrastructure. Some common examples are Amazon, GoGrid, 3 Tera, etc. Cloud Computing Benefits Enterprises would need to align their applications, so as to exploit the architecture models that Cloud Computing offers.

Some of the typical benefits are listed below:

1. Reduced Cost There is a number of reasons to attribute Cloud technology with lower costs. The billing model is pay as per usage; the infrastructure is not purchased thus lowering maintenance. Initial expense and recurring expenses are much lower than traditional computing.
2. Increased Storage With the massive Infrastructure that is offered by Cloud providers today, storage & maintenance of large volumes of data is a reality. Sudden workload spikes are also managed effectively & efficiently, since the cloud can scale dynamically.
3. Flexibility. This is an extremely important characteristic. With enterprises having to adapt, even more rapidly, to changing business conditions, speed to deliver is critical. Cloud computing stresses on getting applications to market very quickly, by using the most appropriate building blocks necessary for deployment.

1.2 OBJECTIVE

- Make cloud systems scalable by design so that they can exploit the elasticity of the cloud, as well as maintaining and also improving scalability during system evolution. At the same time, a minimum amount of computational resources shall be used.

- Enable scalability analysis of basic and composed services in the cloud.
- Ensure industrial relevance and uptake of the Cloud Scale results so that scalability becomes less of a problem for cloud systems.
- They use the Cloud Scale scalability patterns and engineering method to find the best scalable architecture.
- Equipped with this knowledge they swiftly restructure their application and continue their path of growth. In the future, Cloud Scale tools and technologies allow Smart Service to avoid any such critical scalability problems.

2. RELATED WORK

Organizing and Sharing Distributed Personal Web-Service Data Roxana Geambasu, Cherie Cheung, Alexander Moshchuk, Steven D. Gribble, and Henry M. Levy

Web-based services offer compelling advantages over traditional desktop software. Specifically, users can access their Web services and data through multiple devices from anywhere in the world. The Web eliminates administrative tasks such as software installation and update, and it facilitates the network effects that come from having a large community of connected users.

Menagerie consists of two primary components:

(1) The Menagerie Service Interface (MSI), an API that facilitates inter-Web-service communication and access control, and

(2) The Menagerie File System (MFS), a software layer that allows "composite Web services" to integrate remote Web objects into a local file system namespace, reducing the engineering effort required to access and manipulate remote data. To demonstrate the value of our approach, we have prototyped several new Web applications on top of Menagerie.

3. EXISTING SYSTEM

Already we have developed some applications to support to integrate persona data from PCs and the following web services: Google Docs, Flickr, Picasa and Zoho.

4. NATURE OF WORK

Personal data spreading on the web differs significantly from traditional files in PCs. It is a great challenge to integrate all the data into a single system with different organization and management mechanism. Some state-of-the- arts, like Web OS, web file systems, and menagerie system, use operating system concepts and abstractions to build applications over the internet, treat web data as abstract files and offer support to the hierarchy data objects. But it is still far from easy to manage these data. We introduce a personal storage cloud named IRain, as an abstraction layer to manage web-based personal data distributed in many web servers and personal computers. We focus on the design and the development of the system to simplify the management and integration of personal data. In this paper, we design and implement IRain, a prototype of storage cloud to manage personal data that spreads over the web for computer scientists and graduate students. One of our system's goals is to provide the scientists with better services. To date, we have developed some applications to support to integrate persona data from PCs and the following web services: Google Docs, Flickr, Picasa and Zoho. Additionally we added advanced security alert for user application which are. **Spring security**, **AES** Encryption, Decryption Data Validation and **Gmail security** alert

5. MODULES DESCRIPTION

There are two main modules in this project,

1. Non-share cloud
2. Share cloud

Non-share cloud

In this module, any new user can register and then login to use this cloud. After registering a separate folder will be created for each and every user with 4GB memory space. In that folder, four subfolders like audio, video, image and document will be created to store their particular data's. The main purpose of this cloud is to store user personal data's.

Image

In this module, user can upload any image file into this cloud for their personal use. That image file will be automatically stored in image folder of that particular user. Once the data is uploaded we can view that data, download it and also can delete that data.

Audio

In this module, user can upload any audio file into this cloud for their personal use. That audio file will be automatically stored in audio folder of that particular user. Once the data is uploaded we can view that data, download it and also can delete that data.

Video

In this module, user can upload any video file into this cloud for their personal use. That video file will be automatically stored in video folder of that particular user. Once the data is uploaded we can view that data, download it and also can delete that data.

Document

In this module, user can upload any text file into this cloud for their personal use. That text file will be automatically stored in document folder of that particular user. Once the data is uploaded we can view that data, download it and also can delete that data.

Share cloud

In this module, any new user can register and then login to use this cloud. The main purpose of this cloud is to display all data to all registered users.

Image

In this module, user can upload any image file into this cloud which they want to display to all users. That image file will be stored commonly in share cloud. Once the data is uploaded any user can view and download that data.

Audio

In this module, user can upload any audio file into this cloud which they want to display to all users. That audio file will be stored commonly in share cloud. Once the data is uploaded any user can view and download that data.

Video

In this module, user can upload any video file into this cloud which they want to display to all users. That video file will be

stored commonly in share cloud. Once the data is uploaded any user can view and download that data.

Document

In this module, user can upload any text file into this cloud which they want to display to all users. That text file will be stored commonly in share cloud. Once the data is uploaded any user can view and download that data.

6. RESULTS

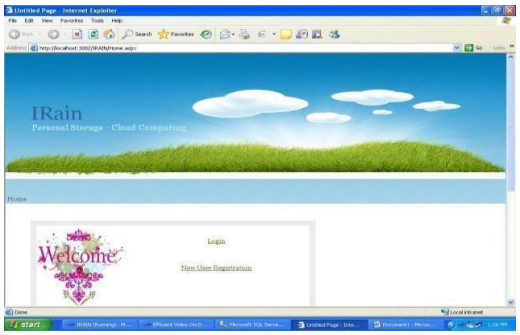

Figure.6.1 Login Page

Login page which contains enter the home page

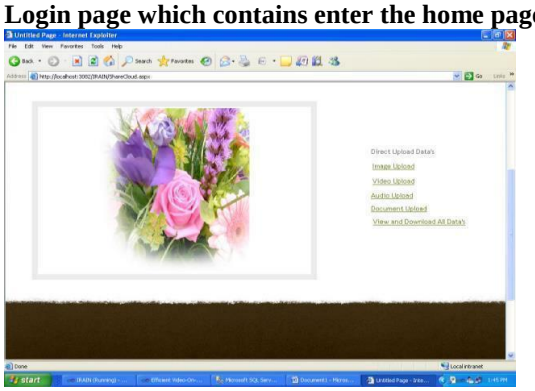

Figure. 6.2 Modules

Home page which contains what are the modules Displayed

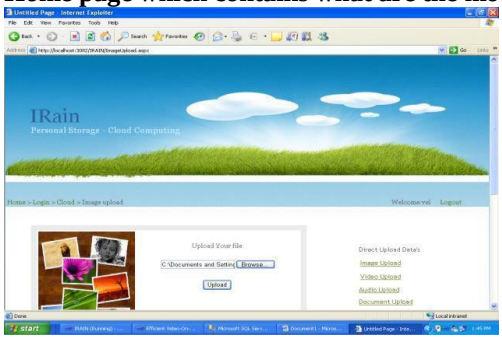

Figure. 6.3 Uploading File

Uploading your files and documents

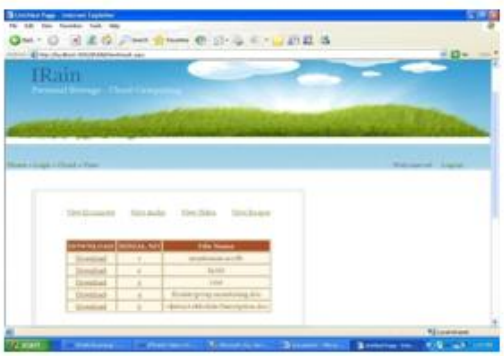

Figure.6.4 Document List

Displayed what are the documents are present in Databases

Figure. 6.5 Outputs this page displayed output

7. CONCLUSION

This paper describes a personal storage cloud for computer scientists and graduate students to manage personal data that spreads over the web. It mainly simplify the management and integration of personal data, provide user-defined file views via flexible combination of tags, and offer an easy way to integrate new web services via a VFS-liked interface. We have implemented the platform, to manage research data for researchers, and show the usability by our measurements.

8. FUTURE ENHANCEMENTS

We are in the Cloud enhancement phase. Beyond the basic computational requirements, few additional services such as Analytics, Machine learning, and Orchestration are offered by the cloud. There are multiple reasons for this shift. The growth of data is one of the factors for such additional service offered by the cloud service provider. Analytics and Machine Learning will enhance the business prediction based upon the data available and Orchestration will enhance the service provider to meet the Service level agreement on time. Analytics will accelerate the business and Orchestration will be useful when the acceleration takes place. Future of Cloud is going to be the mixture of basic cloud services plus Analytics plus Orchestration. Analytics and Orchestration will come as an add-on upon the basic services. Services will be termed as "Big Data as a Service and Orchestration as a Service". The term orchestration is also termed as Automation. Impact of these cloud services are going to Cloud Computing Will Improve the Workplace2be significant for the companies which had already migrated to the cloud and the success rate will induce the rest of the companies to move towards cloud. As the companies are moving towards the cloud, data would grow exponentially and will have good demand for the employees with knowledge on cloud computing services.

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