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SYNERGISM APPROACH OF SOCIAL, MOBILE APPLICATIONS WITH CLOUD COMPUTING PLATFORMS

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Abstract:

Today, lot of peoples owns a Smartphone that can run piece software with various varieties of features for humans. Even more people use desktop computers, tablets and laptops getting similar advantages. Grasping the art of scaling the technology for an un apprehended number of users has been a wish of many software architects since the mass adoption of computational devices merely twenty five years ago. This thesis targets the potentially Synergism strong in between the social, cloud platforms and mobile technologies. It presents implementations of cloud applications created for two major cloud platforms both being described, evaluated, and tested in this thesis. One application is engineered for the Amazon Web Services (AWS) platform, the second for the Google App Engine (GAE) environment. A client application for the Android OS or IOS that uses the API of the aforementioned services has also been created and is presented. The strong Synergism of these applications is aimed to provide a service to the public in the market with consumer information via the project gibbet. As great as the promise of convergence is, many organizations are still struggling to reinvent their business operations and keep pace with the explosion of mobile channels and volume of data being generated. The aim of this thesis is to provide a practical reference to help enterprise information technology (IT) and business decision makers as they analyze and consider the implications of the convergence of social, mobile and cloud technologies on their business.

Keywords – GAP, API, Cloud, AWS.

1. INTRODUCTION

During my research for this thesis I have learned that most people in the IT industry recognize cloud computing as very important phenomenon and see big potential in it. The idea why do they believe in it might be one of the reasons why this work was created. The broad influence of this technology can even be observed in the life of many citizens of the developed countries. The phrase "in the cloud" entered the colloquial language and is used both among IT professionals and even outside of its native environment of computer science. We hear every day that a service or Smartphone app or some piece of software stores data in the cloud. We recognize the spread of this phenomenon from various sources including common software tools or the mainstream media. The environment of the information technologies has been always evolving very fast but its goal is the same since it begun to optimize existing work and in spare time find a new purpose or push the boundaries of the known. Hardware limitations are something that only the best developers consider properly and thoroughly

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while creating a piece of software. Databases are more and more complex every year we create so much additional information that the whole mankind produced until 1980 so it is increasingly difficult to keep up with storing it. Relational approach to database design often seems to be insufficient and lately on the decline being replaced by non-relational paradigm. Outsourcing hardware management in a form of buying Infrastructure as a Service (IaaS) is starting to be new conservative. Moreover, choice deploying applications without taking care of any of the potential hardware bottlenecks is not science fiction but reality for many of the cloud computing adopters. The word ,cloud refers to the in tang and stands mainly for the abstraction of the physical resources. Cloud computing consists of related concepts that people recognized long before the cloud phenomenon started and it seems like a perfect synergy to connect the power and scalability advantages of cloud computing with the rise of the demand for web services. With the spread of the Smartphone's, tablets and other portable devices, which larger and larger numbers of people carry around and which are designed to consume web services we could get an advantage of the ability to abandon the low-level hardware matters and focus on the development of the best services. In this work, I would like to present and discuss some of the possibilities, advantages, and drawbacks of running applications in the cloud. Mainly the implementation is focused, but not limited to, on synergy with mobile applications. Product of this thesis is a set of applications that are tied together creating a platform for sharing viable consumer data and information.

2. CLOUD COMPUTING

The term itself was coined in 2006 by Eric Schmidt of Google. Cloud computing can be perceived as a delivery model that conveys unprecedented computing resources to people and organizations across the globe on demand. It encompasses many disciplines of distributed computing including cluster computing and utility computing.

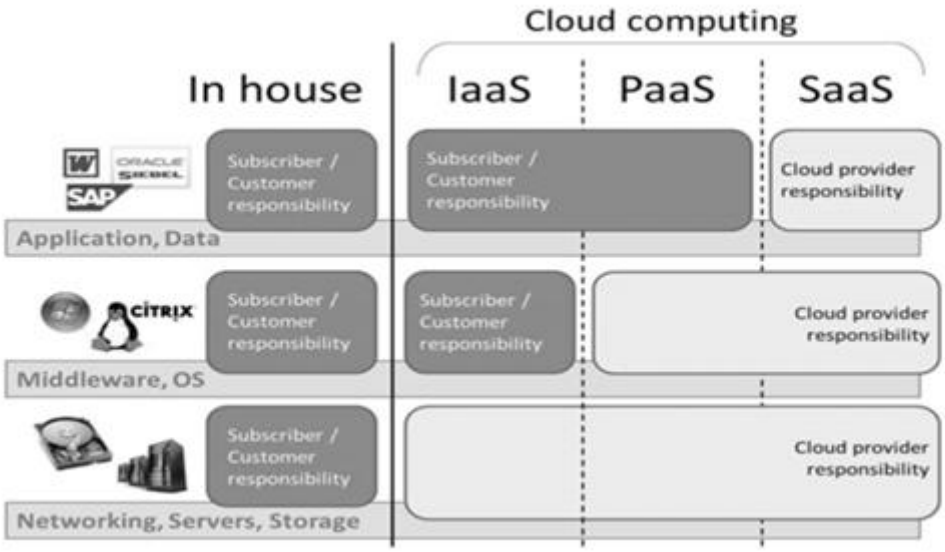

Fig.1. The NIST cloud computing components

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Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort or service provider interaction. Amazon Web Services (AWS) are globally dominant IaaS provider with their Elastic Compute Cloud (EC2).PaaS providers take care of the whole deployment process on the cloud infrastructure including the virtual machines, operation systems, and control structures. The client is responsible for managing the application itself. AWS, Google App Engine (GAE), and Microsoft Azure are the largest powers in the PaaS market.SaaS is a complete environment with applications and user interface and the client only manages the data that he uses the application with. Everything from the application down to responsibility. In this case the client has the least control over the application and the environment. Notable characteristics of this model are popular pay-as-you-go pricing and never-stopping evolution of the products partly inspired by the pioneer examples of Google's Maps,Gmai Salesforce4 implementations. The technology of cloud computing is being widely discussed in terms of its efficiency, reliability and security. Also following should be considered –the status of the cloud computing in the technology hype cycle. According to Gartner the hype of some parts of cloud computing (e.g. SaaS and IaaS) are on their way to reach the plateau of productivity in a few years. On the other hand PaaS or Cloud-based Business Process Modeling (BPM) is considered to be in the peak of its expectations meaning that the actual productivity of such systems is couple of years away.

3. ON-PREMISE AND CLOUD COMPARISON

Important assets of the cloud service providers are the robustness of the service and their availability. Companies often trust them with their critical data and resources for crucial parts of the business workflow where every downtime is rather expensive.

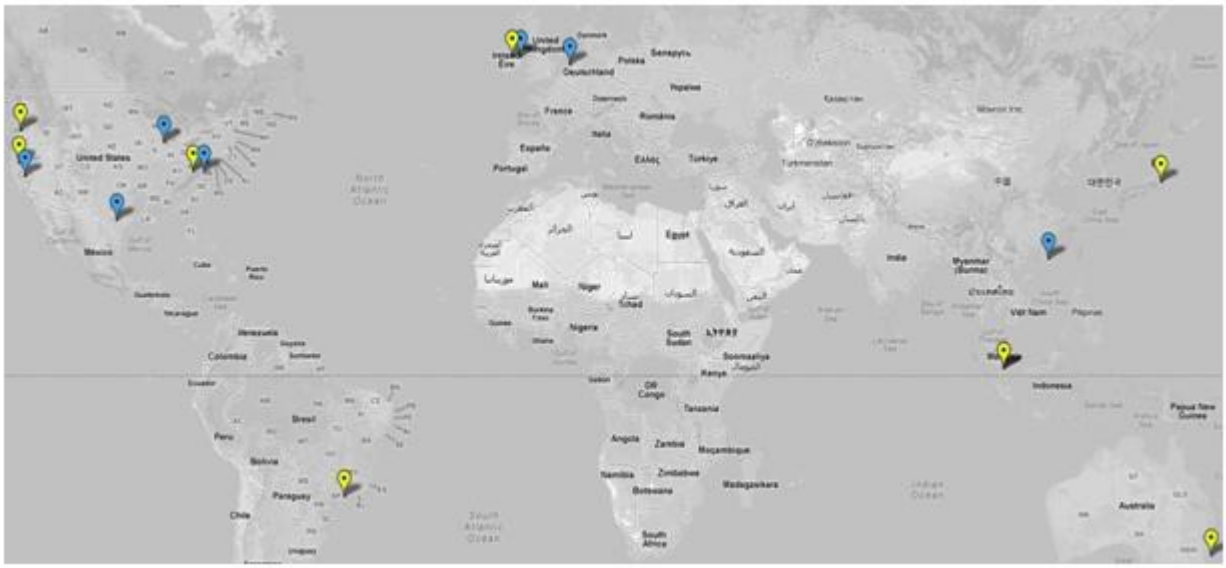

Fig.2. Showing geographic distribution of AWS (yellow) and Azure (blue) datacenters

Unlike on-premise system that usually resides own datacenter or rented housing provider in the same region as most of its users the cloud solution offers small or no variety of location options. Nevertheless geographic distribution of datacenters is an approach that most of the major providers value . This spread and independency of the endpoints enables software architects to choose what location their application's thus effectively reducing servers latency. Note that GAE server locations are undisclosed but according to Ikai Lan of GAE all traffic is routed to the North America –where

the datacenters are – resulting in greater delays when accessed from outside of the US. Be that as it may, there is non-trivial outage history for the cloud provider's. In 2012 services two significant outages of Azure were reported, three of the AWS and one serious of GAE. For developing mobile applications that use cloud services to store their data only (variant of thick client) cloud providers offer various level of support. Amazon provides the SDKs for both Android and iOS motivating developers to use its storage cloud services namely Simple Storage Service for media handling and both non-relational database services SimpleDB and DynamoDB for the conventional data store. Google focuses on Android developer's only App by Engine offering Connected Android, Support' which simplifies the connecting to the backend deployed on GAE.

4. IMPLEMENTATION

I think scalability is the most attractive feature of the cloud computing! You don't have any computer and at the same time you have millions of computers which your application scales! I think for startups a cloud platform is a must since you cannot buy many servers in the beginning of your company! In short, using scalability is the cheapest way to make your application to reach lots of people. Before you read further please keep in mind, in this thesis I will introduce you vertical scalability.

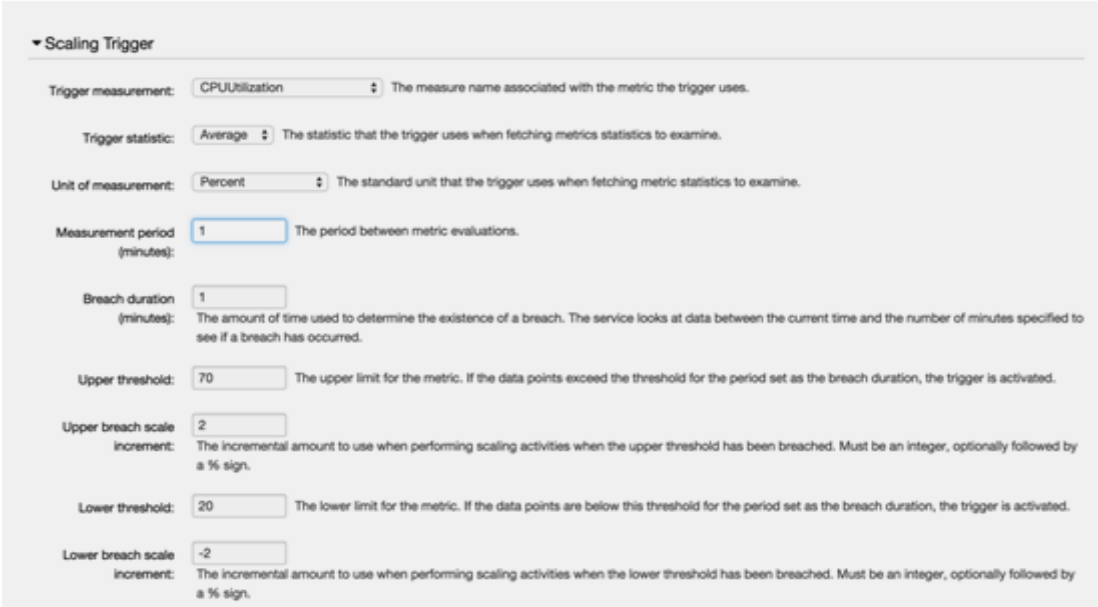

Fig.3. Scaling with respect to Network Traffic

When designing infrastructure systems, whether creating new applications or deploying existing software, it's crucial to manage cost. Costs come from a variety of sources, and every approach to delivering infrastructure has its own tradeoffs and complexities. Cloud infrastructure systems create a whole new range of variables in these complex equations. In addition, no two clouds are the same! Some bundle components while others offer more granular purchasing. Some bill in different time increments, and many offer a variety of payment structures, each with differing economic ramifications. How do you figure out what each costs and make a choice? To help you work this through, we've created an example for you. Today's mobile applications have already begun to adapt to cloud computing. A common theme emerging from the large wave of mobile applications

developed for smart phones such as the iPhone and Android is that these mobile applications are often linked to server instances operating in the cloud. However, there is much duplication of effort, as these server instances reimplement many of the same elements of mobile support, such as location awareness, adaptation to mobility, and computational partitioning of execution between the mobile and the cloud.

CONCLUSION

When people try to draw ,The Internet often end up depicting it in the shape of the cloud. The wide spread of cloud computing technology supports the trend of these two terms diffusing. It is possible that soon enough these key IT concepts will become synonyms. I believe that the Synergism of mobile technology, web services and cloud environments is going to be exploited more and more in the future. This goes in synergy with the Service Oriented Architecture paradigm taking part in the enterprise systems nowadays. It is a natural join and a step further into abstraction making it easier for developers and software architects to work by making certain layers of software applications transparent. In this thesis, I envision that these fundamental new capabilities will enable mobile users to seamlessly utilize the cloud to obtain the resource benefits without incurring delays and jitter and without worrying about energy. By thus empowering mobile users, mobile computing will be able to break free of the fundamental constraints that have been keeping us from transform many areas of human activity. We envision the future of mobile computing applications will be built on top of a rich eco-system of basic mobile cloud services.

REFERENCES

[1] Schmidt, Eric. Conversation with Eric Schmidt hosted by Danny Sullivan. [interv.] Danny Sullivan. Search Engine Strategies Conference. August 9, 2006.

[2] Sosinsky, Barrie. Cloud Computing Bible. Indianapolis : s.n., 2011. 978-0-470-90356-8.

[3] Peter Mell, Timothy Grance. The NIST Definition of Cloud Computing. [Online] September 2011. [Cited: January 3, 2013.] http:// csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf.

[4] The Hyderabad Cloud Computing Group. [Online] July 23, 2010. [Cited: January3, 2013.]http://www.meetup.com/The-Hyderabad-Cloud-Computing Group/ photos/ 997114/ 16636889/.

[5] Jackie Fenn, Mark Raskino. Hype Cycles 2012 Research Report. [Online] Gartner, July 2012. [Cited: January 3, 2013.] http:// www.gartner.com/ technology/research/hype cycles/.

[6] comScore. 2012 Mobile Future in Focus. [Online] February 23, 2012. [Cited: January 3, 2013.] http://www.comscore.com/ Insights/ Presentations and Whitepapers/ 2012/ 2012_ Mobile_Future_in_Focus.

[7] Dediu, Horace. When will smartphones reach saturation? [Online] Asymco, January 4, 2013. [Cited: January 3, 2013.] http:// www.asymco.com/2013/01/04/ when-will- smartphones-reach-saturation/.

[8] McCann, John. Google Play store matches Apple's as it hits 700,000 apps. [Online]

October30, 2012. [Cited: January 3, 2013.] http://www.techradar.com/ news/phone-and-communications/mobile-phones/google-play-store-matches-apples-as-it-hits-700000-apps-1108577.

[9] Canonical Ltd. Ubuntu for phones. Ubuntu. [Online] January 3, 2013. [Cited: January 3, 2013.] http://www.ubuntu.com/devices/phone.

[10] Williams, Alex. Amazon Web Services Expected To Hit $1.5 Billion In Revenues For 2012. [Online] November 27, 2012. [Cited: January 3, 2013.] http:// techcrunch.com/2012/11/27/amazon-web-services-expected-to-hit-1-5-billion-in-revenues-for-2012/.