

# Software as a service as a part of the Cloud computing

**Author: Rosica Dukova**

Affiliation: Republic of Macedonia

E-mail: [dukovarosica@gmail.com](mailto:dukovarosica@gmail.com)

## ABSTRACT

*In this paper, we can get more familiar with the software as a service, its history, structures and the benefits from it for one company in Macedonia who use software as a service. Cloud computing is a new paradigm for providing of computer infrastructure, platform or software and hardware as a service. In this modern society, the essential services (such as water, electrical energy, gas etc.) are provided in that way that everyone can have an easy access to them. We have the same case with information, too. The cloud computing is one of that services who is promising secure services delivered through new virtual data centers. Nowadays we have high prices for the computers and on the same time we need high specialized laboratories in order every business to can function the best it cans. The most active researches about the cloud computing are about the economic aspect from the uses of them. The main question is does one company should or should not use software as a service as part form the cloud computing. All of this depends from many factors, for example the price, the speed of delivery, the capacity utilization, the corporatism of the company and its IT structure, too. The prices of the services that are offered as a software as a service are found as a second problem.*

**Keywords:** Cloud computing, software as a service, benefits.

## 1. INTRODUCTION

Software as a service is a new alternative for the standard software installations in one traditional business environment in which the user must place a server and must install and configure the applications. At the software as a services the user doesn't pay only for the software. Instead of that, it works on a rental principle. The companies have

authorization to use the service on particular period and to pay for the software which they are using.

On the same time, one of the most important costs for the small companies especially for that which are in beginner phase is the price for the IT equipment. Many of the small businesses are surprised when they must buy appropriate hardware. Putting the confidence of one company in the hand of other company sounds frightening, but the time shows that this way is successful and can be very benefit for the business. The software as a service is one of that types of technologies that are started to be developed a long time ago.

In the beginning of this paper I'm introducing the model software as a service and a short history about it.

In the next section is described the market of software as a service.

In the fourth section are described the advantages and disadvantages form the use of the software as a service.

## 2. WHAT IS SOFTWARE AS A SERVICE

Software as a service is a model for transport in which the software is placed central and it is accessed by the client, such as web browser or internet.

With other words software as a service is a model of software providing which can be accessed from anywhere. This service can be free, or it can be paid monthly.

The term software as a service has been used for first time in 2001 in one article.

This type of working is cheap and it is very easy for configuration for the needs of the business.

For example, let's imagine that I'm a founder of one start-up company and I should take care for a lot of customers.

If I make a research of the market searching for a solution of my problem, the first thing that I'm going to find is that I should buy a complete version of a Customer Relationship Management (CRM) software. But this is very expensive alternative. But in the other hand the software as a service is a less expensive solution. With it I can buy some web oriented CRM software for which the client is going to pay that much as it is going to use it.

The benefits that are get on this way consists from the saving money for buying software licenses, decreasing of the costs for maintenance and hardware configuration. All of this with the combination of the lower costs of the start-up companies becoming a fast back of the investment.

### 3. HISTORY

In 1960, IBM together with other super providers offered a new service and a new way of working with the computer systems, in the same time offering to the banks and the others big companies bigger computer power and databases.

In 1990, with the expansion of the internet, the application service providers are born. They provided hosting and managing for the small businesses.

Starting from 2003, software as a service become very popular, thanks to the grow of the internet connections. And the target is almost all software to become web-oriented and paid as much as it is used.

We can see the evolution of the software as a service on Figure 1.

The market of software as a service

The software as a service is everywhere. Taken from some statistics can be seen that in 2010 the sales of the software as a service reached the sum of ten billion dollars.

In 2011, the sales is increased for more than 20,7% from 2010.

The assumptions that the coming from the software as a service are going to be increased for more than two times from is number from 2010 to 2015 are shown as true.

The main market for software as a service is pointed to the business oriented software as a service. The management of the connections between the clients is one of the biggest market with an annual increase from 18,8% on world level.

The software as a service has a big confluence on the businesses. This are one of the reasons:

- More lease architecture of the software
- Lower costs, fast investments, shared licenses
- The businesses are released from developing of the software and its maintenance
- Easy customization
- Commercialization

### 4. BENEFITS FROM THE USE OF THE SOFTWARE AS A SERVICE

To decide to use software as a service the company should have a good business reason for it. Software as a service provide excellent possibilities for every type of organizations to reject the risks from the buying of some software and to make the IT part of their company to be more active for producing of a value as a part of the company.

Managing of the risk for ordering of the software

The implementation of the big critic business soft wares such as ERP and CRM application packages is a very big risk. The use of this systems in one big company, can cost a lot of dollars for licensing the software and needs a big number of IT employees and consultants. The time, the employees, the budget and the needs of the organization is a big risk for the company. On the other hand, software as a service applications don't need including of big infrastructures for location of the client, and whit that the company has decreasing of the costs for the resources.

A lot of the software as a service providers offer testing of their software for the particular period for free. On this way, they give a chance to the potential clients to use their software before they buy it. By this way they eliminate the risk for ordering the software.

Software as a service applications are different by their location on three different levels. This is shown on Figure 2.

Licensing: The standard applications have licenses. Software as a service applications are licensed by the help from a model that is based of the usage

and the transactions of the application, by this way the client pay only for the used service transactions.

Location: Software as a service applications are installed on a location that is property of the software provider, and on the other hand the other types of software application are installed on the IT environment of the company.

Managing: as per tradition the IT department is responsible for providing IT services for the users. On the other hand, software as a service applications are completely managed by the provider of them.

Political thoughts: Sometimes, the decision can be for a short term when some of the managers want the IT department to have the control of the software.

Technical reasons: Software as a service application usually have some flexibility of the configuration of the clients, but that kind of access has some limitations. If some important application has a need from special technical knowledge for working with it and maintenance for the same application, there is a chance or risk to the company can't use the software as a service in the future.

Financial thoughts: Considering the total costs for the software as a service application, compared with the uses of the software as a service, the factors who can have impact of the software as a service applications include and the number of the licensed users.

Legal aspects: Some of the companies are subject of the law of different parts of the world, and this pushed different orders for notification and taking evidence to the potential clients for software as a service solutions.

## 5. Conclusion

Software as a service is a good for the developers who want to accommodate their applications for the needs of their customers.

Software as a service offers complete alternative to the partners who want to focus their energy into developing of a software but without developing, operating and maintaining the information infrastructure.

The dynamic infrastructure of the software as a service provide to the partners to pay only for that service that has been used by their side. I will

continue to work on this paper by investigating the use of the software as a service in the companies in Macedonia and what are the benefits from it.

## 6. REFERENCES

- [1]. [http://en.wikipedia.org/wiki/Cloud\\_computing](http://en.wikipedia.org/wiki/Cloud_computing)
- [2]. <http://ezinearticles.com/SaaS---History-and-a-LookAhead&id=2246590>
- [3]. [http://www.service-now.com/knowledge.do?sysparm\\_document\\_key=kb\\_knowledge,4c8e15b90a0a3cc800e559d37a644090](http://www.service-now.com/knowledge.do?sysparm_document_key=kb_knowledge,4c8e15b90a0a3cc800e559d37a644090)
- [4]. Cloud business trends. <http://www.cloudbusinesstrends.com/2011/05/19/analysis-saas-and-cloud-computing-the-future-ofsoftware-development-stir-saas-cloud-computing-s.html>
- [5]. Allen, Rob et al. Zend Framework in Action. Manning Publications. December 2008.
- [6]. The Zend Framework manual <http://framework.zend.com/manual/1.11/en/manual.html>
- [7]. Pope, Keith. Zend Framework 1.8 Web Application Development. Packt Publishing. September 2009
- [8]. <http://code.google.com/appengine/>
- [9]. [https://bib.irb.hr/datoteka/526864.Cloud\\_Dark\\_o\\_Androcec.pdf](https://bib.irb.hr/datoteka/526864.Cloud_Dark_o_Androcec.pdf)
- [10]. <http://thoughtsoncloud.com/2013/09/top-five-advantages-of-software-as-a-service-saas/>
- [11]. Armbrust M., Fox A., Griffith R, Joseph A. D., Katz R.H., Konwinski A., Lee G., Patterson D.A., Rabkin D.A., Stoica I., Zaharia M.: Above the Clouds: A Berkeley View of Cloud Computing
- [12]. Buyya R., Yeo C.S., Venugopal S., Broberg J., Brandic I.: Cloud computing and emerging IT platforms: Vision, hype, and reality for delivering computing as the 5th utility, Future Generation Computer Systems, Amsterdam, Netherlands
- [13]. Goncalves V., Ballon P.: Adding value to the network: Mobile operators' experiments with Software as a Service and Platform as a Service models, Telematics and Informatics, New York,USA, 2011
- [14]. Wang L., von Laszewski G., Younge A., He X., Kunze M., Tao J., Fu C.: Cloud Computing: a Perspective Study, New Generation Computing, Tokyo, Japan, 2010

- [15]. Patterson, David; Fox, Armando: Engineering Software as a Service: An Agile Approach Using Cloud Computing
- [16]. Melveen B. Greer: Software as a Service Inflection Point: Using Cloud Computing to Achieve Business Agility
- [17]. Lewis, Grace Cloud Computing: Finding the Silver Lining, Not the Silver Bullet
- [18]. Lewis, Grace. Basics About Cloud Computing
- [19]. Jansen, Wayne & Grance, Timothy. Guidelines on Security and Privacy in Public Cloud Computing National Institute of Standards and Technology, 2011
- [20]. Sehlhorst, Scott: The Economics of Software as a Service (SaaS) vs. Software as a Product
- [21]. Harrison D. Strowd, Grace Lewis: Check in System-of-Systems Technologies: Cloud Computing

IJournals