

WHY USE CLOUD COMPUTING?¹

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Abstract: Clouding is a providing service by the biggest software providers from the whole world and is about reducing governmental costs and also those from small and medium companies. Besides reducing costs, this software service offers comfort, independence, reliability and durability. There are several types of such services depending on whom it is addressed or what type of services you need.

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1. INTRODUCTION

Why Cloud? What does Cloud means? With what such a technology in business would help us in everyday life? We are trying to ask these questions these days more than ever, with information from the magazines and also with such terminology.

Cloud is represented by a series of services distributed by calculations, applications, access to information and data storage, without the user needing to know the physical location and configuration of the systems providing these services. This service called Cloud appeared due to the rapid expansion of the Internet at global level through quality online connections. This led to sharing the resources and Internet connections between different users.

In fact, Cloud concept isn't recent; it appeared in the 60's with the concept of centralized application hosting. In the 90's started the extension of the internet and it appears the model "Application Service Provider" – ASP, this product provides informatics services for the clients which are connected to a network. This product appeared later and it was called **On-demand software** or **software as a service (SaaS)**.

An example would be the using of CRM products (Customer Relationship Manager) using different browsers.

In the 1980s there was a paradigm shift from mainframe to client-server system, successfully completed.

These days, after 1980, is centered on the transition from local computers or workstations helped by online computing through Internet.

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The present moment corresponds with providing users different Cloud services which refers at Cloud computing, Cloud Gaming, Cloud Office, etc. This thing comes in the advantage of different types of users, depending on their necessities.

The main idea for using this Cloud services is to focus on the application, which you use or develop, without being concerned about the development infrastructure or use, as appropriate.

However the user or company in question is totally dependent on communication infrastructure because all these distance-working services are totally dependent on broadband Internet in the best case.

Some of the specific products of a Cloud in early development phase were the appearance of mail systems based on remote access using browsers. Initially in the 90's appeared yahoo.com mail services, then in 2000 the appearance of MSN Hotmail, and today Windows Live Hotmail, the Microsoft Bing, Microsoft Update, etc.

For example, if for a small company to receive professional mail, the company is needed to purchase a mail server as a hardware tool, also a mail server as a software tool, a system engineer specialized in configuration and maintenance of this email services, for using a Cloud email system is much more simple and efficient.

The use is made using browsers, depending on Cloud provider, based on users rights specified on the service purchase, while the configuration and the maintenance is realized automatically by the Cloud services provider.

The efficiency of this service appears also because it is not necessary anymore the purchase of hardware and software services for email, nor the budgeting for monthly expenses for the necessary system engineer.

Also, in this case everything that depends on the backups of the data users is in the Cloud service provider account, on this occasion that company saving some money.

As a developer of ERP systems, I can say that the appearance of such Cloud systems occurred 10 years ago, initially, as a possibility for update from distance of these systems, but also as a solution for backup.

2. TYPES OF CLOUD

The specific characteristics of these services can be highlighted as agility, independence, security, maintenance, durability, reliability and especially the cost. If, from the agility point of view is easy to imagine, regarding the independence there is a big advantage because the access to this kind of services can be done from anywhere without taking into account the location, the computer type, the storage, etc. The security and maintenance are two advantages, which are ensured by definition by the Cloud services provider. The provider guarantees sustainability and reliability, because in case of rundown, sales of these services would be in trouble. The cost can be a big advantage if you take into account that without these services, the user is forced to purchase in addition hardware and software resources, which can or cannot be maximum used, till a new version of the same applications, with additional capabilities. For Cloud services the services provider is the one that will always be required to provide the best and latest software releases.

Although is a new software service, on the developers market these products can meet more opportunities to access such services, depending on the type of user expected, the types of services offered, the volume of data stored on the user or user group, type of provider of such services.

Thus, initially we talk about public Cloud, private Cloud (in-house) and hybrid Cloud, in the sense that public Cloud is the classic service where the user can access through applications or Web browsers, this type of examples being messaging service Yahoo Mail or Gmail, Facebook social network or photo-sharing network Flickr. The private Cloud is one that can be accessed by the user only through private networks such as the example of government networks, banking systems, telecommunications, retail, etc. The hybrid Cloud is also running on physical server and ensures the proper functioning of other variants.

Also, there is a hierarchy of these services as one of the following: software as a service (SaaS), platform as a service (PaaS) and Infrastructure as a service (IaaS)

Software as a Service (SaaS) is the type of service that is already developed and which is ready to be made available to users, platform as a service (PaaS) is a service that is available to developers of such services software. The third type of cloud is infrastructure as a service (IaaS) which means providing users with the proper software services and hardware systems as a servers, networking, desktop stations, etc. as monthly taxes, a kind of complete hardware and software rental.

To understand this thing very well we need to know for example that in order to access a website on the internet, it must be designed and realized in terms of software and it also he has to be hosted on a server that has strong connection to the Internet. All are part of the so-called infrastructure.

3. THE MARKET OF CLOUD PRODUCTS

At global level, the Cloud computing market was around 68 billion dollars in 2011, and will reach about 150 billion dollars in 2014, according to Gartner company market research².

At the management level of a company the advantage of using Cloud services is that a prospective capital is currently invested in IT will be transformed in operational costs, usually easy to bear and, as appropriate, considerably lower. The difference is between 30 and 70%.

In this context, it is estimated that revenues of the local market of services and solutions for Cloud computing will grow 40% annually by 2015³.

In this field we can distinguish several major manufacturers of such products, including Microsoft, Salesforce, Skytap, HP, IBM, Amazon and Google.

Among the strongest and diversified marketing companies are again Microsoft, with a large range of such products, such as Microsoft Office 365, Microsoft Dynamics CRM Online, Windows Intune, Windows Azure and Windows Server Hyper-V.

Microsoft Office 365 is a solution available to users especially those in the educational partnership between Microsoft and universities, some services such as

² <http://www.wall-street.ro/articol/IT-C-Tehnologie/114506/cloud-computing-unul-dintre-domeniile-din-it-cu-cele-mari-cresteri-unde-se-afla-romania.html>

³ <http://www.wall-street.ro/articol/IT-C-Tehnologie/112741/PAC-Piata-romaneasca-de-cloud-computing-va-creste-cu-40-anual-pana-in-2015.html>, Eugen Schwab-Chesaru, general manager for Eastern Europe of Pierre Audoin Consultants (PAC) Research Company.

Exchange Online, SharePoint Online, Lync Online with the latest version of desktop applications suite Office Professional Plus.

A suite of online applications, which deal with customer relationship management, sales flow and marketing activities, represents Microsoft Dynamics CRM Online.

Windows Intune, Windows Azure, and Windows Server Hyper-V are operating systems or their extensions, regarding Intune, which enable small and medium companies with capital of less than 20,000 euros invested in IT to migrate their applications in the Cloud.

Intune deals mainly with the security and maintenance of the computers network of that company.

Azure is that operating system which allows the developers to migrate their applications in Cloud using NET, PHP, JAVA or RUBY.

Salesforce is a Cloud platform, which provides IT services such sales using social networks on all platforms, even on phones smartphone.

One of the largest suppliers of such cloud systems is the great American company Amazon, which provides various services to users as they wish for, SAP enterprise services on Windows or Linux, Oracle platforms, etc.

The payment is calculated based on the type of the operating system, calculating the number of cores the user wants, what kind of software systems he wants to use, the size of the storage space, the using time of these services, etc.

Especially for public administration, the acquisition of these Cloud services could be a great decision, because of the efficiency and the profitability. The difference of the costs, to buy the entire systems (software and hardware) for the entire institution or for the entire public administration, and to apply for these Cloud services, is huge.

For example, if we think to apply to a Software as a Service Cloud, for a public organization with 100 users, the costs of this service could costs maximum 10 euros per user per month, that means 1000 euros the total costs for using anytime the best versions of needed software, data back-up, security access and so on. Instead of buying the whole software system for 100 users, that could be 40.000 to 50.000 at minimum. The difference of investment is obvious to decide a public manager the way that he chooses.

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