CLOUDING COMPUTER AND MICROSOFT OFFICE 365

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ABSTRACT

In the article it is presented a short description of the term of cloud computing, the main characteristics and the architecture of such technology (deployment models and services types). In the end there it is presented the Microsoft Office 365: the main features, advantages and disadvantages, a short description of the plans offered (personal plan and enterprise plans).

Key words: clouding computing, Office 365, SaaS, software

1. INTRODUCTION

The cloud computing is focused on maximizing the effectiveness of the shared resources. Cloud resources are usually not only shared by multiple users but are also dynamically reallocated per demand. This can work for allocating resources to users. In this way it should maximize the use of computing power thus reducing environmental damage as well since less power, air conditioning or others are required for a variety of functions. With cloud computing, multiple users can access a single server to retrieve and update their data without purchasing the licenses for different applications.

The origin of the term cloud computing is unclear. The expression cloud is commonly used in science to describe a large agglomeration of objects that visually appear from a distance as a cloud and describes any set of things whose details are not inspected further in a given context.

In analogy to above usage the word cloud was used as a metaphor for the Internet and a standardized cloud-like shape was used to denote a network on telephony schematics and later to depict the Internet in computer network diagrams. With this simplification, the implication is that the specifics of how the end points of a network are connected are not relevant for the purposes of understanding the diagram.

The goal of cloud computing is to allow users to take benefit from all of these technologies, without the need for deep knowledge about or expertise with each one of them. The cloud aims to cut costs, and help the users focus on their core business instead of being impeded by IT obstacles.

2. THE MAIN CHARACTERISTICS OF CLOUD COMPUTING

Cloud computing is similar with grid computing and it has evolved by addressing the quality of service and reliability problems. Cloud computing provides the tools and technologies to build data/compute intensive parallel applications with much more affordable prices compared to traditional parallel computing techniques.

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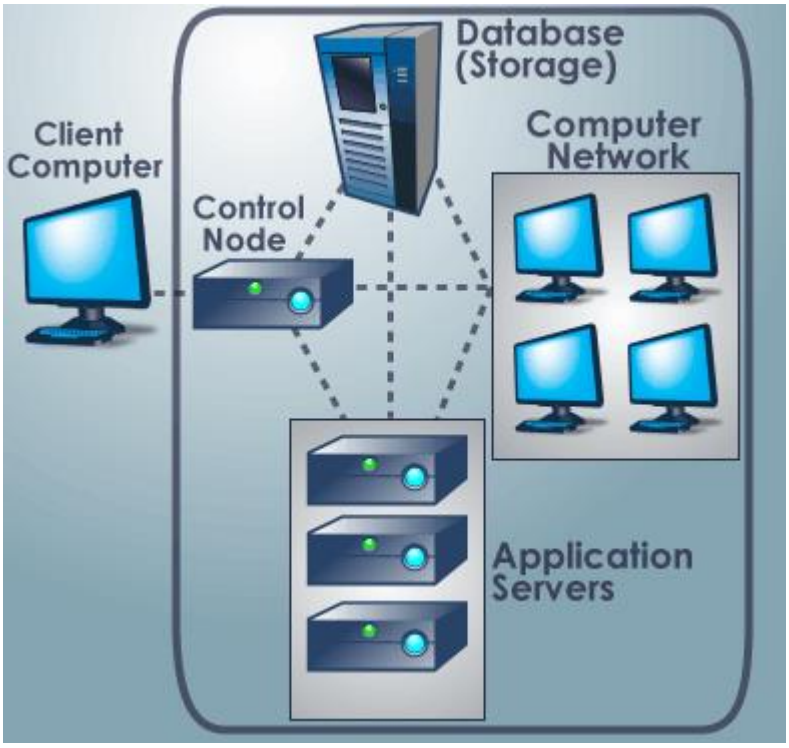


In a cloud computing system the local computers no longer have to do all the heavy lifting when it comes to running applications. The network of computers that make up the cloud handles them instead. Hardware and software demands on the user's side decrease. The only thing the user's computer needs to be able to run is the cloud computing system's interface software, which can be as simple as a Web browser, and the cloud's network takes care of the rest.

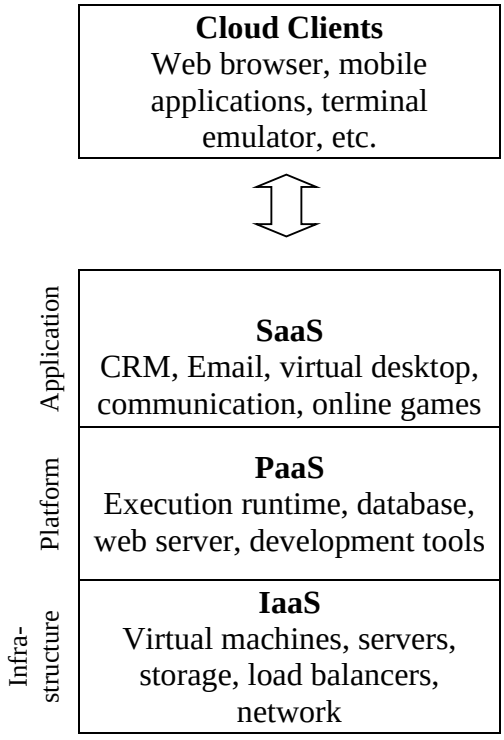
The main characteristics of clouding computing are: on demand self-services, broad network access, resource pooling, rapid elasticity, measured service and multi tenacity.

According to the first characteristic, on-demand self-service, the users are able to provision cloud computing resources without requiring human interaction, mostly done though a web-based self-service portal (management console). Broad network access means that cloud capabilities are available over the network and accessed through standard mechanisms that promote use by heterogeneous thin or thick client platforms such as mobile phones, laptops and PDAs. Cloud computing has the capability to service multiple customers from the same physical resources, by securely separating the resources on logical level (resource pooling). Moreover, the cloud computing has rapid elasticity, that means that resources are provisioned and released on-demand and/or automated based on triggers or parameters. In this way, the ruled application will have exactly the capacity it needs at any point of time. The characteristic measured service refers of using technology as a service. The user just "pay to use" because the cloud computing resource usage can be measured, controlled, and reported providing transparency for both the provider and consumer of the utilized service. According to the Cloud Security Alliance, the multi tenacity refers to the need for policy-driven enforcement, segmentation, isolation, governance, service levels, and

chargeback/billing models for different consumer constituencies. Consumers might utilize a public cloud provider's service offerings or actually be from the same organization, such as different business units rather than distinct organizational entities, but would still share infrastructure.

3. DEPLOYMENT MODELS AND SERVICE TYPES OF CLOUD COMPUTING

There are several fundamental models of clouding computers: IaaS (Infrastructure as a Service), PaaS (Platform as a Service) and SaaS (Software as a Service).

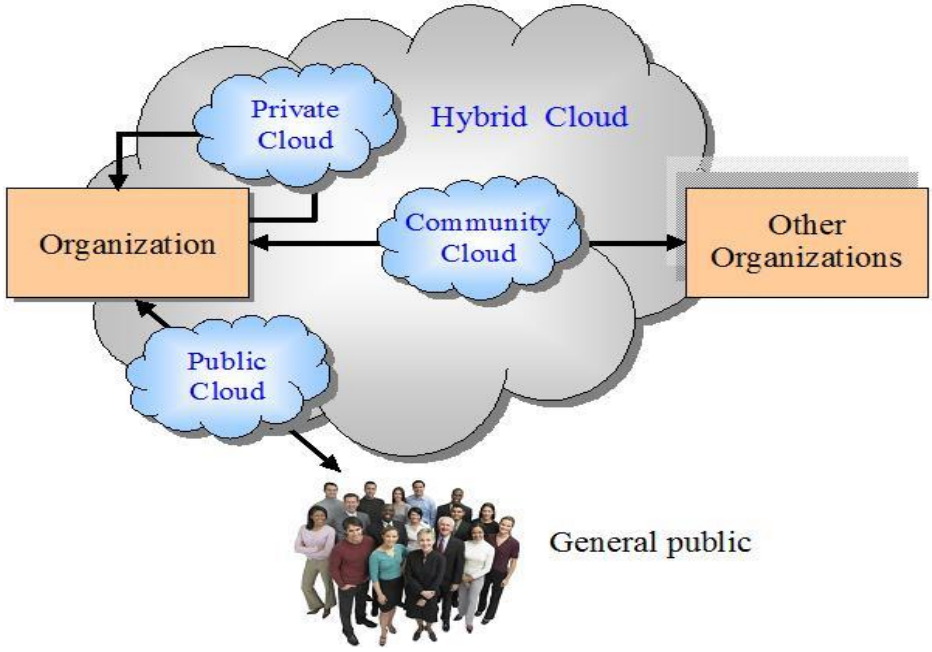


The capability provided to the user in the Cloud Software as a Service (SaaS) is to use the provider's applications running on a cloud infrastructure. The applications are accessible from various client devices through a thin client interface such as a web browser. The client does not manage or control the underlying cloud infrastructure including network, servers, operating systems, storage, or even individual application capabilities, with the possible exception of provider-defined user-specific application configuration settings

Cloud Platform as a Service (PaaS) refers to the capability provided to the consumer is to deploy onto the cloud infrastructure consumer-created or acquired applications created using programming languages and tools supported by the provider. The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, or storage, but has control over the deployed applications and possibly application hosting environment configurations

Cloud Infrastructure as a Service (IaaS) refers to the capability provided to the consumer is to provision processing, storage, networks, and other fundamental computing resources where the consumer is able to deploy and run arbitrary software, which can include operating systems and applications. The consumer does not manage or control the underlying cloud physical infrastructure but has control over operating systems, storage, deployed applications, and possibly limited control of select networking components

Cloud services can be deployed in different ways, depending on the organizational structure and the provisioning location. Four deployment models are usually distinguished, namely public, private, community and hybrid cloud service usage.



The deployment of a public cloud computing system is characterized on the one hand by the public availability of the cloud service offering and on the other hand by the public network that is used to communicate with the cloud service. The cloud services and cloud resources are procured from very large resource pools that are shared by all end users. Some of the best-known examples of public cloud systems are Amazon Web Services (AWS) containing the Elastic Compute Cloud (EC2) and the Simple Storage Service (S3) which form an IaaS cloud offering and the Google App Engine with provides a PaaS to its customers. The customer relationship management (CRM) solution Salesforce.com is the best-known example in the area of SaaS cloud offerings.

Private cloud computing systems emulate public cloud service offerings within an organization's boundaries to make services accessible for one designated organization. In contrast, private cloud offerings are usually not as large-scale as public cloud offerings resulting in worse economies of scale.

In a community cloud, organizations with similar requirements share a cloud infrastructure. It may be understood as a generalization of a private cloud, a private cloud being an infrastructure which is only accessible by one certain organization.

A hybrid cloud service deployment model implements the required processes by combining the cloud services of different cloud computing systems, e.g. private and public cloud services. The hybrid model is also suitable for enterprises in which the transition to full outsourcing has already been completed, for instance, to combine community cloud services with public cloud services.

Perhaps the biggest concerns about cloud computing are security and privacy. The idea of handing over important data to another company worries some people. Privacy is another matter. If a client can log in from any location to access data and applications, it's possible the client's privacy could be compromised. From the security of data point of view the public deployment has a low security level meanwhile the private and community deployments have the high security level. The hybrid deployment model has a medium security level.

4. MICROSOFT OFFICE CLOUD COMPUTING APPLICATIONS

Microsoft has already been offering cloud services through the web in various ways. Some applications of cloud computing are:

- - Windows Live SkyDrive is one of the Windows Live Services, a free web-based application that enables you to save, store, organize, and share files easily.
- - Microsoft Office Web Apps are available for Word 2010, PowerPoint 2010, Excel 2010, and OneNote 2010, making it possible for you to save and work with your Office files online and collaborate with other authors. Office 2010 Web Apps are free to registered Office 2010 users.
- - Microsoft Office Live Small Business is a web-based suite of services that enable you to create and market a website, communicate with others by email and instant messaging, and store and share files online. The basic services are free, and you can add specialty features for a monthly fee.
- - Microsoft Business Productivity Online Suite (BPOS) is a suite of messaging and communications programs designed to provide the kind of collaboration support companies need. BPOS includes Microsoft Exchange Online, Microsoft SharePoint Online, Microsoft Office Communications Online, and Office Live Meeting, all for a monthly, per-user fee.
- Because different types of organizations and businesses have different needs, three different versions of Office 365 are available for end users. These three versions are:
- - Microsoft Office 365 for small businesses offers an easy-to-use set of web-enabled tools for small businesses, independent consultants, and professionals looking for business-class productivity services. Working with the tools people know and use today, Office 365 provides anywhere-access to email, important documents, contacts, and calendars on almost any device.
- - Microsoft Office 365 for enterprise can handle a large number of email accounts, messages, and attachments, provide guaranteed uptime, offer reporting and support options, and deliver Active Directory features that enable a single sign-in for end users. These all features are required because an enterprise have larger-scale IT needs than small businesses or individuals.

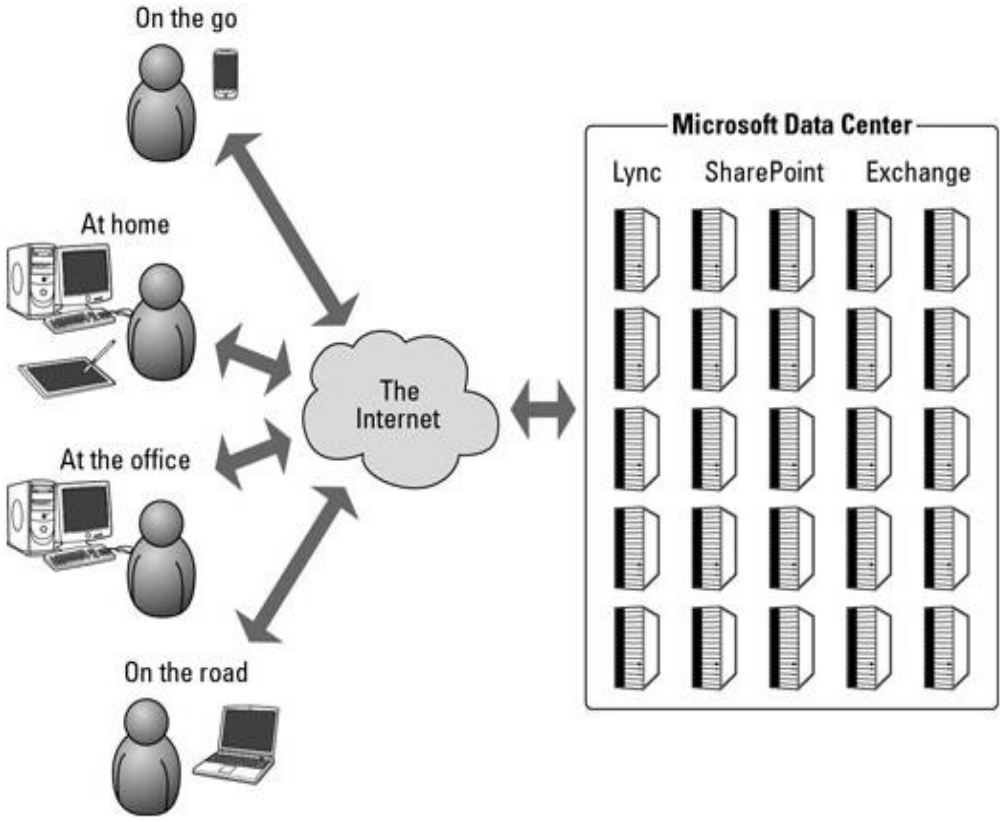
- - Microsoft Office 365 for education provides to the students the access to the latest software possible, but they have to do it on a shoestring (and perhaps diminishing) budget. Cloud-based services can help users in education save money and give students the tools they need to create projects, collaborate in real time, and learn how to use software in the cloud.

5. MICROSOFT OFFICE 365

With the release of Office 2013, an updated version of the Office 365 platform was launched on February 27, 2013. The server components were updated to their respective 2013 versions, and Microsoft expanded the Office 365 service with new plans, such as Small Business Premium, Midsize Premium, and Pro Plus. A new Office 365 Home Premium plan aimed at home users was also introduced. The new plan offers access to the Office 2013 suite for up to five computers, along with expanded the OneDrive storage and 60 minutes of Skype calls monthly. The plan is aimed at mainstream consumers, especially those who want to install Office on multiple computers. A University plan was also introduced, targeted towards users going to post-secondary education. With these new offerings, Microsoft began to offer prepaid Office 365 subscriptions through retail outlets alongside the normal, non-subscription-based editions of Office 2013, which, in comparison, are only licensed for use on one computer.

In March 2014, Microsoft announced that it would rename the "Home Premium" plan to "Home", and add a new "Personal" plan for single users, these new options officially launched on April 15, 2014. In June 2014, the amount of OneDrive storage offered to Office 365 subscribers was increased to 1 terabyte from 20 GB. On October 27, 2014, Microsoft announced that Office 365 subscribers would receive "unlimited" OneDrive storage.

The most important advantage of Microsoft Office 365 is that the user can access it from anywhere, on any device (desktop, laptop, tablet or phone), and it is necessary an internet connection, as it is shown in the figure below:



Office 365 comes in two sizes – one for small businesses and professionals (which referred to as Plan P) and one for medium-sized enterprises (referred to as Plans E1, E2, E3, and E4).

There are some differences between the Office 365 E and P plans, depending of offered features. So, from the hybrid installation point of view, the Office 365 E plans allow on-premise the Exchange and the SharePoint to co-exist, meanwhile, the Office 365 P plan not. Regarding the storage in SharePoint, there are unlimited archives in E3/E4 plans and the possibility of purchase additional SharePoint storage. In Office 365 P plan the e-mail is limited to 25 Gb per user and SharePoint is 15 Gb plus 500Mb per user. From the sharing content with external user point of view the Office 365 P plan has this feature limiter to 50 external users, meanwhile the other plan there are 50 users included for free and the possibility to buy more. No charge and limited to 1500 users until the next version of Office is released.

Furthermore the E plans include the enterprise features, workflow actions and phone support available, as it is shown in the table below.

Features	E1	E2	E3	E4
Advanced administration capabilities and 24/7 support	X	X	X	X

Email, calendar, contacts, personal archive, 25 Gb mailbox storage with Exchange Online	X	X	X	X
Sites to share documents and information with SharePoint Online	X	X	X	X
Instant messaging, presence and online meeting with Lync Online	X	X	X	X
Premium antivirus and anti-spam filtering for email and sites with Microsoft Forefront Online	X	X	X	X
License rights to access on-premises deployment of Exchange Server, SharePoint Server and Lync Server	X	X	X	X
View, edit and share content created in Word, Excel, PowerPoint and OneNote desktop applications online with Office Web Applications		X	X	X
Complete and full-featured set of Office productivity applications with Office Professional Plus			X	X
Sites with advanced capabilities for rich forms, enhanced data visualization with Visio Services, and publishing for simple databases through Access Services and SharePoint Online			X	X
Advanced archive capabilities, unlimited email storage and hosted voicemail with Exchange Online			X	X
Enterprise voice capabilities to replace or enhance a PBX with Lync Server.				X

Microsoft Office 365 has some limitations regarding of archiving, retention, data location, security, mobility, mailbox, operation system and application.
Archiving limitation means that the end user search capabilities in some versions of Office 365 are somewhat more limited than they are with many competing cloud-based and on-premises archiving solutions.

Retention limitation refers to Items from the Office 365 Deleted Items and Junk E-Mail folder, so they can be retained for a maximum of 30 days.

Data location limitation means that Microsoft stores Office 365 customer data in a number of different countries based on the location of the customer. Moreover, Microsoft can move customer data without notice and will not guarantee exactly where a customer's data will be stored.

Security limitation means that Office 365 does not directly support the deployment of redundant spam filters in parallel with Office 365's built-in spam protection

Mobility limitation refers to Office on Demand, a key feature of Office 365 that permits temporary Office clients to be installed on any Windows 7/8 PC, is not supported on the iPad, the most commonly deployed tablet computer in the workplace.

Mailbox limitation means that Inactive mailboxes can have their contents held indefinitely in an In-Place Hold, being exercised before the mailbox is automatically deleted. The contents of a deleted mailbox can be recovered for 30 days after deletion, but both the mailbox and its contents will not be recoverable after 30 days if the hold is not activated.

Operation systems and application version limitations refers that Office 365 support for Windows XP/SP3 and Vista SP2 ended on December 31, 2013. The minimum supported versions of Outlook clients that can be used are Outlook 2013, 2010 and 2007 (with some limitations in functionality) for Windows and Outlook 2011 for Mac.

6. CONCLUSION

In conclusion, the cloud computing applications are used everywhere. Smartphone apps use cloud computing technology to let the user store and access data that normally wouldn't fit on the own handheld device. Research institutions use cloud computing to house massive libraries of information. And also the video game companies experiment with ways to let the player access state-of-the-art games without requiring a hefty investment in a gaming rig. Microsoft Office 365 is a robust suite of programs that offers a wide range of capabilities and its features and functions response with successful of a wide range of potential customers. Office 365 may be used in regulated environments, such as healthcare, government and also in the European Union. Microsoft also benefits from support for a hybrid model given that it has a commanding market share for desktop productivity applications and its dominance in the business email market through Exchange. This gives Microsoft an advantage that many competitors cannot enjoy.

7. BIBLIOGRAPHY

1. http://www.microsoft.com/business/en-cb/Solutions/Pages/Cloud.aspx
2. http://computer.howstuffworks.com/cloud-computing/cloud-computing.htm
3. http://thoughtsoncloud.com/2014/01/cloud-computing-defined-characteristics-service-levels/
4.http://www.isaca.org/groups/professional-english/cloud-computing/groupdocu ments/ essential%20characteristics%20of%20cloud%20computing.pdf
5. http://thecloudtutorial.com/nistcloudcomputingdefinition.html
6. http://technet.microsoft.com/en-us/magazine/hh509051.aspx
7. http://thecloudtutorial.com/nistcloudcomputingdefinition.html
8. http://www.chinacloud.cn/upload/2012-08/12081308441352.pdf
9. http://www.cloud-competence-center.com/understanding/cloud-computing-deployment -models/
10. http://www.jmir.org/2011/3/e67/
11. http://en.wikipedia.org/wiki/Cloud_computing
12. http://en.wikipedia.org/wiki/Office_365
13. https://www.aisn.net/knowledge-center/ToCloudOrNotToCloudSharePoint Hosting Paper.pdf
14. http://www.configureoffice365.com/office-365-subscription-differences-p1-and-e1-3/
15. http://www.dummies.com/how-to/content/microsoft-office-365-features-and-benefits.html
16. http://www.mcafee.com/us/resources/white-papers/wp-osterman-office-365.pdf
17. http://sonian.com/overcoming-the-limitations-of-office-365/
18. http://www-05.ibm.com/ro/cloud-computing/index.html
19. http://www.wikinvest.com/concept/Cloud_Computing
20. http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf
21. http://www.cloudcomputing-news.net/