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CLEARING UP THE CLOUD



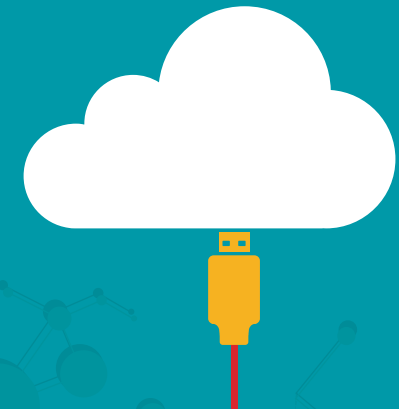
Did Someone Say Cloud?

The world of business and technology produces a fair share of buzzwords. More often than not, these words flood into our lexicon only to have their true meanings washed away altogether due to overuse and appropriation. Recently, it appears this has happened to the term “cloud computing.” Everyone is talking about it, boasting about its benefits, but does anyone truly understand its meaning with all of the indiscriminate usage and the increasing fuzziness surrounding the term? It seems consensus on the Cloud is indeed cloudy.

Simply put, the Cloud refers to a software service that operates via the Internet (i.e., on-demand) rather than from a piece of physical hardware (i.e., on-premises). Apart from its technical aspects, the primary goal of cloud computing is to increase business productivity. Defining the Cloud involves explaining how it improves and impacts IT by analysing its direct and indirect benefits. This is how most IT projects are assessed.

The standout feature of the Cloud versus conventional computing is its ability to enable the sharing of resources between user organisations (e.g., hardware, software, operations, etc.). This sharing means reducing the unit cost of each transaction and, thus, offering IT solutions that are more affordable and accessible to a wider public (e.g., SMBs, individuals, etc.). Sharing resources has been made easier in recent years thanks to the widespread adoption of online networks.

Depending on the level of sharing, the resulting benefits vary significantly, with choices being made by users according to their limitations and strategies. In this way the Cloud becomes clearer when you realise that there isn't actually one Cloud but several.



Understanding the Different Types of Clouds

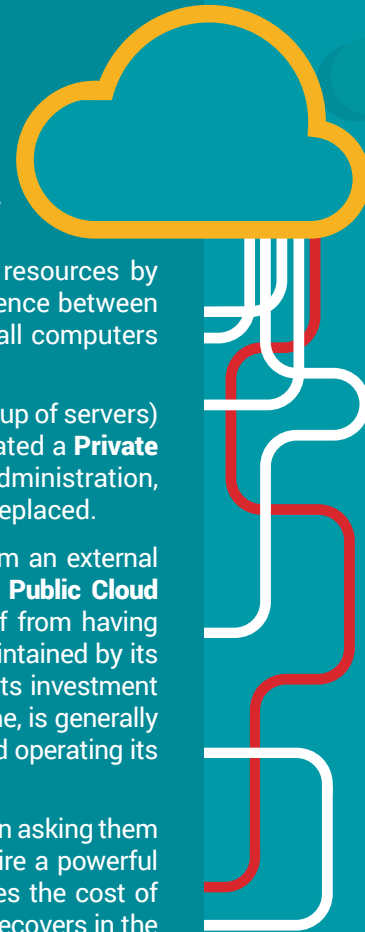
Let's consider a business that, rather than using four different applications on four separate computers, decides to run them together (as virtual machines for example) on a single, more powerful piece of hardware. It will have produced the first sharing of its computing resources by creating a level one Cloud. The savings made will amount to the difference between the full cost of operating the new server and the total cost of four small computers that require additional administrative time and energy.

If this same business then acquires an even more powerful server (or group of servers) to host all its applications and those of its subsidiaries, it will have created a **Private Cloud**. It further increases savings by group-sharing the purchasing, administration, and energy and maintenance costs of the small dispersed machines it replaced.

It can take this process even further by "hiring" computing capacity from an external provider for installing its applications. In this case, it is called an **IaaS Public Cloud (Infrastructure as a Service)**. The client business completely frees itself from having to buy and manage hardware by using the infrastructure created and maintained by its partner. The provider, who also achieves economies of scale by sharing its investment with other customers, invoices them in exchange for a fee which, over time, is generally less than the amount the business would have invested in purchasing and operating its own hardware.

A software publisher can do the same thing with its customers. Rather than asking them to invest in computing hardware to install its own software, it can acquire a powerful server to host the software for its customers. For the publisher, it shares the cost of the acquisition and administration of the hardware AND software that it recovers in the subscription or price for use. This is called a **SaaS Public Cloud (Software as a Service)**.

However, the software publisher can decide to go even further. Rather than maintain as many applications as there are customers, it may wish to only use one copy of its software to manage all its customers at once. This would allow it to carry out all the software upgrades required to update its solution in a single operation. This is called a **Multi-Tenant SaaS Public Cloud**. This sharing of version upgrades in addition to the hardware and software offers substantial savings to customers. It also means making the solution highly affordable or even free for small size customers or those without IT expertise (e.g., SMBs, individuals, etc.). It is currently accepted that the expenses involved in using the Multi-Tenant SaaS Cloud over five years are half the total cost of operating a conventional computing solution. Essentially, the savings are made on the solution's administration expenses (e.g., installation, training, server administration, backups, troubleshooting, version upgrades, etc.).



The different types of Cloud offerings can be summarised as follows:



Level of sharing

- Less internal hardware
- Lots of internal hardware
- Hardware with a provider
- Hardware, software and version upgrades with the publisher



Cloud type

- Virtualisation
- Private Cloud
- Public Cloud
- SaaS Public Cloud
- Multi-Tenant SaaS Public Cloud

Savings

Just as the sky can be filled with both small, light clouds and large, heavy clouds, several kinds of computing "clouds" can coexist. Indeed, this is the primary reason why this buzzword has now become so nebulous. Any individual who can validate a form of computing resource sharing can claim to offer a Cloud solution. However, it is worth assessing the level of sharing to understand the real economic benefit.

THE GOAL IS NOT TO USE THE CLOUD SIMPLY FOR FUN OR TO KEEP UP WITH TRENDS BUT TO ACQUIRE A SERVICE AT A MORE AFFORDABLE PRICE.

A Virtuous Circle of Benefits

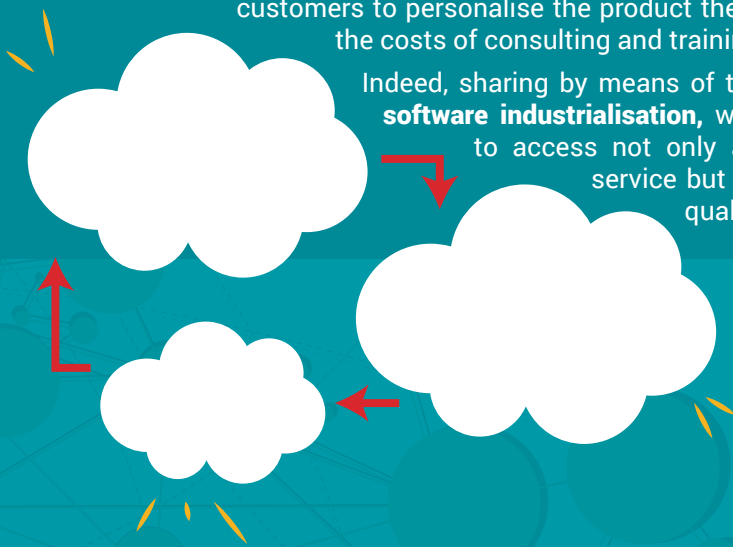
Apart from the economic advantage that it produces, which can alone justify interest in the Cloud, the sharing of computing resources closes a virtuous circle that has the effect of improving the service provided to its users.

Because the software publisher or the infrastructure operator is paid on usage rather than just once with the launch of the project, its quality of service improves regularly. Indeed, it must continuously ensure the proper operation of its product at the risk of seeing its revenues disappear.

In regards to the infrastructure that's implemented, the publisher only has one platform to manage. For example, it can invest in a 24/7 monitoring service in order to guarantee uptime to meet the highest market standards. For the same reason, it must secure its infrastructure and access points with the latest technologies available and meet compliance standards (e.g., ISAE, SSAE, HIPAA, Safe Harbor, PCI, etc.). This was once something only the largest companies could afford to do, but now is accessible to companies of all sizes thanks to the Cloud.

In regards to the software itself, the publisher only has a single version to maintain. This way, any malfunctions, operational gaps or user-requested improvements are quickly corrected or developed, and automatically benefit the entire customer community. Active collaboration takes place between the publisher and its customers and within the user community. This closeness to users also allows the publisher to develop simpler interfaces and allow customers to personalise the product themselves, avoiding the costs of consulting and training.

Indeed, sharing by means of the Cloud leads to **software industrialisation**, which allows users to access not only a more economic service but also one of better quality.



Opening New Horizons

With the Cloud, the platform is open on the Internet. Users can get access day and night which permits working from home and the development of easily connectable mobile applications. The Cloud easily satisfies new trends in information consumption.

Cloud applications are easy to deploy to all the employees of a company, however many there are and wherever they are located in the world. In record time, the employees of a global group can enjoy a single application and collaborate efficiently by eliminating the obstacles that come with distance and borders. The same applications can also be deployed to all the partners of the user company (customers, suppliers, etc.) to constitute an inter-company collaborative network where members can easily exchange information, documents and payments, or even close deals directly.

Such platforms end up accumulating considerable volumes of data and justify the existence of new technologies, such as Big Data or Machine Learning, that provide users with new functionalities.

Indeed, the Cloud is endlessly opening up new horizons most of which are yet to be developed. This is what makes the Cloud something of an actual **revolution** and also what makes it difficult to understand. Apart from giving better service at a better price, the Cloud is a complete paradigm shift for the IT industry and software publishers.