Cloud. Right, wrong or indifferent?

Expert article
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Published in Ergon magazine 2019
SMART insights

ergon

Once a niche solution, cloud computing has developed into an IT standard for modern companies. Cloud computing opens up a multitude of opportunities but it comes with challenges as well: should the company cloud be private, public, hybrid or even a multi-cloud? Cloud experts Daniel Bacher and Zoltán Majó shine a light on this paradigm shift.

As digital transformation sweeps through industry, it directly stimulates demand for cloud services. According to the analytics company Gartner, cloud computing has changed capabilities of IT over the last ten years and it has now become a necessary accelerator of innovation across the company. The trend today is clearly pointing towards the total or at least partial transfer of IT services and business segments to the cloud in order to improve agility and efficiency.

Switzerland – an attractive market for global cloud service providers

Switzerland's capacity for innovation, the growing importance of many companies operating here, and, not least, a growing IT market, make the country an attractive location for many businesses. Switzerland boasts stable political conditions, robust data protection laws and solid infrastructure – a winning combination, also for data centres and cloud computing service providers. The proximity of domestic computing centres is advantageous for Swiss companies, too, especially in cases when storing locally within the country and data security in general are of key importance.

The rise of the public cloud

Mention the word "cloud" today and you will most likely be understood as referring to a public cloud. A cloud can, however, be private as well.

Generally, what differentiates a system with cloud capabilities from systems using traditional infrastructure is the cloud-based system's ability to allocate and deallocate IT resources (e.g., computing power, storage, and networks) on demand according to real-time requirements.

Companies can operate a (private) cloud in the company's own data centres or on the premises of hosting partners. This setup enables close control of data locality and is thus the preferred option of numerous companies from German-speaking countries (incl. Switzerland).

A public cloud, on the other hand, makes owning an infrastructure largely superfluous as most components of the infrastructure are managed and kept up-to-date by the cloud service provider (e.g., Amazon, Google, IBM, or Microsoft). In this setup the cloud provider holds the data, yet building up the infrastructure (and tearing it down once it is no longer needed) is much easier than with any system running on-premise. The arrival of a raft of major public cloud-service providers onto the market has thus brought substantial change and far-reaching developments to the world of cloud computing. The public cloud has ushered in a new era defined by agility, efficiency and software innovation.

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"The proximity of domestic computing centres brings many advantages – for Swiss companies as well as for foreign players."

"The highly available, cost-effective and – in theory, at least – infinitely scalable cloud platforms offered by major providers are not always the best solution."

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Modern market-dominating business solutions are increasingly offered only via the public cloud – a global trend that will, sooner or later, affect Europe and Switzerland as well. Companies, thus, need to look beyond running their systems on-premise and consider moving into the cloud, either completely or at least in part, and should also factor in associated data security into their digital strategies.

The engine of digitalisation
In essence, the public cloud allows any internet-enabled device 24/7 access to services anywhere in the world. A public cloud enables adapting IT services and infrastructure to changing requirements far easier than a private (cloud) setup. The enhanced flexibility achieved by a solution based on the public cloud gives companies a competitive edge in today's volatile and complex market environment.

In addition to adaptability, services like analytics, speech, image and text recognition, translation, machine learning, internet of things, and artificial intelligence are just some of the additional benefits that cloud providers offer and are constantly expanding as part of their range of services. By using these services, companies can rapidly seize opportunities at substantially lower costs and with significantly less effort than with an on-premises setup. Public-cloud services also enable greater agility when it comes to developing software solutions.

Hybrid and multi-cloud solutions are right on trend
There are a host of models available: depending on a company's needs, a hybrid or multi-cloud solution may also be a way to go.

A hybrid cloud enables data and application to be deployed partly into an in-house datacentre and partly to the public cloud. This is an attractive best-of-both-worlds option that that reduces dependence on the provider and it can also help to avoid potential cost traps. Importantly, the hybrid option also means that existing software solutions, which may have been developed at considerable cost, can be kept running as-is.

Companies may also opt for a multi-cloud approach whereby data and applications are distributed across multiple public clouds. This option makes it possible to bundle the best services offered by a set of different cloud providers. Again, this can reduce dependences and improve cost efficiency.

Too good to be true?
With the public cloud, flexible and speedy adaptation of individual IT infrastructure, enhanced availability, better reliability and numerous services are just some of the advantages that are available and accessible at the touch of a button.

But where might the unexpected snags lie? Here, as in many other areas, the offering is so large and the pace of developments is so fast that in some cases it can be difficult to see the wood for the trees. Public-cloud solutions tempt consumers with promises of attractive performance but there is no guarantee that costs will necessarily be saved and the best returns achieved with a migration to the public cloud. Hidden costs may become apparent only later, knocking a hole in the budget.

Furthermore, the highly available, cost-effective and, at least in theory, infinitely scalable cloud platforms, offered by Amazon, Google, Microsoft and others, may not always be quite as perfect as they seem. No one's capacity is truly unlimited and an error message, such as "additional resources not available", can bring you right back down to Earth in an instant. Admittedly, this issue becomes less and less prevalent thanks to ongoing infrastructure expansion, but it exists.

Look before you leap!
In a complex field, where even experts find it sometimes hard to keep on top of things, companies are advised to consider carefully which model and which public-cloud service provider they are going to choose; while changing cloud-service provider is technically possible, it can entail considerable cost and hassle.

Anyone with an interest in cloud computing, or those who may already have a strategy in place or projects in the pipeline, should get a neutral cloud expert on board as early as possible. It is important to understand that there is no absolute "right path", however there are plenty of wrong turns and dead ends – a radical conversion to cloud computing may not be the ideal route, for example. Detailed expertise, market intelligence, and research are required to even begin answering the question of which cloud-service provider might offer the best and most future-proof solution for a given organisation's requirements.

Cloud computing harbours tremendous potential. Organisations that plan well and get their strategy straight from the outset will reap the benefits of these new opportunities while avoiding mistakes that cost others, dearly.