Which fields exist for Cloud Services?

Cloud Services are fundamentally usable for all business fields. Usually they are divided on the basis of a layer model in IaaS, PaaS and SaaS. What are the differences? Depending on the level in the IT-stack, on which the Cloud Service is placed, it is distinguished between Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS).

Infrastructure as a Service (IaaS): This model offers basic IT-infrastructures as computing power, storage or network capacity. The user has the control over the operating system and the applications. Usually he has to put the infrastructure together by himself using the needed computing instances and memories.

Platform as a Service (PaaS): PaaS is a service which offers a programming model and development tools to produce and run cloud-based applications. At the deployment of the application a PaaS-provider should offer automatically the needed resources as computing power, memory, network, middleware like message queuing or load balancing and databases. Depending on the requirements it will scale („fabric") the resources. In addiction built-in monitoring-functions are expected, with which the run time of the applications can be controlled.

Software as a Service (SaaS): SaaS represents the highest layer of the cloud-model, in which the provider offers his applications for the user. This is the difference compared to his predecessor ASP (Application Service Provider), where the provider offered applications from other producers for rent. Often the multi-customer capability wasn't possible. The support of multi-customers is standard in SaaS. The customer of a SaaS-provider has not to concern about the technical infrastructure, the installation and the updates of the application. These are occurring centrally through the provider, so that the user always has the newest version of the software.

Anything as a Service (XaaS): XaaS is a collective type and stands for many different cloud services. XaaS, which is also named Everything as a Service (EaaS), is a paramount term and stands for all services, infrastructures, hardware, software, use of human intelligence under Human as a Service (HuaaS) and characterizes the core of cloud computing.

The difference between traditional Hosting and Cloud Services

Real Cloud Services differ from the traditional Hosting in following qualities:

On-demand Self Service: Resources (for example computing power) can be made available automatically by need and without human interaction.

Broad Network Access: The resources, which has been made available, are provided through a network and the access can happen regardless of the client (for example laptop, mobile phone, etc.).

Resource Pooling: A so-called Multi-Tenant-Model is used, where physical and virtual resources are distributed dynamically by need to the user or customer. Generally, the resources are made available regardless of the place. By contractual settlement it can be defined where the data is saved (for example a specific nation or data center).

Rapid Elasticity: Resources and services are made available quickly and flexibly, so that it seems for the customer that there are infinite resources available.

Measured Services: The resources, which have been used from the customer, are measured and controlled from the service provider, so that there is a transparency of the used services (Pay per Use).

How safe are my data?

In principle the place where the server with the data is, defines the legal system. Because of this legal problem, more and more local and foreign companies want an IT-service, which is placed in Switzerland; so they are under the Swiss legal system. Specially customers from delicate fields regarding data protection as law firms, trust agencies and insurance companies find it important that their data remain in Switzerland.

But also in Switzerland it is possible that a provider of a computing center is forced to give the data away. Although – differently than in the USA – is a suspicion not enough. There has to be a legal basis; for example, a current criminal proceeding and the following order to communicate the data. Foreign prosecution services can gain access to server data if they conduct a criminal proceeding, set up a request for judicial assistance to Switzerland and fulfill the requirements for legal assistance. This measure of taking of evidence is applied with a certain reserve.