**TEXT**

**CLOUD TECHNOLOGIES IN different Industries**



**What are cloud technologies and why are they needed?**

Cloud technologies are technologies of distributed processing of digital data, with the help of which computer resources are provided to the Internet user as an online service. The programs are launched and display results in a web browser window on a local PC. At the same time, all necessary programs and their data are located on a remote Internet server and are temporarily cached on the client side: on a PC, etc.

The advantage of the technology is that the user has access to his own data, but does not have to care about the infrastructure, operating system and software with which he works. The word "cloud" is a metaphor for a complex infrastructure that hides all the technical details behind it.

**Types of cloud technologies**

 There are the following categories of cloud technologies:

* Public cloud - simultaneous access of many users to the IT infrastructure. But users do not have the ability to manage and maintain this cloud, all responsibility rests with its owner. Any company or private individual can become a subscriber of the offered services.



* A private cloud is an IT infrastructure that is controlled and operated by only one subscriber in his own interests. The infrastructure for managing a private cloud can be located either on the premises of the user, or at an external operator, or partially at the user and operator.
* A hybrid cloud is an IT infrastructure that combines the best qualities of a public and a private cloud. Such a composition has unique objects connected to each other by standardized or proprietary technologies that allow data or programs to be transferred between components.

**Cloud computing capabilities**

 There are several levels of cloud computing:

Lower level "Infrastructure as a service" (IaaS, infrastructure as a service). Users receive basic computing resources: processors and devices for storing information - and use them to create their own operating systems and applications. The consumer does not manage the underlying infrastructure of the cloud, but has control over operating systems, storage systems, deployed applications. Limited control over the selection of network components (for example, a host with network screens) is possible.



The next level is "Platform as a service" (PaaS, platform as a service). Users have the opportunity to install their own applications on the platform provided by the service provider. The user does not manage the basic infrastructure of the cloud: networks, servers, operating systems and data storage systems, but has control over the deployed applications and some configuration parameters of the hosting environment.

A higher level of cloud computing "Software as a service" (SaaS, software as a service). In the "cloud" not only data is stored, but also related programs, and the user only needs a web browser to work. The consumer uses the applications of the provider that works in the cloud infrastructure. At the same time, the user does not manage the basic infrastructure of the cloud - networks, servers, operating systems, storage systems, even individual application settings, except for some application configuration settings.

Examples of cloud solutions

At the moment, three giants rule the world - AWS, Azure, Google Cloud. These companies occupy the lion's share of the market around the world (except China, there is also Alibaba Cloud), are technological leaders and set trends in the development of cloud IaaS services. For example, AWS now has more than 100 services (IaaS, SaaS, PaaS) in its portfolio.



With cloud computing, an organization's data can be analyzed to find patterns and insights, make predictions, improve them, and make other business decisions. Cloud services can provide your organization with higher computing power and advanced means of ingesting massive amounts of data, as well as the ability to quickly scale your environment as it grows.

Cloud technology plays an important role in the development of new technology cars. So far, they are used more often in information and entertainment systems and to build a reliable IT infrastructure of manufacturing companies and importers. But soon we will see, for example, the update of an electric car through the cloud (in automotive industry).