The Open Telekom Cloud is the public cloud offering from Deutsche Telekom and managed by T-Systems. A cost-effective IaaS/PaaS can be offered for the European market by relying on standard hardware as well as standardized and automated processes.

The services are produced at the data centers in Magdeburg and Bire, located around 25 km apart from one another. The two availability zones are connected by means of a low-latency, high-speed network. The Open Telekom Cloud is additionally provided from a twin-core data center in the Netherlands as well as an autonomous community cloud from Switzerland. As operation is carried out exclusively at European data centers, T-Systems as a German provider fulfills all relevant security requirements and regulations for operation of secure IT services.

The Open Telekom Cloud console allows you as the user to select and configure individual components. You can choose from network, computing and storage services. These IaaS basic functions are supplemented by additional services such as Cloud Container Engine (CCE), relational databases, the AI service ModelArts as well as management and security functions. Basically KVM hypervisor is used. Based on OpenStack technology, the risk of a vendor lock-in is minimized.

Besides the public cloud variant Open Telekom Cloud is available in a hybrid cloud mode.

**Network**

Users first need to set up a Virtual Private Cloud (VPC) in order to work with the Open Telekom Cloud. VPCs isolate networks within and/or between tenants with elastic IP address, thus ensuring that no unauthorized person has access to your resources. Network isolation also means that you receive your own IP address range. The VPCs can include several availability zones. You can set up additional subnets below your VPC. By means of VPC peering/endpoint it is possible to give other users of the Open Telekom Cloud secure access to your VPC.

When setting up the VPC, users can assign access controls by means of firewalls and security groups. A decision is then made later as to which resources are to be made accessible via which ports for which user groups. The underlying network for the Open Telekom Cloud is software-defined, which simplifies administration. A secure tunnel connection can be set up, for example, via IP VPN (Elastic IP Service) to your own IT resources in your data center. Dedicated network connections are available as well: MPLS, Ethernet Connect, Cloud Exchange, and Secure Cloud Connect.
Open Telekom Cloud Services

Computing

Computing services primarily consist of three components: virtual CPU and virtual RAM are provided from the hardware pools in the data center in accordance with the required flavor. An operating system image is then included with the virtualized hardware as a third component. The end result is a Virtual Machine (VM). Users can choose between 1 and 208 vCPUs as well as 1 to 2,932 GB RAM. These basic components plus GPUs and local disks result in more than 70 flavors for a variety of uses, e.g. big data, in-memory computing, graphical applications or virtual workstations etc. Additionally Dedicated Hosts (DeH) and Bare Metal Flavors (BMS) are available. These customer-specific resources can tackle exceptional tasks like machine learning.

Operating system and application images are deployed and managed in three different ways: Usage of hardened public and application images from the Open Telekom Cloud library, usage of user-owned images, designing and storing of self-created images.

Cloud images from the Open Telekom Cloud library, usage of user-owned images, designing and storing of self-created images. Depending on the access requirements, data can be stored in three different classes (standard, warm, cold) and thus stored cost-effectively. The Scalable File Service (SFS) is also available as network storage. This combines the advantages of OBS with the performance of EVS disks. Thanks to the integrated Key Management Service (KMS), all three storage services can be encrypted – even with your own keys. With the Cloud Backup & Recovery Service (CBR), cloud servers (ECS), the associated disks (EVS) or even entire file servers (SFS) can be conveniently backed up.

Continuous Enhancement

The Open Telekom Cloud is continuously supplemented by further services and features. Various database formats, a data warehouse and tools for big data analysis are available. The use of Open Telekom Cloud becomes more convenient and even more secure by means of Heat Resource Templates, communication services as well as Cloud Trace (CTS) as a protocol service. Tag Management Service (TMS) and the Financial Dashboard make costs and resource usage transparent. A public dashboard informs about the status of the services. For transfer of huge data amounts Open Telekom Cloud offers a mobile storage solution based on NAS devices.