# OPEN TELEKOM CLOUD
FOR RESEARCH AND EDUCATION

## Easy and safe extension of research environments

PUBLIC CLOUD – IDEAL EXTENSION OF EXISTING RESEARCH ENVIRONMENTS

Public clouds are gaining momentum in research and education with new funding practices and procurement methods for cloud services becoming available e.g., through the OCRE project. Researchers are increasing the demand for more choice and faster provisioning of IT resources to support new projects and analytics methods, driven by innovations in artificial intelligence and big data technologies. Meanwhile much more transparency is being provided regarding the concerns about data security, service availability, vendor lock-in and governance aspects. Public Cloud offers great benefits for all dynamic IT usage scenarios such as test and development, simulations, modelling and even long-term data storage and preservation.

IT-DEMAND

EXISTING CAPACITY
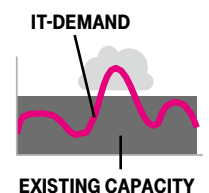
PUBLIC CLOUD – SUPPORTING DIGITAL EDUCATION

Universities, schools, and other institutions have moved into online offerings at tremendous pace. The development of such new offerings is not always predictable, which entails investment risks on the one hand and the need for scaling on the other. Public clouds offer an optimal basis for such dynamic scenarios. They reduce investment risk and automatically adjust costs to the usage load or offering development. The use of online meeting systems in existing infrastructures demonstrates how temporary IT requirements can be optimally integrated using public cloud capacities. The institutions do not have to maintain the necessary capacities themselves but can rent them as needed.

SHORTEN TIME TO IMPLEMENT
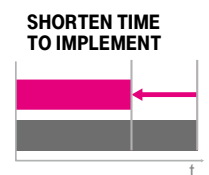
OPEN TELEKOM CLOUD – THE DIFFERENT CLOUD

Taking a closer look at the requirements for a cloud for research and education, it becomes clear that these are met by Open Telekom Cloud through its use of open source technologies, easy integration in hybrid cloud scenarios and backing by a large European and financial stable provider – Deutsche Telekom.

EXPERIENCE

Open Telekom Cloud is different. From the initiation of the services in 2016, Open Telekom Cloud has had a clear focus on research and education. Amongst the first significant users were leading European research organisations across the members states including CERN, CNRS, CSIC, DESY, EMBL, ESRF, INFN and KIT that successfully tested and evaluated the use of Open Telekom Cloud as hybrid extension of existing research environments. In the Horizon 2020 projects Helix Nebula Science Cloud [1] and INDIGO-Datacloud, complex applications from a wide range of science disciplines ranging from high-energy physics to neutron/proton physics, life sciences and astronomy could be supported within a short time frame, resulting in best evaluation results for Open Telekom Cloud. In 2021, a collaboration with EGI has been started to improve user access to commercial cloud resources in the European Open Science Cloud. Furthermore, the Open Telekom Cloud was selected by the European Commission and the European Space Agency as part of the Mundi Web Services [2], to support the Copernicus programme for Earth Observation. Since 2018, satellite and other data are made available to thousands of users on a daily basis, to derive important insight from the data e.g., for climate change, environment and agriculture through prepared or custom analytics directly in the cloud. Currently, the Open Telekom Cloud is being used in various research, education and industry environments and supports the fight against COVID by operating the German Corona App. The infrastructure has grown to manage more than 500 Petabyte of customer data and is considered being the largest European cloud service based on the leading OpenStack open source framework.

T··Systems· Let's power higher performance

SERVICES

Open Telekom Cloud provides a wide range of services, including IaaS, PaaS and SaaS. All services are based on leading open source frameworks supported by strong communities e.g., Kubernetes, ELK stack, Kafka, MySQL, PostgreSQL and fully integrated into the easy-to-use user interface and OpenStack framework. For programmatic and automated operations, a large set of more than 500 APIs is available with extensive documentation. And with ModelArts a modern, easy-to-use, and end-to-end development platform for AI is offered, that allows models to be trained and provided.

To facilitate the start of a new project, videos, dedicated webinars and training courses are made available. A standards-based topology designer supports cloud architects to design cloud applications once and run them anywhere. And for complex scenarios T-Systems cloud experts can be consulted or its professional services be engaged to build and/or manage the required cloud environments.

PRIVACY, SECURITY, AND SERVICE QUALITY

When it comes to sensitive applications and data, users can rely on Cloud made in Germany. Numerous independent tests and certifications all prove that the Open Telekom Cloud meets the very toughest demands in data privacy and security and consistently achieves the expected service quality and performance through its zero-outage policy.

SUSTAINABILITY

The relevance of energy-efficient cloud computing has been confirmed in a recent report from the EC [3] and increasing infrastructure utilisation in Europe is a key objective. With the state-of-the-art and efficient fabric, excellent data I/O and full integrated orchestration functions - operated on 100% green energy - Open Telekom Cloud will greatly benefit sustainability and reduce the energy consumption and operations costs of existing applications.

7 THOUGHTS TO CONSIDER WHEN SELECTING YOUR PUBLIC CLOUD

- Can I continue to use my (open source) applications and programming frameworks
- Can I rely on the experience of the provider regarding scientific applications
- Can I trust the proposed performance and price will meet my requirements
- Can I rely on a sufficient scalability of resources
- Can I get access to consulting, training and professional services
- Can I avoid any vendor lock-in regarding software, data and architecture
- Can I further contribute to sustainability through the use of the provider

USEFUL LINKS

- Home page: https://open-telekom-cloud.com/en
- Online price calculator: https://open-telekom-cloud.com/en/prices/price-calculator
- Topology designer: https://open-telekom-cloud.com/en/support/cloud-topology-designer
- Health status dashboard: https://status.otc-service.com/
- FAQ: https://open-telekom-cloud.com/en/support/faq
- Knowledge base: https://docs.otc.t-systems.com/
- Community: https://community.open-telekom-cloud.com/
- Blog: https://open-telekom-cloud.com/en/blog
- YouTube Playlist: https://www.youtube.com/playlist?list=PLS60dhorR-hgg1QFxLNfcayng8oIpD1jz

[1]   https://www.hnscicloud.eu/
[2]   https://mundiwebservices.com/
[3]   https://digital-strategy.ec.europa.eu/en/library/energy-efficient-cloud-computing-technologies-and-policies-eco-friendly-cloud-market

QUESTIONS?

E-Mail:

OCRE@T-SYSTEMS.COM

CONTACT

Guus van Huijgevoort, Sales NL
E-Mail: guus.van-huijgevoort@t-systems.com

Jurry de la Mar, OCRE Manager
E-Mail: jurry.delamar@t-systems.com

ISSUED BY

T-Systems International GmbH
Hahnstr. 43d
60528 Frankfurt am Main
Germany

www.t-systems.de