Unisphere

CLOUD RESOURCES FOR SAFE DRONE FLIGHTS

While drones are becoming increasingly unattractive for private users due to strict laws and regulations, commercial interest in unmanned aerial vehicles is growing sharply: According to a study by Allianz's industrial insurance group AGCS, around 2.7 million commercial drones will be in the air worldwide by 2020.

Detailed planning is necessary to ensure that automated air traffic remains safe and drones reach their destination undamaged. That's where Unisphere comes in: The start-up has developed a platform that calculates safe and certified flight plans for automated drones based on the current traffic situation in the sky, expected energy consumption and historical, current and projected weather data.

For these compute-intensive and business-critical processes, Unisphere relies on the highly scalable capacities of the Open Telekom Cloud. And as a result it benefits from inexpensive storage, highly scalable computing resources and secure encryption technology.

AT A GLANCE

The Task: Unisphere needed highly available and scalable computing and storage resources to perform data-intensive and mission-critical processes such as calculating flight plans for drones in real time.

The Solution: Unisphere uses IT capacities from the Open Telekom Cloud. The Bavarian company now stores the constantly growing amount of historical and current weather data in the Object Based Storage (OBS), and uses powerful virtual machines to calculate flight plans. Encryption via Virtual Private Network (VPN) ensures maximum security.

The Advantages: The start-up uses memory and computing power exactly as required. Thanks to flexible scaling, Unisphere can react in real time to spontaneous weather or traffic conditions. The multiple-certified data centers in Germany guarantee security and data protection at the highest level.

THE CUSTOMER: UNISPHERE

Unisphere specializes in flight management and consulting in the areas of drones, air taxis and high altitude platforms. In addition, the flight management experts act on behalf of the Swiss Federal Office of Civil Aviation as a qualified testing authority for drone licenses. The team consists of 10 employees, some of whom participated in the first circumnavigation of the world with a solar aircraft in 2016. The project initiator and pilot at the time, Bertrand Piccard, is Unisphere's patron. Founded in 2017, the start-up is based at the Business Incubation Center of the European Space Agency ESA in Oberpfaffenhofen.

THE CHALLENGE

With its software platform, Unisphere develops flight plans for customers who use small drones for commercial purposes – for example as a delivery service to quickly supply hospitals with blood reserves. The Bavarian company calculates the energy consumption, checks the current weather conditions on the planned route and then uses this data to calculate a certified digital flight plan for drone operators. „Here we have to take all eventualities into account. The aircraft can be asked to circle for another five minutes at its destination. Or the weather changes. Then all the data has to be recalculated in real time during the flight," says Christoph Schlettig, who founded the company together with Michael Anger. Unisphere needs a high level of fail-safe computing power for such compute-intensive and business-critical operations. And, in addition, a great deal of memory to store the constantly growing amount of historical weather data.

THE SOLUTION

Telekom provides Unisphere with flexibly scalable computing and storage resources from the Open Telekom Cloud. With its high-performance Object Based Storage (OBS), Unisphere can now store data of any size. A Virtual Private Network (VPN) ensures encrypted communication. And Unisphere uses powerful virtual machines in the Elastic Cloud Server (ECS) category to calculate routes based on the combined data.

THE CUSTOMER BENEFITS

„The Open Telekom Cloud is particularly suitable for the compute-intensive and reliable processes that we have to map," says

Founders of Unisphere: the trained commercial pilot Christoph Schlettig (left) and aviation engineer Michael Anger

Michael Anger. The start-up books memory and computing resources, according to its needs. Sufficient memory is available at all times for the constantly growing amount of historical weather data.

In addition, Unisphere benefits from the multi-certified, highly secure data centers in Germany. „The high level of security played a major role when it came to choosing Telekom as our partner," says Anger. Telekom's public cloud offering has already been certified according to the Trusted Cloud Data Protection Profile (TCDP) 1.0. This certificate attests that the Open Telekom Cloud is currently one of the few cloud offerings on the market to have a legally compliant data protection certification for defined cloud services.

In addition, according to Unisphere Managing Director Anger, Deutsche Telekom's level of service was also a major factor when making the decision: „A dedicated Deutsche Telekom contact person is available to answer all our questions. As a start-up, we have the opportunity to familiarize ourselves with cloud technology and make optimal use of the Open Telekom Cloud's potential for our purposes – and we learn new things every day."

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