How uBeam Expanded Their ANSYS Simulation and Modeling Capability with a Hybrid Cloud Solution from UberCloud

About uBeam

Delivering the "*WiFi for energy*" uBeam beams power through the air to wirelessly charge electronic devices. Their engineering team is comprised of world-class multidisciplinary inventors who take pride in solving complex technological problems quickly, across many fields. The company is based in Santa Monica, California.

The Challenge: Maximize Flexibility of ANSYS Simulations

uBeam relies heavily on ANSYS for acoustic transducer modeling and design. Rapid iteration design cycles are necessary to maximize efficiency, optimize devices, and develop a fundamental understanding of complex device physics.

The engineering team sought innovative ways to expand their simulation and computational capabilities. To augment their on-premises hardware, the team decided to set up ANSYS simulations on a flexible cloud solution and picked Microsoft Azure.
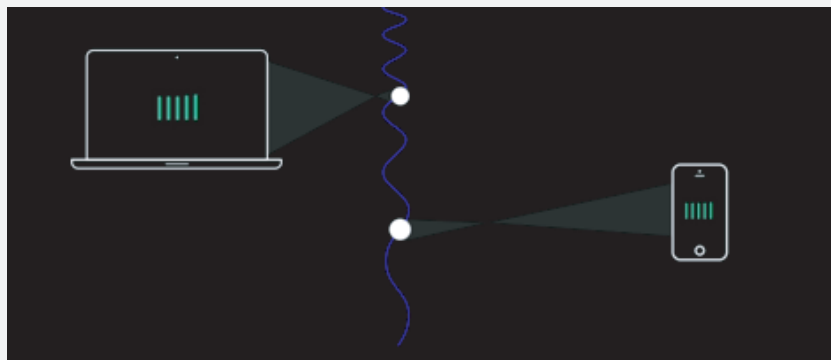
uBeam's technology transforms the vibrations of sound waves into electricity, to wirelessly power consumer electronic devices.

uBeam already had an ANSYS license server on-premise as well as their own Azure subscription, so it was important for the solution to accommodate this.

Finally, uBeam engineers needed a standardized framework for running ANSYS simulations on their Azure subscription, using Workbench and the full ANSYS GUI.

The Approach: A Standardized, Hybrid Simulation Solution

To introduce a standardized framework where uBeam engineers could run ANSYS simulations using their own Microsoft Azure subscription:

- The implementation team set up UberCloud ANSYS container software; configured the ANSYS license server; and installed and tested the required ANSYS configurations.
- uBeam engineers could choose from multiple versions of ANSYS, starting from 17.2 onwards, based on which was best suited for their project. UberCloud containers make it easy to maintain different versions.
- Azure GPU nodes enhanced graphics performance, so that engineers could run ANSYS simulations on Azure, using Workbench and the full graphical user interface.

The Outcome: On-demand Resources without High Cost

Using UberCloud to run ANSYS on their Azure subscription has allowed the uBeam engineering team to offload time-consuming simulations to the cloud. This includes large, complex models and long-running jobs. This allows to run more parameterizations in parallel and has freed up the on-site server to run more rapid simulations.

The company has particularly benefited from the ability to scale computational power up or down based on the sensitivity and need for simulation.

> *"UberCloud's ANSYS platform has expanded uBeam's simulation and modeling capability using a more configurable and flexible solution than the on-site server permitted, without high initial costs."*
>
> **- Zuki Tanaka,** Acoustics Manager

About UberCloud

UberCloud's mission is to make high performance computing (HPC) a reality for every engineer. UberCloud's HPC software containers enable companies of all sizes to quickly adopt the cloud for a high performance cloud computing solution, making it easy for engineers to access and use the cloud so they can benefit from HPC without any of the shortcomings.

To learn more about UberCloud, please visit **www.theubercloud.com**
or contact us at **help@theubercloud.com**