

Nor-Tech facilitates commercial space travel research

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By admin posted, March 14, 2013



Science fiction enthusiasts have long dreamt of the idea of commercial space flight, but providing tours outside of Earth's atmosphere may be closer to reality than many think. There are a few challenges associated with bringing people to space at such a scale, with one of the core dangers being exposure to radiation. The first step in addressing this problem is doing research so that organizations can fully understand the risks and communicate them to commuters. The Federal Aviation Administration needed a high-performance computing solution to conduct its studies, which placed emphasis on reliability, security and storage capacity. The FAA turned to Nor-Tech, a [Seagate Cloud Builder Alliance](#) partner, to [develop technology for its research](#).

Through a two-and-a-half year collaboration with FAA's medical doctors, physicists and engineers, Nor-Tech designed a portable data center. The technology could not be connected to the web for security reasons, so Nor-Tech used XEON Processors to achieve the best performance based on gigaflop per watt. For its storage needs, the company leveraged the Seagate Constellation series of drives, which are designed for low operating power usage at 3.9 watts while idle. The result of highly efficient technology and a robust liquid cooling system meant that the data center could be completely sealed without the risk of overheating, and could still meet the FAA's high compute and storage needs.

The liquid cooling system was designed by Elliptical Mobile Solutions, another [Seagate Cloud Builder Alliance](#) partner. Because of space limitations, the cooling solution had to be designed for high density. As a result, each of Elliptical Mobile's 42U cabinets can handle up to 80 kW of power usage.

"We're confident the success of this project will lead to many new opportunities with the customer and their related partners who are also benefiting from the unique solution that Nor-Tech has provided," said Dom Daninger, Nor-Tech's vice president of engineering.

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