

RackCDU Hot Water Liquid Cooling System to Cool NREL's Skynet HPC Cluster

Asetek today announced that the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) will install Asetek's RackCDU direct-to-chip "hot water" liquid-cooling system as a retrofit to NREL's Skynet HPC cluster. As part of this liquid-cooling retrofit, the cluster will be relocated into the new data center at the Energy Systems Integration Facility (ESIF) in Golden, CO, which is designed to be the most energy efficient data center in the world, with a PUE (Power Usage Effectiveness) of 1.06.

The data center at NREL's ESIF will use "warm water" (75F) liquid cooling to operate servers and to recover waste-heat for use as the primary heat source for the building office space and laboratories. The higher liquid temperatures used by Asetek's RackCDU (105F) will improve waste-heat recovery and reduce water consumption for the data center.

Because of RackCDU's design, these performance improvements will be achieved without the need for a customized server design. The system will be installed as a drop-in retrofit to existing air-cooled servers and racks.

By retrofitting an existing air-cooled HPC cluster with RackCDU, NREL will reduce the cooling energy required to operate this system, reduce water usage in the cooling system and increase the server density within the cluster, reducing floor-space and rack infrastructure requirements.

"Ambient water temperature in the hydronic system is a critical factor in data center efficiency and sustainability," said Steve Hammond, director of the Computational Science Center at NREL. "Starting with warmer water on the inlet side can create an opportunity for enhanced waste-heat recovery and reduced water consumption, and in many locations can be accomplished without the need for active chilling or evaporative cooling, which could lead to dramatically reduced cooling costs."

"We are thrilled to have RackCDU installed by NREL who is at the forefront of data center cooling technology. This latest installation shows that Asetek can improve performance even at the world's most efficient data center," said Andre Eriksen, Asetek's CEO.

RackCDU is a hot water, direct-to-chip, data center liquid cooling system that enables cooling energy savings of up to 80% and density increases of 2.5x when compared to modern air cooled data centers. RackCDU removes heat from CPUs, GPUs, memory modules and other hot spots within servers and takes it out of the data center using liquid where it can be cooled for free using outside air, or recycled to generate building heat and hot-water.

About Asetek

Asetek is the world leading provider of energy efficient liquid cooling systems for data centers, servers, workstations, gaming and high performance PCs. Its products are used for reducing power and greenhouse emissions, lowering acoustic noise, and achieving maximum performance by leading OEMs and channel partners around the globe.

Asetek's products are based upon its patented all-in-one liquid cooling technology with more than 1.3 million liquid cooling units deployed in the field. Founded in 2000, Asetek is headquartered in Denmark with offices in San Jose, California, China and Taiwan. For more information, visit <http://www.asetek.com>.

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