World Premiere: Rittal Announces its first HPC Direct Chip Cooling Solution with ZutaCore

Direct-on-chip liquid cooling solutions to transform data center economics and push the boundaries of cooling to 900W and beyond

SAN JOSE, Calif. and HERBORN, Germany, March 17, 2020 – On the heels of their strategic partnership, Rittal, a leading global systems provider of IT infrastructure as well as industrial solutions, and ZutaCore, a waterless, two-phase, liquid cooling company, have announced the first Rittal HPC Cooled-by-ZutaCore solutions. First, is a rear-door-air (RDA) solution, part of Rittal's LCP system portfolio. It is compact, therefore saves valuable rack space as all of the liquid cooling components are incorporated directly into the rear door. It can be easily deployed into existing data centers without modifying existing infrastructure. Second, is the In-Rack Edge solution, available in both air-cooled and water-cooled versions. The air-cooled In-Rack Edge solutions can be installed into any rack in almost any environment, enabling the exponential demand for high-powered processing at the edge or in the data center. The water-cooled version enables extremely energy efficient cooling of up to 70 kW of processors in a single rack. This unit is designed to handle fast growing processor and server power.

Now customers can use trusted IT racks from Rittal combined with the innovative direct-on-chip evaporative cooling solution from ZutaCore to meet and surpass the challenges posed by server-level hot spots and edge computing requirements, while mitigating the risk of IT failure. Furthermore, two-phase liquid cooling is prepared for any evolution in high-powered chips, as there is no limit to what it can cool as processors progress upwards of 900W.

"The mass adoption of direct liquid cooling in data centers becomes inevitable once we consider semiconductor trends, data center economics and sustainability goals in the 2020s," says Daniel Bizo, principal analyst, 451 Research. "Air cooling alone won't be able to meet all requirements in a future when mainstream server processors can generate more heat than an entire server a few years ago, yet cost pressure and expectations around environmental sustainability will only be higher. Data centers will need to keep up with new power-hungry chips at low cost and low energy overhead."

"This solution directly addresses demands we've had from hyperscale and colocation companies for cooling solutions that go beyond the limits of air and eliminate the use of water," says Luis Bruecher, Vice President Product Management IT, Rittal. "As a leading global systems provider, we aim to deliver best-in-class solutions. The Rittal HPC cooled-by-ZutaCore solutions will leverage added value for our clients."

Industry leading LCP system technologies from Rittal are complementary to ZutaCore's HyperCool technology. This hybrid system allows data center operators to gain energy efficiency as the hybrid system efficiently removes heat from high flux devices using two-phase cooling, leaving the low flux devices to be cooled by air. Together they can alleviate cooling boundaries from hot spots to the edge, consistently, in any climate, from the CPU level through to a server, rack and data center levels. The RDA solution addresses the need for a cost effective way to cool high-powered processors that present major challenges to typical air-conditioning systems. The air-cooled In-Rack Edge needs no plumbing or special environment outside of the rack. This makes it ideal for solving problems in traditional air-cooled data centers that need to incorporate higher power density in servers and in racks.

"By partnering with Rittal to bring our direct-on-chip cooling solutions to market, we can now answer the demand we've already seen and scale to provide this technology to some of the industry's largest and most demanding data center operators," says Udi Paret, President, ZutaCore. "From search engine and social media companies to hyperscale and colocation providers, the Rittal HPC cooled-by-ZutaCore solutions bring the unique benefits of Rittal's modular system technology alongside waterless liquid cooling for unparalleled heat dissipation. This is the only system on the market that can easily enable users to deploy the latest, most powerful processors in data centers. And in particular where facility water is not readily available."

Due to the cancellation of OCP Global Summit, which was to be the world premier of the interactive Rittal HPC Cooled-by-ZutaCore demo, Rittal and ZutaCore will soon announce a virtual opportunity to learn more about their joint product pipeline. Participants will learn more about how the two partners are addressing demands from hyperscale and colocation companies. The partners will outline a future scaling strategy to continue providing flexible solutions for both new and retrofit projects.

About Rittal

Rittal, headquartered in Herborn, Germany, is a leading global provider of solutions for industrial enclosures, power distribution, climate control and IT infrastructure, as well as software and services. Systems made by Rittal can be found in more than 90 percent of all global branches of industry, including mechanical and plant engineering, food and beverage production and in IT and telecommunications. The international market leader's product portfolio includes configurable enclosures, with data available across the entire production process. Smart Rittal cooling systems, with up to 75 per cent lower power and high CO2 advantage, can communicate with the production landscape, enabling predictive maintenance and servicing. The offering also includes innovative IT products, from IT racks and modular data centers, to edge and hyperscale computing solutions. Founded in 1961, Rittal is the largest company in the owner-operated Friedhelm Loh Group. The Friedhelm Loh Group is active worldwide, with 18 production sites and 80 international subsidiaries. It has approximately 12,000 employees and

posted revenues of €2.6 billion in fiscal 2018. In 2019, the family-run business was named one of Germany's leading employers by the Top Employers Institute, for the eleventh year running. Within the scope of a Germany-wide survey, Focus Money magazine identified the Friedhelm Loh Group as one of the nation's best providers of vocational training for the fourth time in 2019. For more information, visit www.rittal.com and www.friedhelm-loh-group.com.

About ZutaCore

ZutaCore is a waterless, two-phase change, liquid cooling technology company, unlocking the power of cooling and revolutionizing data centers. The HyperCool™ technology platform alleviates cooling boundaries at the chip, server, rack, POD and data center levels. The HyperCool™ solution is a complete hardware system, enhanced by a software-defined-cooling platform, yields unparalleled heat dissipation at the chip level, triples computing densities on a fraction of the footprint and halves costs. Designed by a veteran team in Israel and enabled by 14 patent-pending innovations, HyperCool™ is a near plug-and-play system that delivers consistent results, in any climate. ZutaCore's R&D center is in Israel with HQ office in California. For more information, please visit http://www.zuta-core.com/.

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