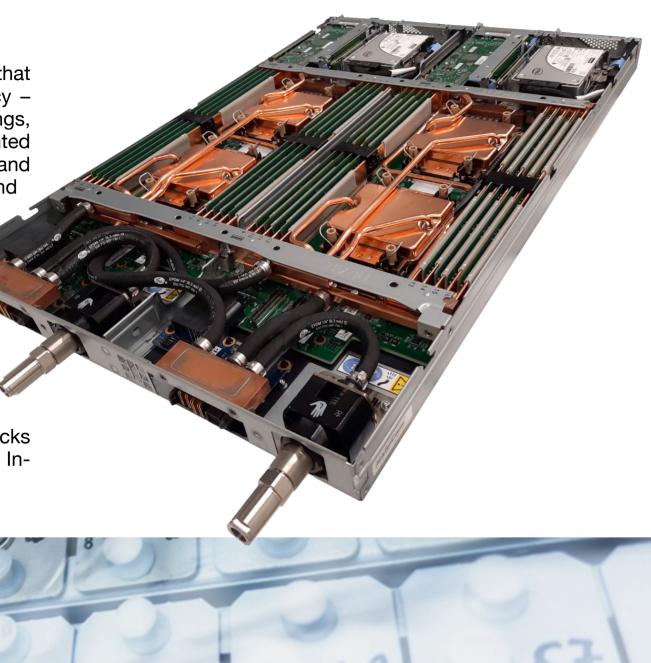
Data Center Direct to Chip Cooling





Both already existing and future applications that require high network bandwidth and low latency – such as streaming content, the Internet of Things, autonomous vehicles, and virtual and augmented reality – are all expected to drive enterprises and service providers to place compute power and data storage at the edge, as close to users as possible, to improve application performance and cut network costs. However, few data centre owner would refurbish all their existing equipment and change their operation mode in one night.

Unlike Immersion technology which requires custom horizontal tanks to house data center racks coupled with proprietary fluids, Direct Liquid Cooling works with existing data center racks and infrastructure. In facilities that have existing In-



row or Rear Door Heat exchangers connected to facility water, Direct Liquid Cooling can be connected to the same plumbing network.

Some Data Centers simply don't need a 100% liquid-cooled data center and want to utilize some of their existing air-cooling infrastructures to keep CAPEX down while maximizing the potential rack density. Direct Liquid Cooling components are small enough that they do not impede the airflow path across servers and can work in parallel to capture 100% of the heat through this hybrid approach. This is especially attractive to data center operators who are exploring Direct Liquid Cooling for the first time and want to add more liquid cooling over time.

Efficiency

Air cooling and conditioning require a substantial amount of electricity to operate while Direct Liquid Cooling can use warm water to provide adequate cooling for servers. Lower energy bills combined with low maintenance and high reliability lead to lower ongoing facility costs. Most Direct Liquid Cooling systems have an ROI of 1 year or less and provide significant savings over time when compared to previous air-cooling systems.

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