

# Selection Guide for Low-Loss Liquid-Cooled Switches for Supercomputing Centers



## Overview

Abstract—We present ExaDigiT, an open-source framework for developing comprehensive digital twins of liquid-cooled supercomputers. HPE is joining the 400Gbps generation for its Ethernet-based HPC interconnect. The new HPE Slingshot 400 not only increases the switch ASIC speed to 51.2Tbps, but it also will usher in significantly faster HPC interconnect speeds to keep pace with solutions like the NVIDIA Spectrum-X we showed in. Supercomputers push computing hardware to its absolute physical limits — tens of thousands of processor nodes, each at maximum power and clock speed, interconnected through networks carrying petabits per second of aggregate bandwidth. The world's fastest systems — Frontier at Oak Ridge (1. It integrates three main modules: (1) a resource allocator and power simulator, (2) a transient thermofluidic cooling model, and (3) an augmented reality model of. HPE Slingshot interconnect 400 is a modern high-performance networking solution for classic and AI Supercomputing clusters. The Supermicro CDU integrates 2 hot-swappable and redundant pumping modules and power supply modules,

guaranteeing nearly a 100% uptime to the.

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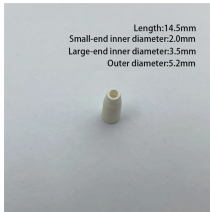
HPE Slingshot interconnect 400 is a modern high-performance networking solution for classic and AI Supercomputing clusters. It delivers industry leading performance, bandwidth, congestion control, ...



Introduction Cold Plate technology, which may be used in the Open Compute Project (OCP) environment. Liquid cooling technology is not a new technology, but until now most solutions have ...



The use of liquid cooling in data centers not only allows components to run at higher performance levels, but also reduces the need for Computer Room Air Conditioning (CRAC) units and improves overall ...



This product line overcomes the limitations of traditional optical modules by maintaining reliability even under immersion depths of up to 10 meters. The liquid-cooled series is ideally suited ...



We saw the new liquid-cooled switch on the SC24 show floor. The switch itself is made for HPE's liquid-cooled supercomputing platforms. As such, and as something different from other ...



In this work, we present our development of an open- source digital twin framework, which is currently designed for modeling liquid-cooled systems.



This paper provides a comprehensive analysis of ILC technology, examining coolant classification and selection criteria, the operating principles and performance of various liquid-cooling ...



Supermicro's announcements at SC25 show how vendors are preparing for an environment where liquid cooling, integrated thermal systems and modular rack-scale designs ...



Supercomputing PCB fabrication for compute blades, liquid-cooled modules, high-radix switch boards, and exascale interconnect subsystems supporting national laboratory and defense ...



Take steps now to modernize your facility and thermal management strategies for tomorrow's liquid-cooled switches. Meet with your Cisco team or partner to discuss how to design, ...

## Contact Us

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