

What's the best cooling strategy for your AI deployment?

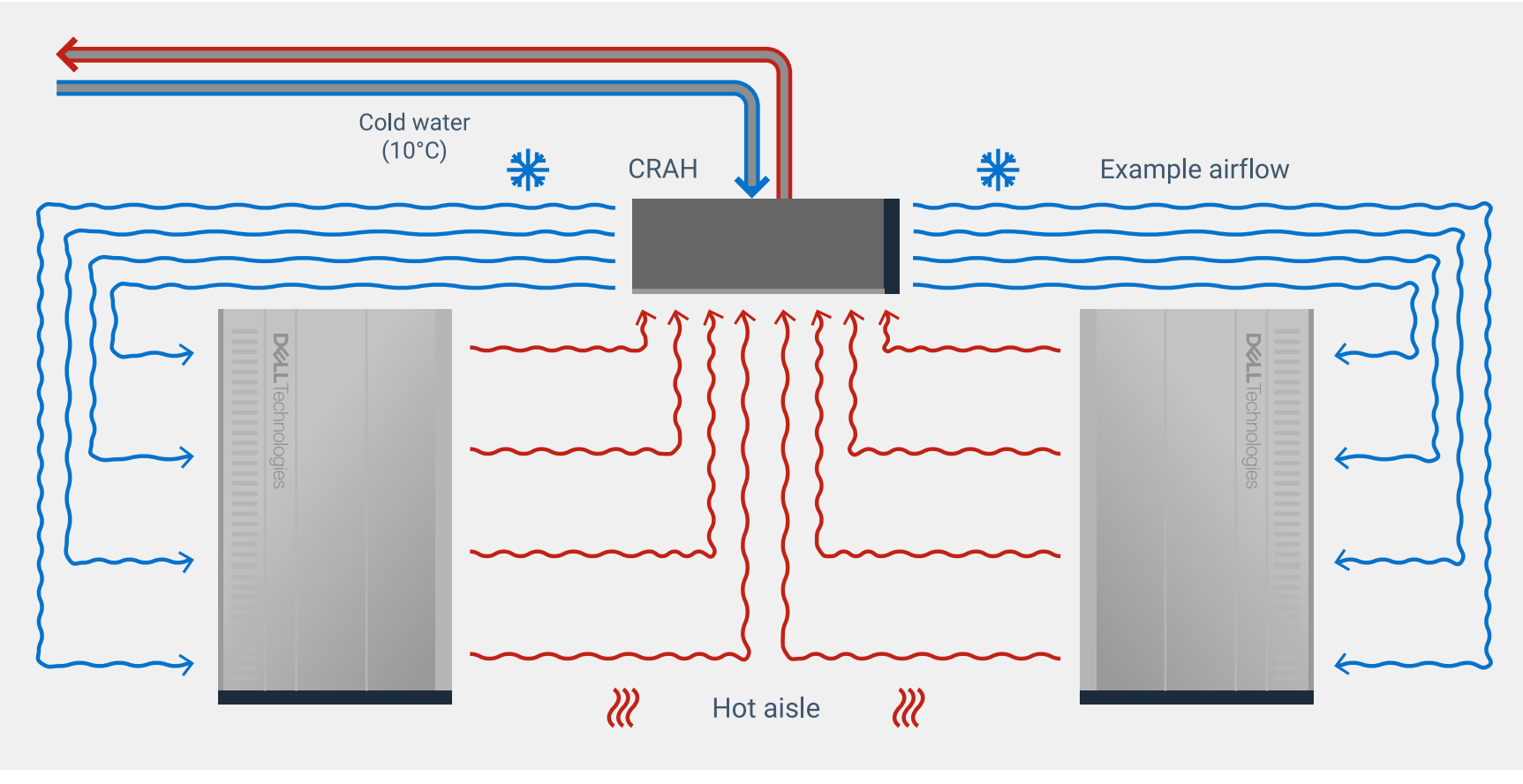


The Dell PowerCool eRDHx redefines data center efficiency

The race to support AI-powered workloads has created an unprecedented challenge for data centers worldwide. As compute power skyrockets, so does the heat generated within server racks. Traditional cooling methods are now reaching their limits.

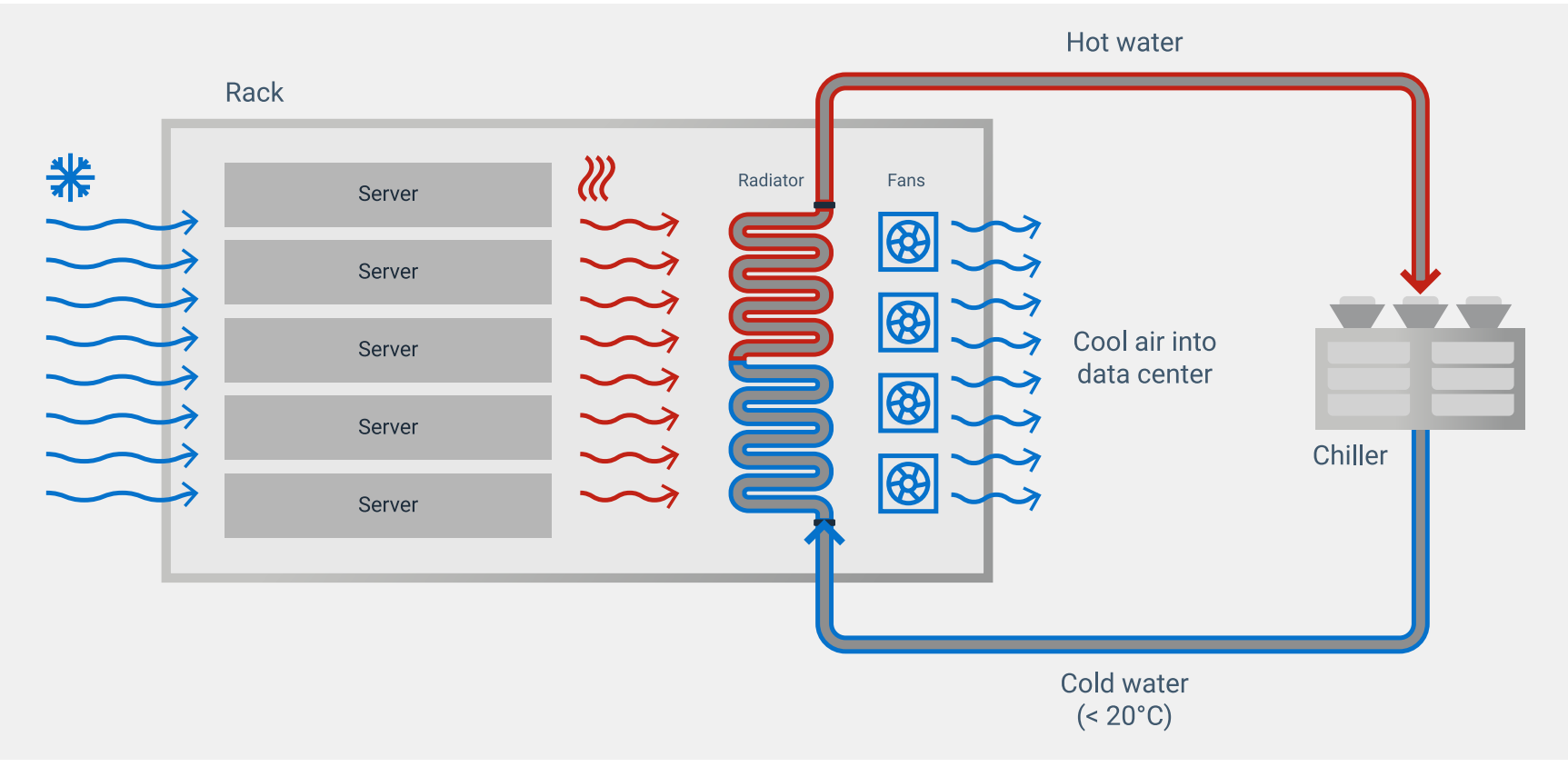
Discover how the Dell PowerCool Enclosed Rear Door Heat Exchanger (eRDHx) has defined a new category of cooling, delivering efficiency gains beyond other methods. When coupled with DLC, it can help organizations reduce their total energy costs by up to 31%.¹

Traditional air cooling



Traditional air cooling relies on a hot aisle/cold aisle layout: cold air cools the servers, exits as warm air, and is recooled by computer room air handlers (CRAHs) using ~10°C facility water before cycling back.

Rear door heat exchanger (RDHx)

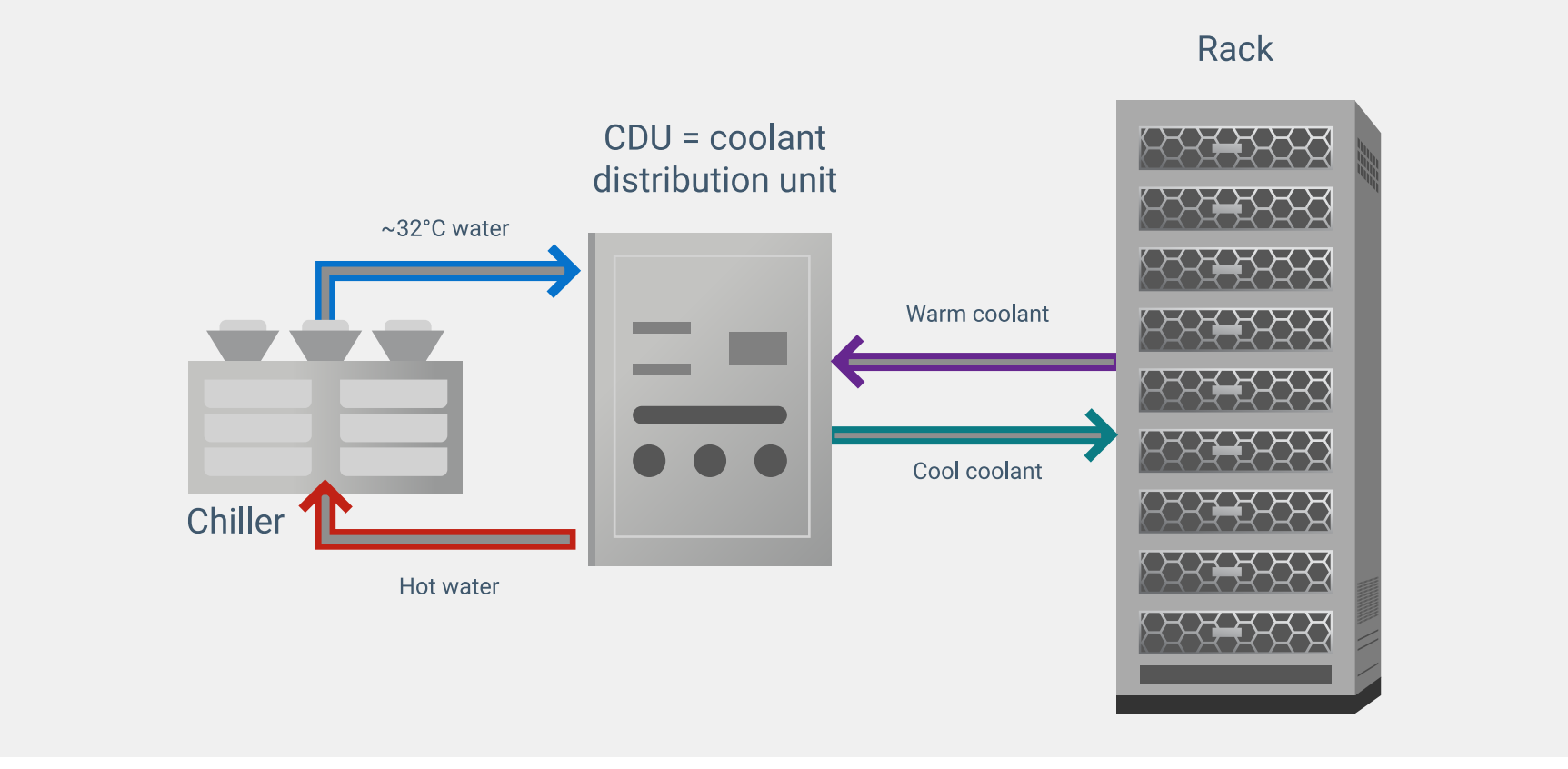


An RDHx delivers facility water directly to the rack, using coils and fans to cool hot server exhaust. It enables higher water temps (~20°C vs. ~10°C) and greater compute density per rack.

Data center cooling energy:
RDHx

26% savings vs. air cooling²

Hybrid direct liquid cooling

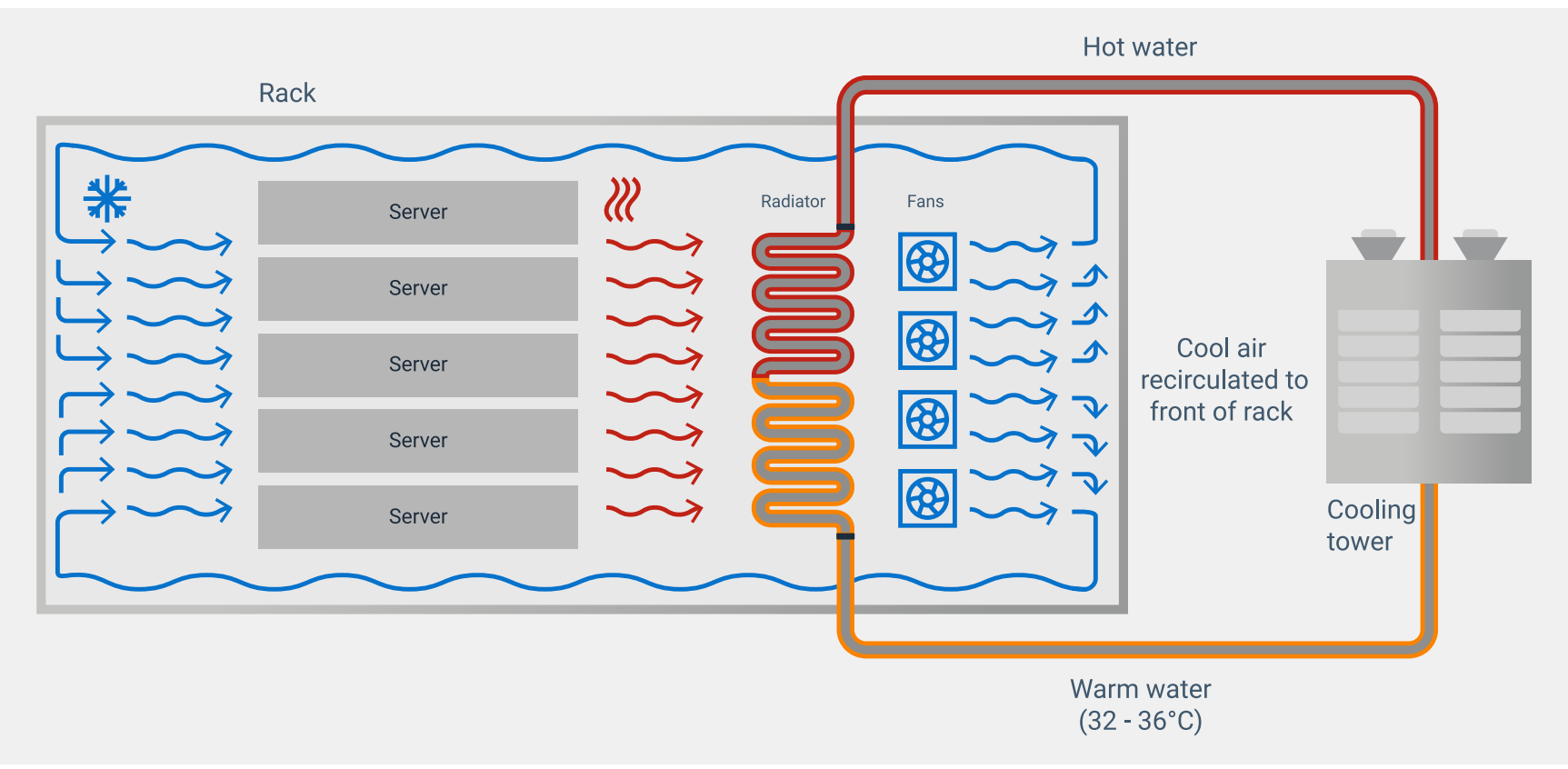


Hybrid direct liquid cooling (DLC) uses cold plates inside the server chassis to cool hot components like CPUs and GPUs, while air handles the rest. A coolant distribution unit (CDU) controls flow and temperature of the liquid, enabling efficient cooling with ~32°C facility water.

Data center cooling energy:
Hybrid DLC

52% savings vs. air cooling²

Dell PowerCool eRDHx



The Dell PowerCool Enclosed RDHx is a fully enclosed, rack-scale solution that cools all components using warm facility water (~32–36°C). By sealing and recirculating air within the rack, it boosts efficiency and eliminates the need for energy-intensive facility chillers.

Data center cooling energy:
PowerCool eRDHx + DLC

74% savings vs. air cooling²

Unlock savings at rack-scale

Direct liquid-cooled infrastructure cuts energy and costs, boosts GPU density, and saves floor space.

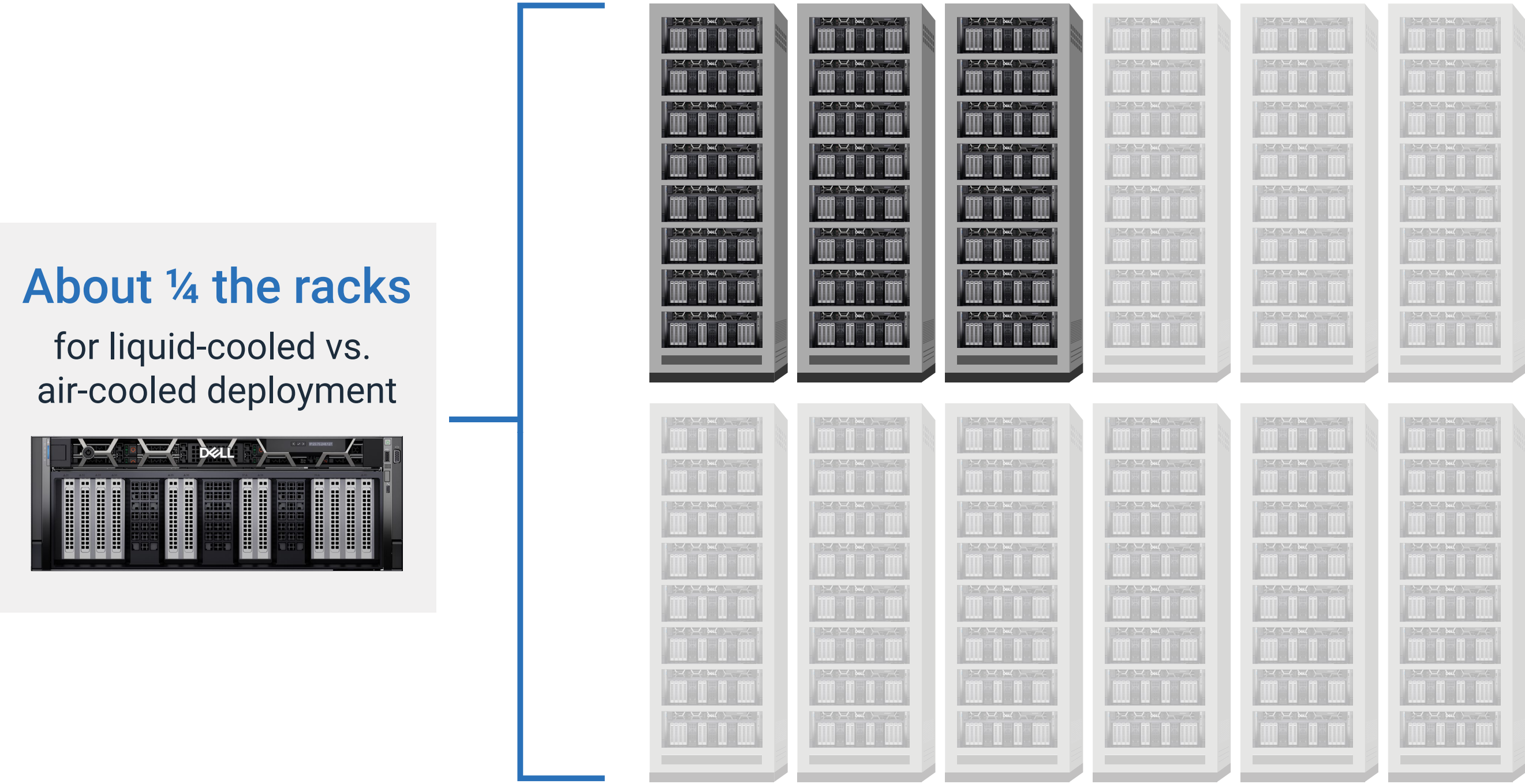
Liquid-cooled advantages over air-cooled deployments

Space

Up to 75% fewer racks³

Density

Up to 4X GPUs per rack⁴



Discover how the Dell PowerCool eRDHx with DLC could reduce annual energy costs by a third.¹

[See how the eRDHx works.](#)

[Learn more about cooling technologies.](#)

¹Savings estimate assumes a large-scale AI deployment using liquid versus air cooling for equivalent number of servers and GPUs. Power values are based on industry averages, and electricity cost is based on U.S. energy prices. PUE values are derived from best estimates of air-cooled and DLC environments. eRDHx PUE derived from internal modeling. Estimated savings based solely on total IT power and not all required costs. Actual savings will vary. This is not a guarantee or offer, and Dell prices are subject to change.

²Based on May 2025 internal analysis comparing power usage for 10 MW installation across cooling technologies. See whitepaper for full detail: [key-cooling-strategies-for-ai-deployments-whitepaper.pdf](#)

³Based on May 2025 internal analysis of liquid cooling + PowerCool eRDHx vs air cooling for large AI deployments. Assumes 8x 4U liquid-cooled servers per rack compared to 2x 10U air-cooled servers per rack. Actual results may vary.

⁴Based on May 2025 internal analysis of liquid cooling + PowerCool eRDHx vs air cooling for large AI deployments. Assumes 8x 4U liquid-cooled servers per rack compared to 2x 10U air-cooled servers per rack, and 8x GPUs per server. Actual results may vary.