+357 96 030922
info@marketpublishers.com

Data Center Direct-to-chip Cooling Market by Type (Single Phase, Two Phase), Coolant Type (Water-Glycol-based Coolants, Dielectric Fluids, Refrigerants), End User (Hyperscale Data Centers, Colocation Providers, Enterprises), and Region - Global Forecast to 2032

https://marketpublishers.com/r/DBD64DFF0B7DEN.html
Date: April 2026
Pages: 259
Price: US$ 4,950.00 (Single User License)
ID: DBD64DFF0B7DEN

Abstracts

The data center direct-to-chip cooling market is projected to grow from USD 3.33 billion in 2026 to USD 17.31 billion by 2032, at a CAGR of 26.5% over the forecast period. The global data center direct-to-chip cooling market is also being driven by the increasing need for thermal precision and component-level heat management in advanced computing systems. The compact design of modern processors, together with their increased processing power, results in heat generation at specific points, which prevents traditional room-sized or rack-sized cooling systems from achieving constant temperature control. Direct-to-chip cooling addresses this challenge by delivering coolant directly to heat-generating components, allowing for better temperature control while reducing thermal hotspots that adversely affect performance and hardware lifespan. Data center operators are adopting advanced cooling systems that provide dependable temperature control because their business operations require them to minimize downtime and maintain continuous service. The expansion of edge computing and latency-sensitive applications is further contributing to demand, as smaller and distributed data centers require efficient cooling solutions that can operate within limited space and infrastructure constraints. The combination of these two factors, together with the current need for higher processing efficiency and system reliability, is driving data centers worldwide to implement direct-to-chip cooling solutions.

“By type, the single phase segment is estimated to hold the largest share, in terms of

+357 96 030922
info@marketpublishers.com

value.”

The data center direct-to-chip cooling market will see its largest share from single-phase systems because they have become widely used, proven reliable, and work well with current data center systems. Single-phase cooling systems are currently the most commercially mature and widely deployed solutions, making them the preferred choice for both hyperscale operators and enterprise data centers transitioning toward liquid cooling. The adoption rate of these products has increased because their design enables simpler installation and easier maintenance, and their components do not require phase changes to function. The systems permit operators to scale their deployments because they can be integrated into existing server architectures and facility designs without major design changes. Their market dominance is further strengthened by standardized components, existing supply chains, and data center engineers who have experience with these products. Single-phase systems now provide computing power, except that they only use basic operational needs, while their single-phase systems provide the basic operational requirements that data centers need to operate their systems.

“By coolant type, the water-glycol-based coolants segment is estimated to hold the largest share, in terms of value.”

The water glycol-based coolants segment is estimated to hold the largest share, in terms of value, in the data center direct-to-chip cooling market due to its widespread industry acceptance, cost-effectiveness, and strong operational reliability across diverse data center environments. The existing use of these coolants in traditional liquid cooling and HVAC systems establishes them as a safe option that operators can trust when they switch to direct-to-chip cooling, leading to rapid adoption in operations. Water glycol mixtures deliver optimal thermal conductivity together with system protection, resulting in benefits that include corrosion resistance, freeze protection, and performance stability across different operating conditions. This makes them suitable for large data center deployments that require both stable operations and dependable performance over extended periods. The product's handling simplicity, existing supply chain networks, and compatibility with current system infrastructure all contribute to reduced implementation challenges, which lower total expenses and enhance their market leadership position. Data centers that need expandable cooling systems that have already proven their effectiveness will encourage operators to select coolant solutions that deliver both performance benefits and operational knowledge, resulting in water glycol coolants maintaining their position as the market leader during the forecast period.

+357 96 030922
info@marketpublishers.com

“By end user, the hyperscale segment is estimated to hold the largest share, in terms of value.”

The hyperscale segment is estimated to hold the largest share, in terms of value, in the data center direct to chip cooling market due to the massive scale of investments and the continuous expansion of large cloud and technology companies operating globally. Hyperscale data center operators deploy thousands of high-performance servers within a single facility, producing extreme heat levels that require advanced direct to chip cooling systems for efficient heat management. These operators are at the forefront of adopting liquid cooling technologies as they prioritize performance optimization, energy efficiency, and long-term cost savings at scale. Hyperscale companies possess sufficient financial resources to make substantial investments in next-generation cooling systems, which they will implement in their upcoming facilities instead of utilizing gradual system enhancements. The growing need for cloud computing, artificial intelligence, machine learning, and data-intensive applications has resulted in the expansion of hyperscale facilities, which drives up requirements for premium cooling systems. Hyperscale operators are implementing more efficient cooling technologies to lower energy consumption and enhance their sustainability performance, making direct to chip solutions beneficial. The hyperscale segment reaches its highest market value during the forecast period because it combines extensive system deployments with significant financial investments and the use of cutting-edge technologies.

Break-up of primary participants for the report:

By Company Type: Tier 1 – 20%, Tier 2 – 40%, and Tier 3 – 40%

By Designation: C-Level Executives– 10%, Directors– 70%, and Others – 20%

By Region: North America – 45%, Asia Pacific – 25%, Europe – 20%, Middle East & Africa – 5%, and South America – 5%

Vertiv Group Corp. (US), Super Micro Computer, Inc. (US), Modine Manufacturing Company (US), DCX Liquid Cooling Systems (Poland), and Schneider Electric (France) are the key players in the data center direct-to-chip cooling market. These players have adopted various strategies, including agreements, joint ventures, and expansions, to increase their market share and business revenue.

+357 96 030922
info@marketpublishers.com

Research Coverage:

The report defines, segments, and projects the size of the data center direct-to-chip cooling market by type, coolant type, end user, and region. It strategically profiles the key players and comprehensively analyzes their market share and core competencies. It also tracks and analyzes competitive developments, such as expansions, agreements, and acquisitions undertaken by them in the market.

Reasons to Buy the Report:

The report is expected to help market leaders/new entrants by providing the closest approximations of revenue for the data center direct-to-chip cooling market and its segments. This report is also expected to help stakeholders gain a deeper understanding of the market's competitive landscape, acquire valuable insights to enhance their business positions, and develop effective go-to-market strategies. It also enables stakeholders to understand the market's pulse and provides information on key market drivers, restraints, challenges, and opportunities.

The report provides insights into the following pointers:

Analysis of critical drivers (Increasing Heat Density from AI & HPC Workloads, Superior Thermal Efficiency Compared to Air Cooling, Growing Demand for Energy-efficient Data Centers, Increasing Rack Power Density in Hyperscale Data Centers), restraints (High Initial Capital Investment, Complex Integration with Existing Infrastructure, Limited Standardization Across Vendors), opportunities (Rapid Growth of AI, Generative AI, and GPU-based Computing, Expansion of Edge Data Centers with High Compute Density, Integration with Waste Heat Recovery Systems), and challenges (Skill Gap in Installation and Maintenance, Infrastructure Complexity and Space Constraints, Reliability and Long-term Maintenance Concerns) influencing the growth of the data center direct-to-chip cooling market

Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities in the data center direct-to-chip cooling market

Market Development: Comprehensive information about lucrative markets – the report analyzes the data center direct-to-chip cooling market across varied regions

+357 96 030922
info@marketpublishers.com

Market Diversification: Exhaustive information about new products, various types, untapped geographies, recent developments, and investments in the data center direct-to-chip cooling market.

Competitive Assessment: In-depth assessment of market shares, growth strategies, and product offerings of leading players such as Vertiv Group Corp. (US), Super Micro Computer, Inc. (US), Modine Manufacturing Company (US), DCX Liquid Cooling Systems (Poland), Schneider Electric (France), and others are the key players in the data center direct-to-chip cooling market.

+357 96 030922
info@marketpublishers.com

Contents

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

16 APPENDIX

+357 96 030922
info@marketpublishers.com

List Of Tables

LIST OF TABLES

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

List Of Figures

LIST OF FIGURES

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

I would like to order

Product name: Data Center Direct-to-chip Cooling Market by Type (Single Phase, Two Phase), Coolant Type (Water-Glycol-based Coolants, Dielectric Fluids, Refrigerants), End User (Hyperscale Data Centers, Colocation Providers, Enterprises), and Region - Global Forecast to 2032

Product link: https://marketpublishers.com/r/DBD64DFF0B7DEN.html

Price: US$ 4,950.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:
info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/DBD64DFF0B7DEN.html