RACK SCALE SOLUTIONS

ACCELERATED TIME-TO-DELIVERY OF PLUG AND PLAY RACKS WITH PROVEN QUALITY AND RELIABILITY

SUPERMICRO®

WORLD-CLASS RACK MANUFACTURING FACILITY

Based in Silicon Valley complementing Supermicro's unwavering commitment to quality, sustainability and maximizing turnaround time.

11MW
Mass Production Center

High efficiency, reduced greenhouse gas emissions, minimized air pollutants and reduced water use.

4,000 /mo.
Rack Capacity

Production, testing and shipping for integrated full-scale rack solutions.

Up to 800Gb/s
Network Speed Testing Environment

Complete testing environment from a wide range of network requirements.

4-Star Efficiency
High Process Efficiency

Autonomous guided vehicles deployed to maximize manufacturing efficiency and safety.

Up to 480VAC
Power at Scale

Including 208V, 415V, 277V/480VAC for single and 3-phase & 48VDC-ready.

SUPERMICRO RACK INTEGRATION SERVICES:

A TOTAL SOLUTION FOR YOUR DATA CENTER NEEDS

1. Complete Service from Design to Deployment

Leverage Supermicro team experts and resources to work with you to completely design and build turn-key solutions for your data center or COLO deployment.

2. Expert Technicians

Supermicro's expert team of product, firmware, BIOS and rack technicians will handle all phases of the rack integration and installation process.

3. Plug and Play (PnP)

No matter whether its one server, one rack, one cluster, or one superpod, Supermicro can deliver complete solutions ready to go from day one, including procurement, testing, sBurn, rBurn and logistics.

4. Time-to-Market

Supermicro is a complete design, manufacturing, integration and solution provider with thousands of engineering specialists and a global manufacturing footprint, enabling us to deliver full rack solutions within weeks, not months.

5. One Teamwork Approach

Leverage our extended team of experts to help you address challenges in real-time.

6. Single Point of Contact

Upon the start of your rack scale project, a dedicated Supermicro engineer will be your team's single point of contact.

7. Cost Optimization

Supermicro rack solutions can be flexibly constructed to meet customer schedules, quality requirements and budgets.

BUILDING COMPLETE RACK SOLUTIONS

Supermicro's L11 rack scale integration process not only includes the design, assembly, configuration and testing of each server at the node and rack level, but also involves simultaneous testing of all nodes to ensure that they have the exact same configuration and are communicating with one another as they were designed to.

Rack Optimization

Adopting a standardized design and modular approach, optimized for power and cooling efficiency.

Cable Management

Power, networking and liquid cooling cabling is organized and managed to reduce clutter, improve airflow and make system troubleshooting and maintenance easier.

Burn-In Testing

Best-in-class quality assurance for R-Burn and S-Burn, with automated L11 cluster testing to validate integration quality and hardware reliability.

Delivery

Racks are professionally packed in shock-resistant and reusable crates for rapid shipping worldwide; cabled, labeled, fully tested and ready for operation upon arrival at your data center.

HPC AI-DRIVEN DATA CENTER SOLUTION

The manufacturing process at L12 involves networking from the rack to multi-rack level, then loading the customer's application software for complete, real-world testing at rack scale. Supermicro can even provide benchmarking data to ensure that rack-scale performance meets requirements.

Zero Failure Goal

Failures are costly, impacting revenue and reputation. Having a rack-scale solution validated and proven before shipping to the customer reduces the likelihood of issues post-deployment.

Full Plug and Play

Supermicro's L12 solutions are ready to deploy on day one; simply connect power and networking to start running your applications right away.
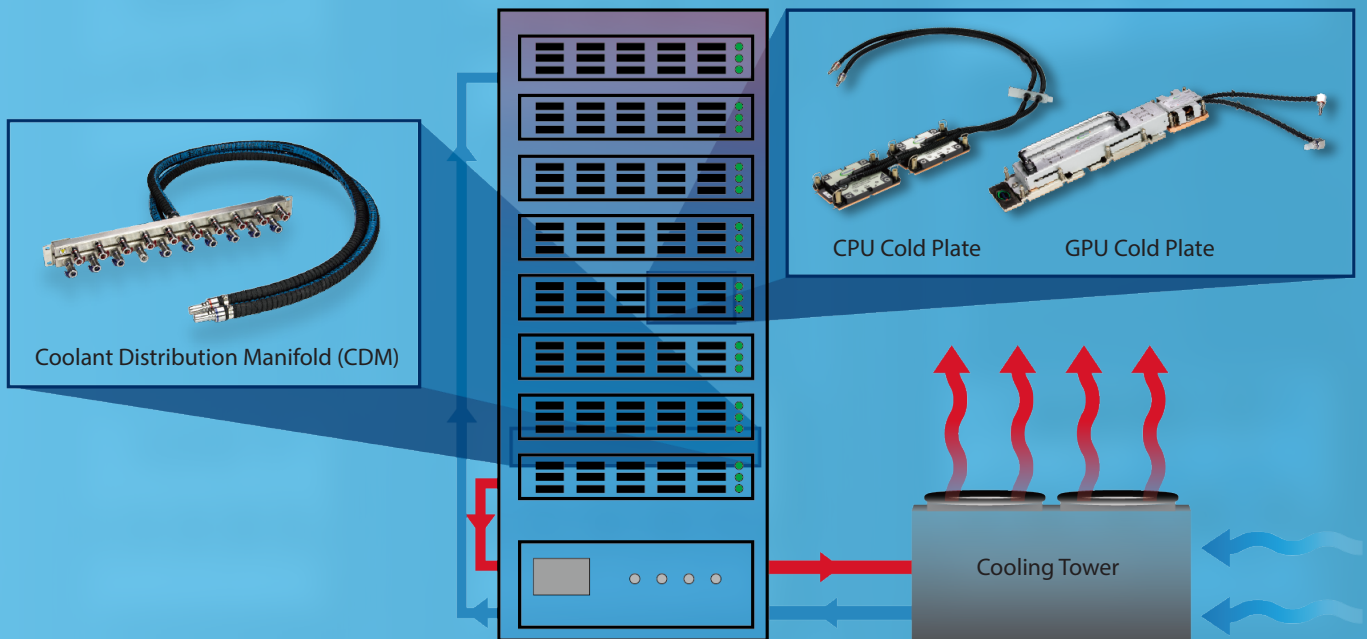
Knowledge Transfer

Best practice documentation is key for long-term success and collaboration across multiple teams from design to delivery of your L12 Solution.
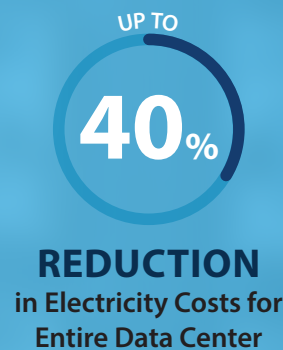
SUPERIOR EFFECTIVENESS OF LIQUID COOLING WITH PROVEN DEPLOYMENTS AT SCALE

Supermicro delivers fully validated Direct to Chip (D2C) and Rear Door Heat Exchanger (RDHx) liquid cooled rack scale solutions at rack (L11) and cluster (L12) levels, with accelerated data center deployment lead time delivering complete solutions within weeks. Supermicro's liquid cooled rack solutions can deliver superior performance utilizing W45 (up to 45°C) and unmatched efficiency for large scale AI and cloud-scale compute infrastructure, reducing data center TCO and TCE.
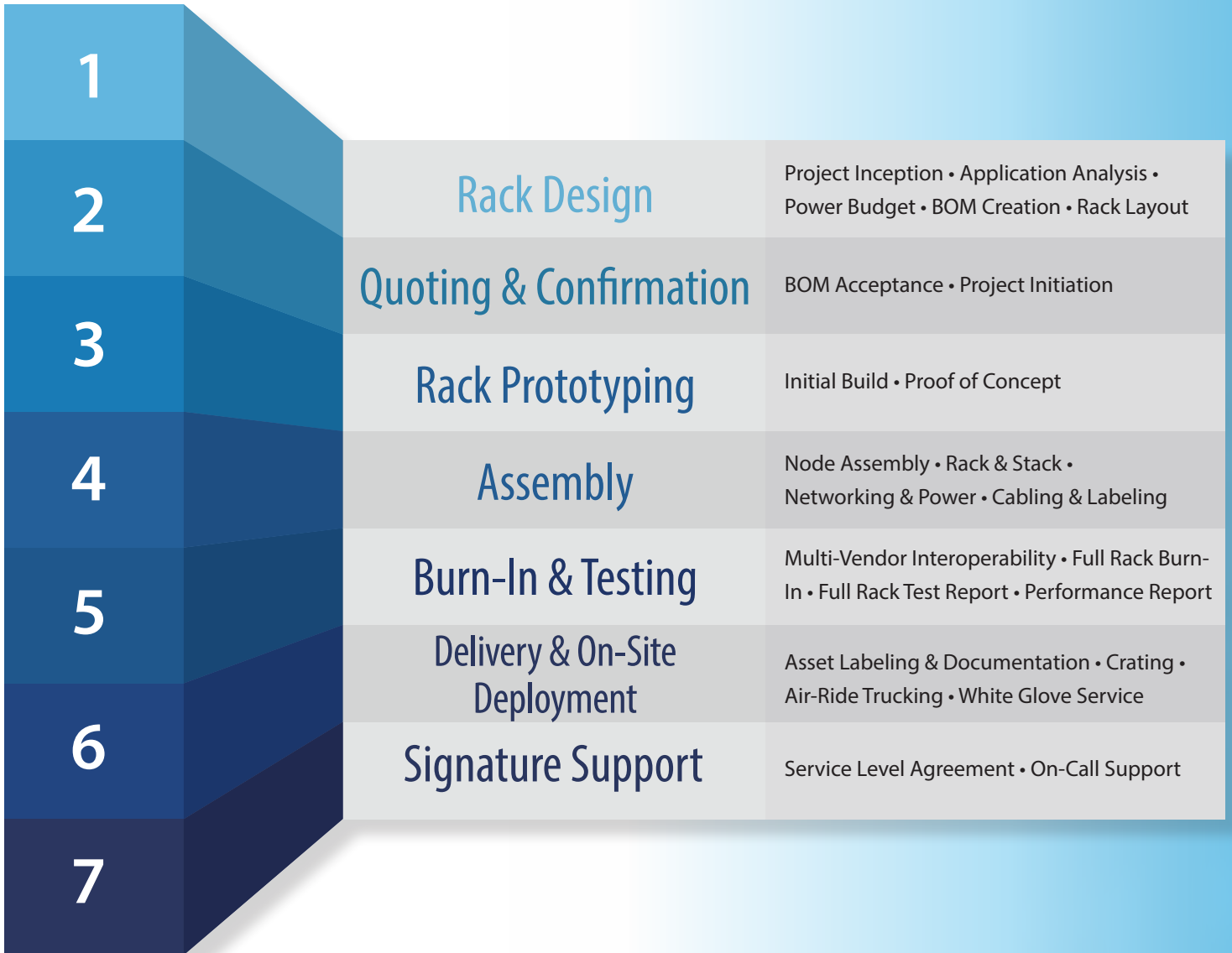
Direct to Chip (D2C)

Coolant Distribution Manifold (CDM)

CPU Cold Plate   GPU Cold Plate

Cooling Tower

LIQUID COOLING ADVANTAGES

UP TO
89%
REDUCTION
Electricity Costs of Cooling Infrastructure in Server

UP TO
40%
REDUCTION
in Electricity Costs for Entire Data Center

UP TO
55%
REDUCTION
in Datacenter Server Noise

7 STAGES OF RACK INTEGRATION PROCESS

1		
2	Rack Design	Project Inception • Application Analysis • Power Budget • BOM Creation • Rack Layout
3	Quoting & Confirmation	BOM Acceptance • Project Initiation
	Rack Prototyping	Initial Build • Proof of Concept
4	Assembly	Node Assembly • Rack & Stack • Networking & Power • Cabling & Labeling
5	Burn-In & Testing	Multi-Vendor Interoperability • Full Rack Burn-In • Full Rack Test Report • Performance Report
6	Delivery & On-Site Deployment	Asset Labeling & Documentation • Crating • Air-Ride Trucking • White Glove Service
	Signature Support	Service Level Agreement • On-Call Support
7		

Complete Rack Integration Delivered

Reliable

The integration process should produce consistent and predictable results. The reliability of rack integration ensures that the system functions as expected and operates with minimum downtime.

Repeatable

The process should be able to be executed multiple times with the same results. This is important for scaling the integration process and replicating it across different systems, ensuring that each system is integrated correctly.

Reproduceable

With documentation, your project can be reproduced by multiple teams or individuals with the same results and shared with others to improve collaboration and reduce errors.

ON-SITE RACK DEPLOYMENT

Supermicro's on-site rack deployment helps enterprises build data center from the ground up, including the planning, design, power-up, validation, testing, installation and configuration of racks, servers, switches and other networking equipment to meet the organization's specific needs.

On-site Rack Deployment

All equipment is carefully shipped to the deployment location, then unpacked, connected and tested by expert personnel.

On-site Integration
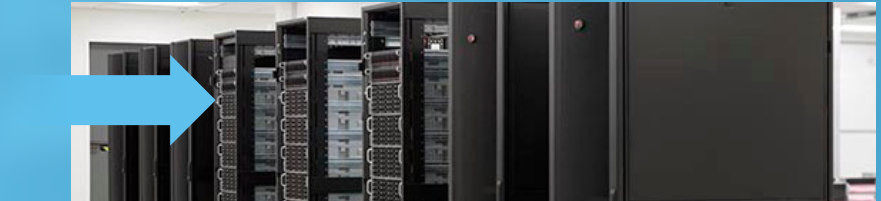
Complete integration ensures that the equipment is installed and connected correctly to ensure reliable operation and reduce the risk of downtime and associated costs.

On-site Software Installation

Custom installation of OS, middleware and software applications with configurations and settings.

On-site Benchmark Test

Benchmarking to ensure that the deployed solution performs as designed and meets the requirements of the organization.

Better
Better Performance Per Watt and Per Dollar

Faster
First-to-Market Innovation with the Highest Performance Server Designs

Greener
Reduced Environmental Impact and Lower TCO