



# Data Center Building Block Solutions<sup>®</sup>



# New AI Capabilities Lead to New Demands for Infrastructure



## New AI Capabilities

- AI reasoning models
- Test-time scaling
- Mixture-of-experts



## New Infrastructure Demands

- Increased AI FLOPS
- More memory bandwidth and capacity
- Faster network speeds
- Larger cluster sizes



# Data Center Buildout Challenges



Design



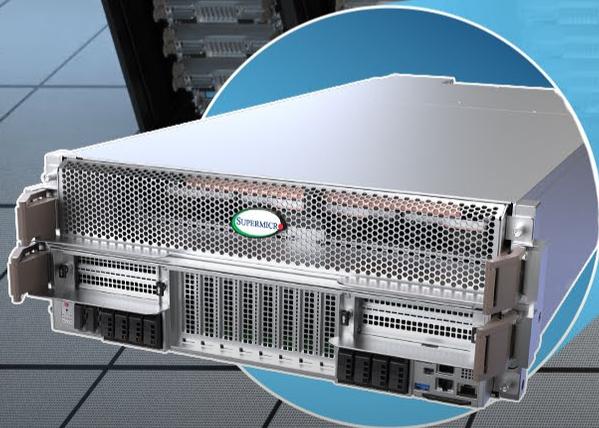
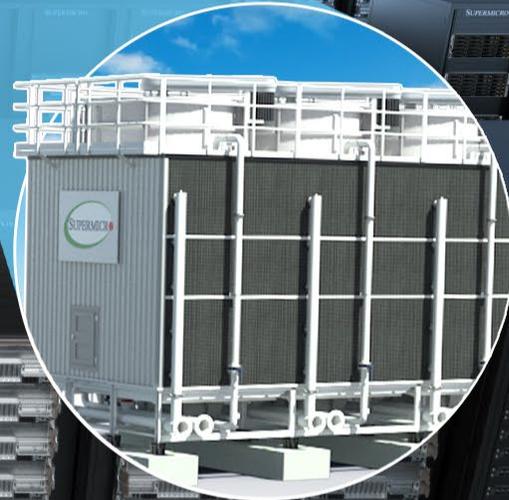
Power



Thermals

DCBBS is an easy-to-build, easy-to-deploy, easy-to-operate solution that addresses these challenges

# Data Center Building Block Solutions<sup>®</sup> Featuring DLC-2



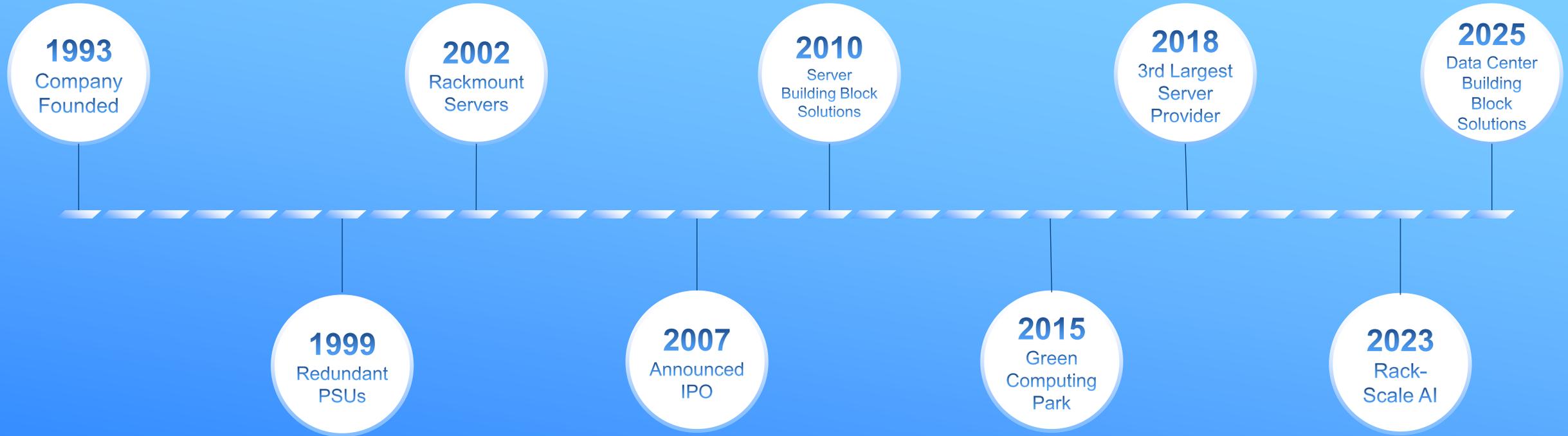
**Data Center-Scale**

- Servers, racks
- Networking, storage
- Services & more

**DLC 2.0**

- 40% power-reducing
- 60% footprint reduction
- 40% water saving

# Supermicro's Building Block DNA

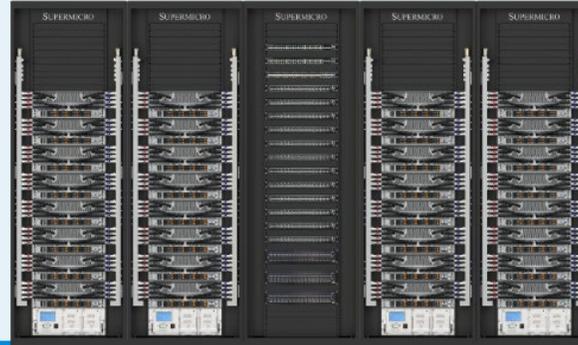


# A Total Solution Made from Flexible Building Blocks



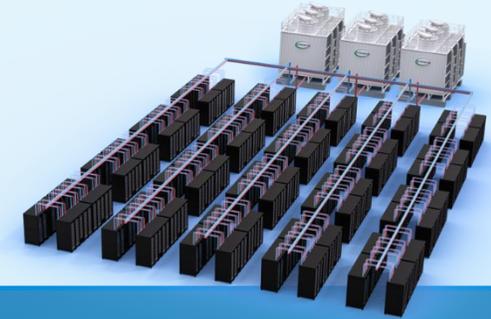
## SYSTEM-LEVEL

Select from the industry's widest portfolio of application optimized systems, with further customization of individual components: choose DIMMs, NICs, CPUs, GPUs, and more.



## RACK CLUSTER LEVEL

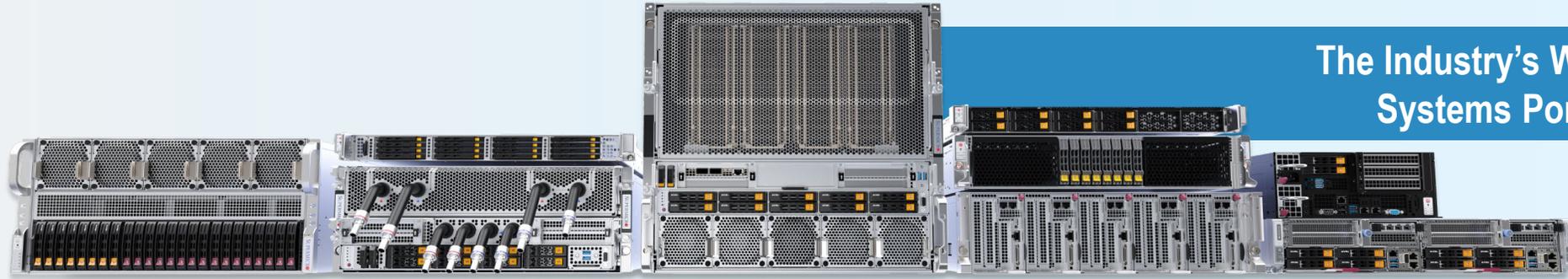
Ensure rack specifications meet exact project requirements. Choose from a variety of rack enclosure options, including 42U and 48U. In-rack or in-row CDU available for Liquid Cooling.



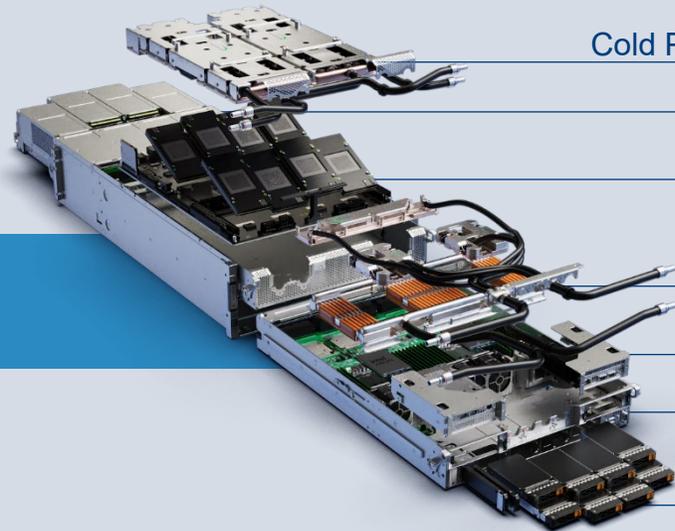
## DCBBS

Integrated solution with all critical computing and thermal infrastructure for entire data centers. First-party services ensure project success from consultation to on-site deployment with continued support

# DCBBS System-Level Building Blocks



The Industry's Widest Systems Portfolio



Cold Plates

NICs

GPU

DIMMs

CPU

DPU

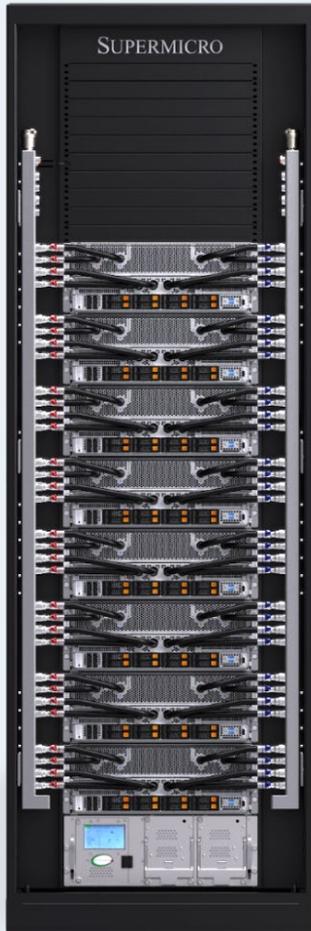
Storage Drives

Component-Level Customization

# Unparalleled Selection of System and Rack Building Blocks



GB300 NVL72/  
GB200 NVL72



HGX B200 DLC  
Rack



4U HGX B200 DLC-2



8U MI325



4U HGX B200 DLC



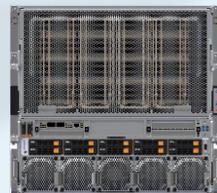
4U HGX B300 DLC-2



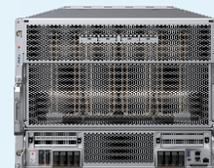
4U MI325X DLC



E3.S All-Flash AI Storage



10 HGX B200



8U HGX B300



8U MI350



4U 90-bay  
Scale-Out Storage

# Comprehensive Infrastructure Components Portfolio



Chilled Door



Switches



Power Shelf



In row DLC



Storage



Cooling Tower



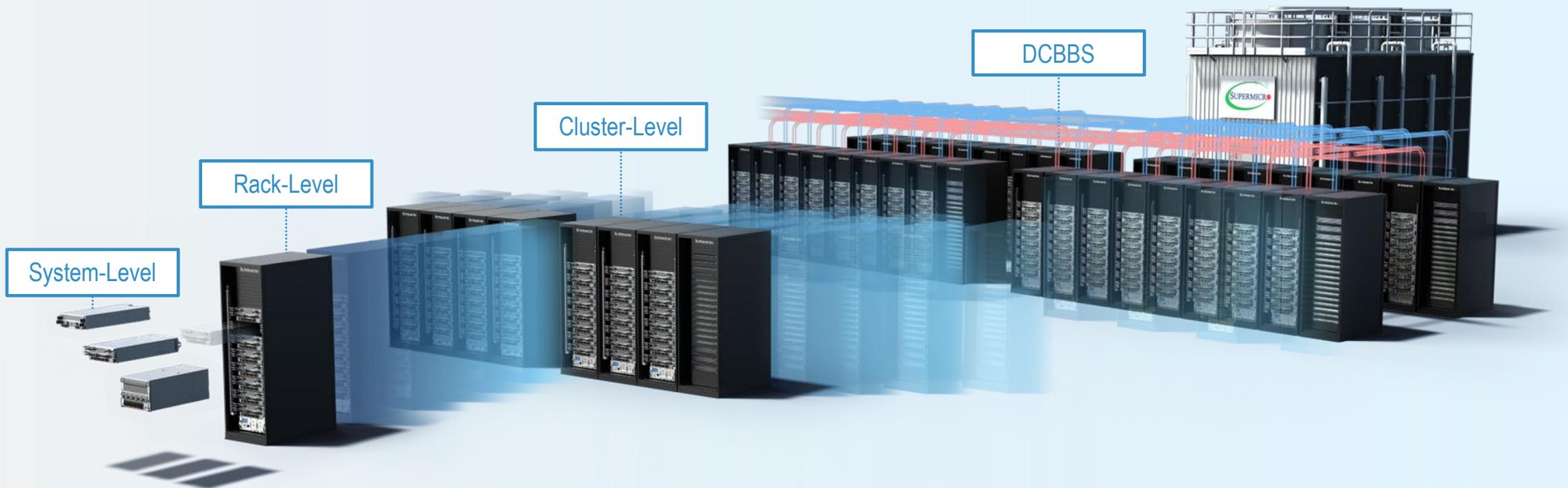
Dry Tower



In-Rack DLC



Battery Back Up



DCBBS provides everything required to fully outfit liquid cooled AI data centers

# Rack-Level Building Blocks

**HGX 8-GPU** rack air or liquid cooled for AI

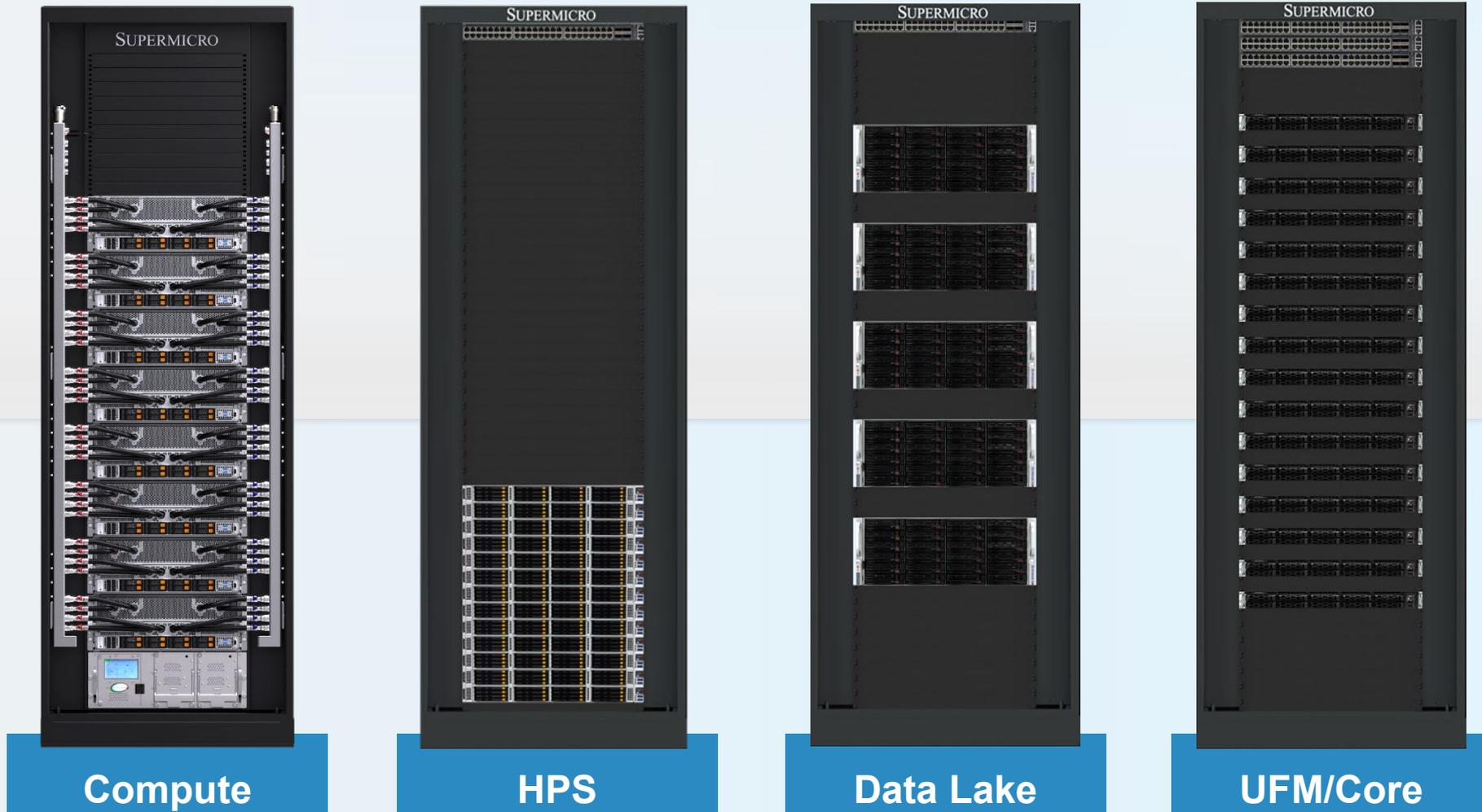
**FlexTwin** liquid-cooled multi-node for HPC



**SuperBlade®** for highest node density

Choose from a variety of validated rack options, optimized to the application and to project requirements

# DCBBS AI Factory Validated Racks



*Example configurations only. Other options available.*

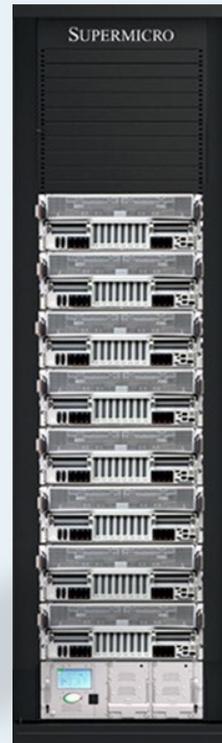
# Flexible Rack-Level Building Blocks



Supermicro  
NVIDIA  
GB300  
NVL72  
and  
GB200  
NVL72



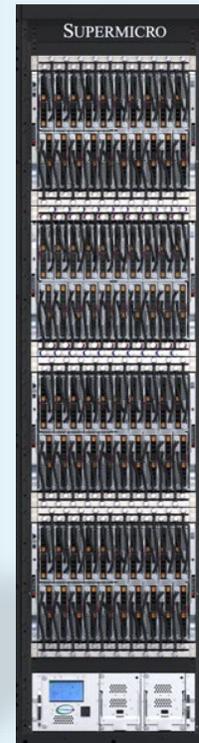
8U  
Supermicro  
NVIDIA  
HGX  
B300 8-  
GPU AI  
Compute  
Rack



Front I/O  
Liquid-  
Cooled 4U  
Supermicro  
NVIDIA  
HGX  
8-GPU  
Rack



Liquid-  
Cooled  
4U  
Supermicro  
NVIDIA  
HGX  
8-GPU AI  
Compute  
Rack



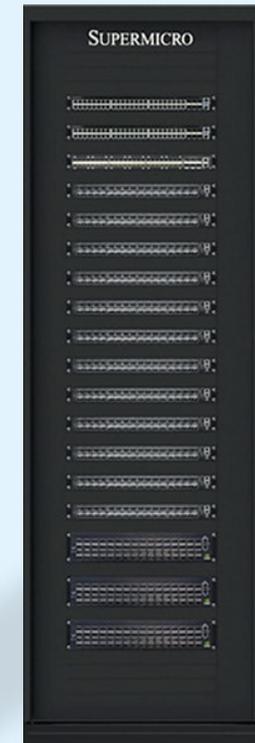
SuperBlade  
®  
for AI and  
HPC  
with  
Highest  
Node  
Density



Object  
Storage  
with  
Supermicro  
Front and  
Top-  
Loading  
Systems



Petascale  
All-  
Flash  
Systems  
for High-  
Performanc  
e AI  
Storage

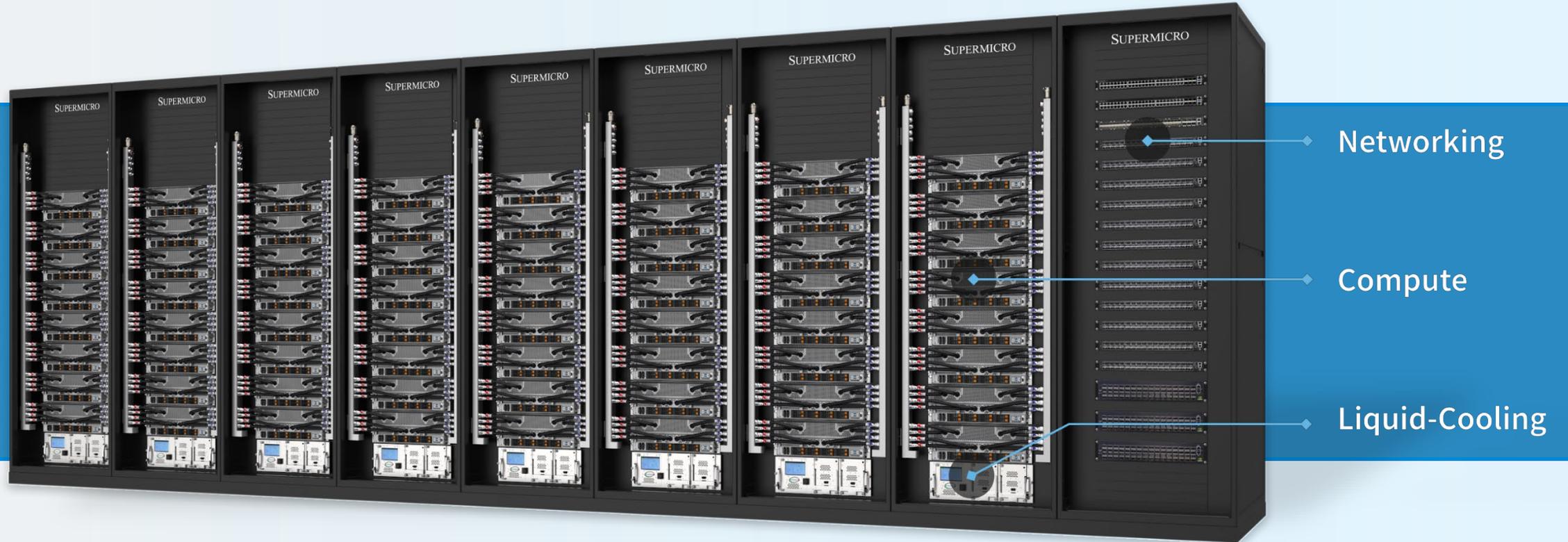


NVIDIA  
Quantum-2  
InfiniBand  
or  
Spectrum-X  
Ethernet  
Rack

*Example configurations only. Other options available.*

# Cluster-Level Building Blocks

Racks are then organized into clusters, ensuring seamless integration and scalability



Optimized Cable Layouts

Reduces obstructions,  
improves airflow

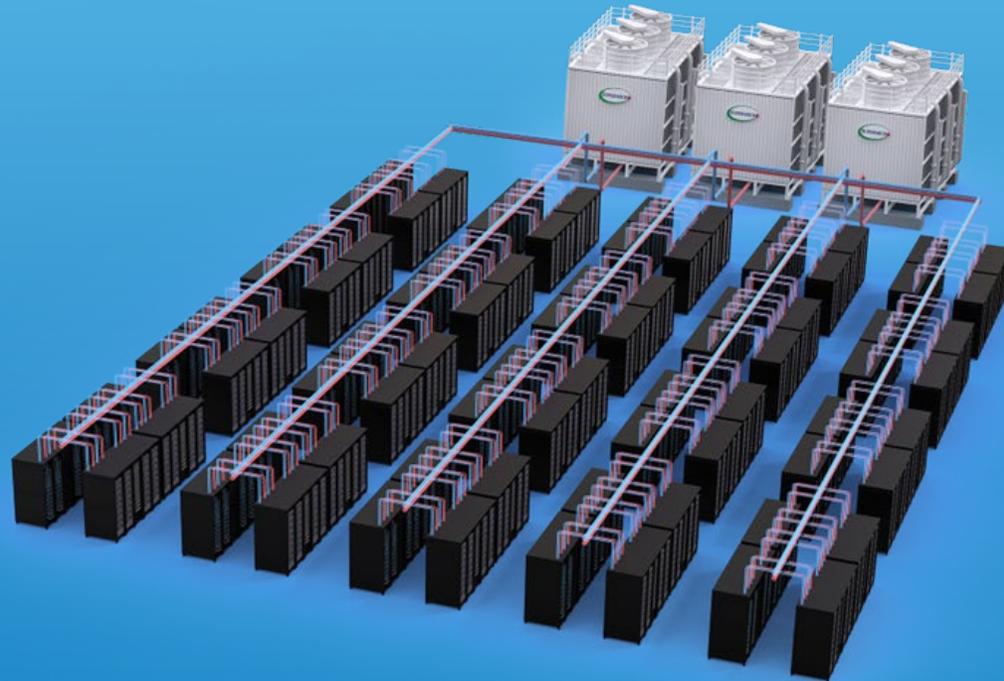
Non-blocking network

Topology for fast node-  
to-node communication



# Supermicro DLC-2

Direct Liquid Cooling



# Supermicro DLC-2

Up to  
**40%**  
Power Savings

Up to  
**40%**  
Water Savings

Up to  
**98%**  
System Heat Capture

As low as  
**50dB**  
Quiet Data Center

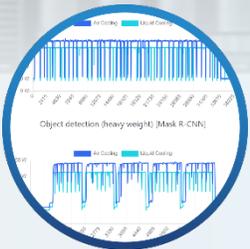
Up to  
**60%**  
Space Saving



# Supermicro's Total Liquid Cooling Solutions



Solution Integration



Testing and Validation



On-site Deployment



Service Management



Liquid-Cooled Systems



Cooling Distribution Unit



Cooling Manifold & Cold Plate



Cooling Tower



# Services, Software, and More



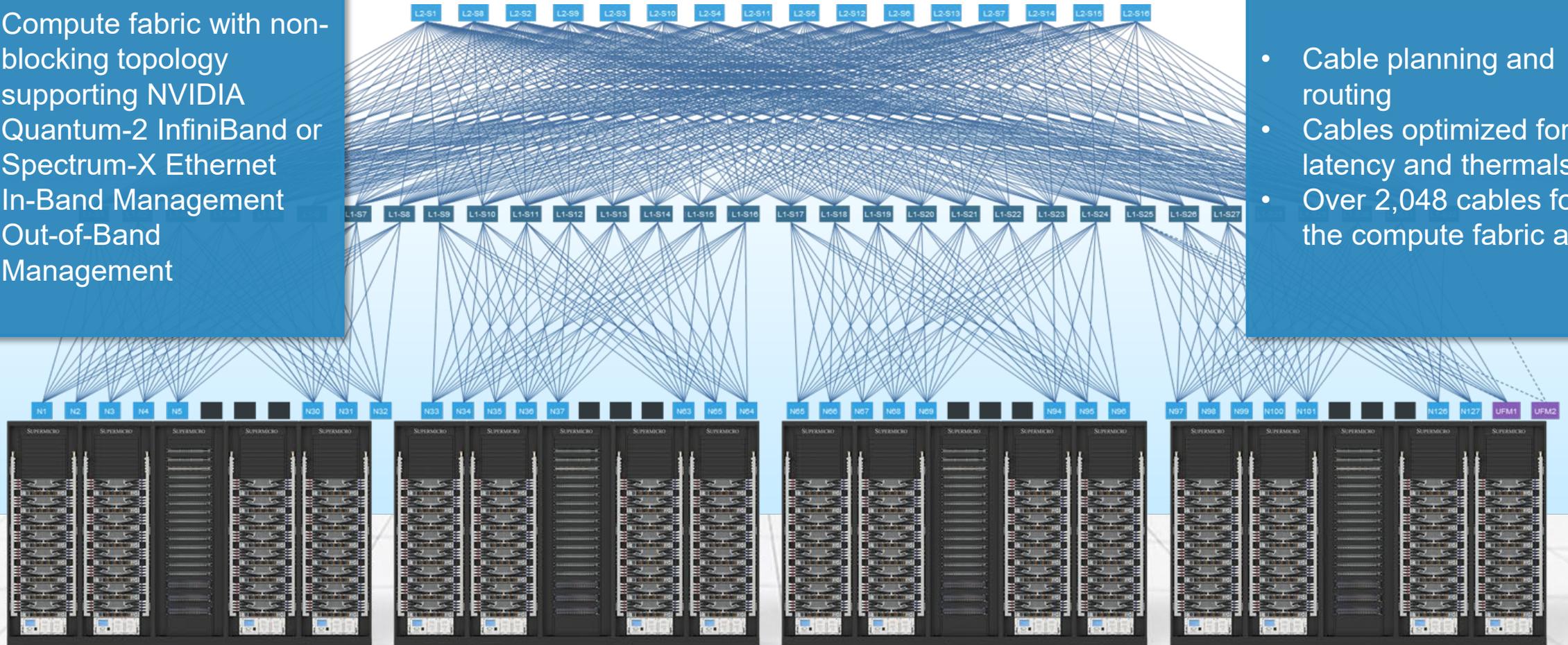
# Cluster Networking and Cabling

## Networking

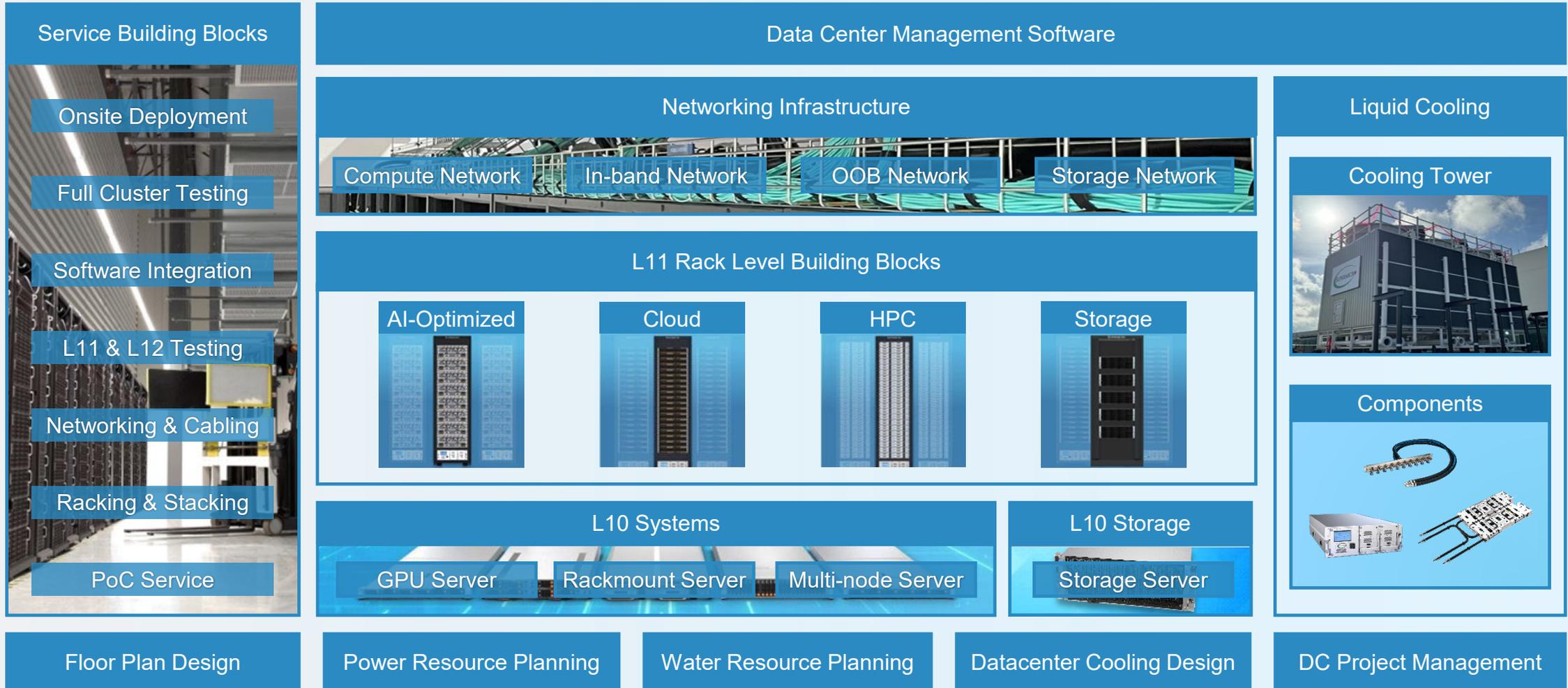
- Compute fabric with non-blocking topology supporting NVIDIA Quantum-2 InfiniBand or Spectrum-X Ethernet
- In-Band Management
- Out-of-Band Management

## Cabling

- Cable planning and routing
- Cables optimized for latency and thermals
- Over 2,048 cables for the compute fabric alone



# DCBBS is a Total Integrated Solution



# Global Services and Support

**Global**  
Service Desk

**Media**  
Retention Service

**Logistics**  
End-to-End

**4-Hour**  
Onsite Response

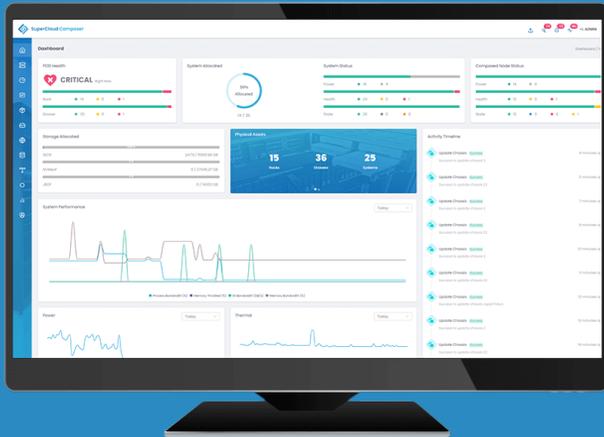
**Onsite**  
Integration Service

**Parts**  
Replacement Service

# Management Software and Application Expertise

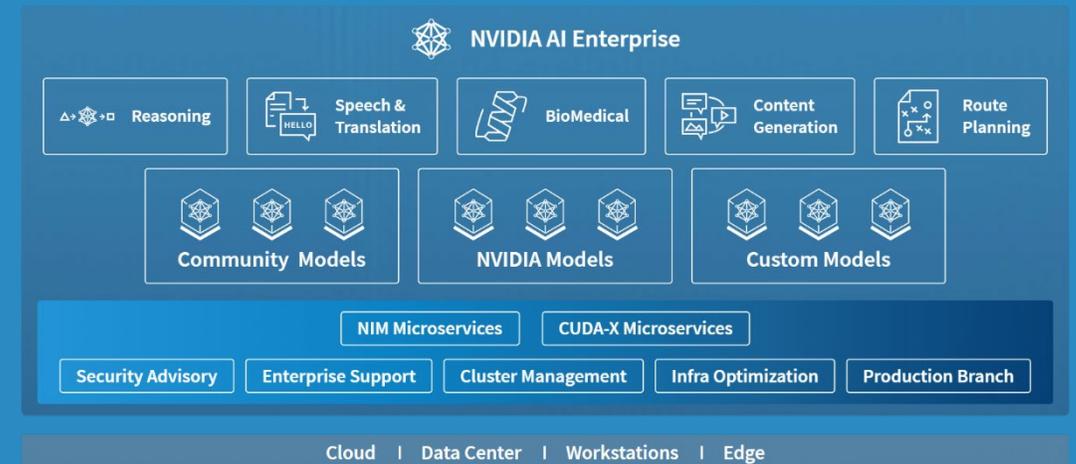
## SuperCloud Composer®

Manage your entire infrastructure, including 3rd party devices, at a glance with state-of-the-art dashboards. Respond and adapt quickly to dynamic business needs with storage, compute, and networking flexibility that accommodates ever-changing workload requirements.



## NVIDIA AI Enterprise Software

Full access to NVIDIA application frameworks, APIs, SDKs, toolkits and optimizers, along with ability to deploy AI blueprints, NVIDIA NIMs, RAGs, and the latest optimized AI foundation models. NVIDIA AI Enterprise Software streamlines development and deployment of production-grade AI.



Use DCBBS with your existing stack or let Supermicro build an integrated solution!



Thank you!