



SCALEMATRIX

COLOCATION EBOOK



About ScaleMatrix

ScaleMatrix is a nationwide network of revolutionary data centers that ensures clients they can deploy any hardware, at any density, while benefitting from better performance and longer hardware life.

ScaleMatrix Data Centers provide the most secure, flexible, and future-proofed colocation offer in North America. Built around the revolutionary Dynamic Density Control™(DDC) platform, our clients can deploy any hardware, in any quantity, at any time, without concerns for power, cooling, or airflow limitations. This extreme flexibility helps deliver better business agility, improves time-to-market, and provides our clients with a significant technological advantage.



24/7/365
U.S. BASED
PROFESSIONAL
SUPPORT

888.349.9994

www.scalematrix.com

Our Nationwide Data Centers

ScaleMatrix operates proprietary, custom-built data centers designed to deliver unrivaled density capabilities, industry-leading PUE, and unmatched security.



SCALEMATRIX HEADQUARTERS
US-WEST 01 - SAN DIEGO, CA



US-EAST 01 - CHARLOTTE, NC



US-SOUTH 02 - JACKSONVILLE, FL



US-WEST 02 - SEATTLE, WA



US-SOUTH 01 - DALLAS, TX

SCHEDULE A DATA CENTER TOUR TODAY!

Phone: 888.349.9994

Email: sales@scalematrix.com



Hewlett Packard
Enterprise

HIGH
PERFORMANCE
COMPUTING

CENTER OF
EXCELLENCE

Est. 2018

HPE Center of Excellence for HPC

As the first North American HPE CoE, ScaleMatrix combines the high-performance computing platform from HPE with our high-density data center to deliver faster outcomes for HPC workloads.

- Optimal combination of speed, security, agility, and ROI
- Breakthrough performance of HPE Apollo
- Early Access Program available




NVIDIA® DGX™-Ready Data Center Partner

With ScaleMatrix powered by DDC Cabinet Technology, you can deploy advanced computing solutions in any environment, at any density, while improving energy efficiency and ensuring maximum performance and uptime. It is now possible for any enterprise to have a supercomputing facility anywhere.



- Lowest operating cost for NVIDIA GPU Systems
- High Density
- Energy Efficient

Server hardware performs better at ScaleMatrix data centers due to ideal thermal conditions and lasts longer with fewer failures from dust, debris, and thermal variation – creating better ROI!

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ADVANCED COLOCATION SERVICES



ScaleMatrix has the largest high-density data center footprint in the U.S!

Supporting 52kW per 45U cabinet enclosure, each site boasts 24/7/365 Enhanced Remote Hands Support, Software Defined Network and Cloud On-Ramps, plus High-Performance Cloud, Backup, DaaS, HPCaaS, and GPUaaS.

- DDC cabinets provide surgical temperature management and guaranteed airflow (CFM) ensuring optimal hardware operation and maximum performance over time.
- Cabinet efficiency delivers PUE of 1.15 - 1.2, providing extremely competitive pricing.
- Cleanroom quality environmental controls mean server hardware lasts longer and has fewer failures over time.
- Biometric security at the cabinet level ensures compliance with all regulatory and security mandates.



HIGHEST DENSITY

Dynamic Density Control™ cabinet technology at all ScaleMatrix sites support 52kW of power density in each 45U cabinet.



AIRFLOW / TEMP GUARANTEE

DDC delivers unmatched supply-side airflow management, closed-loop thermal cooling, and clean-room quality air at the rack level.



LARGEST HIGH-DENSITY FOOTPRINT

Multiple data center locations include Southern California, Washington, Texas, North Carolina and Florida.



NO RESOURCE LIMITATIONS

Our DDC-enabled data centers ensure IT hardware can run at peak performance at all times, without concerns for power, cooling, or resource limitation.



MAXIMUM HARDWARE PERFORMANCE

Server hardware performs better at ScaleMatrix Data Centers due to ideal thermal conditions and last longer with fewer failures from dust, debris, and thermal variation - creating better ROI!



EPIC SECURITY

Unparalleled security at the cabinet level with biometric cabinet access, video security, and physical security checkpoints throughout our data centers.





GREEN SUSTAINABILITY

Our DDC design provides industry-leading energy efficiency, allowing extremely competitive service pricing, regardless of the market or geography.



RISK MITIGATION

In traditional data centers, fire suppression, cooling, or other tenants can impact all facility occupants—the DDC design ensures true risk mitigation at the rack level.



POWER MANAGEMENT

Monitor power usage in real time, remotely reboot ports, and save thousands on power distribution equipment only at ScaleMatrix.



PROFESSIONAL SUPPORT

Our highly inclusive support offer is the opposite of nickel and diming. Live support is guaranteed; and 20 minutes or less is always included at no cost!



DATA CENTER ENVIRONMENT

ScaleMatrix provides clients a quiet and comfortable work environment inside the data center. You will get more done and be more comfortable in our data centers than in any other facility worldwide.

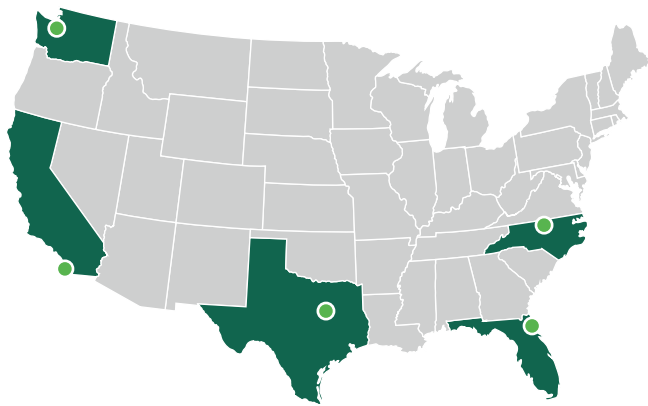


BANDWIDTH & DDoS PROTECTION

Premium, fault tolerant, multi-homed bandwidth and next-gen DDoS protection are available. Clients may also choose from any number of neutral bandwidth carriers.

High-Density Data Centers

ScaleMatrix offers more high-density data center locations, with better PUE, and more aggressive pricing than any provider in the market.



Megaport Connected

Software based connections to any Cloud Service Provider, Data Center or Application Host are delivered in just seconds through our Megaport SDN!



"A Cloud for the Artificial Mind: This Data Center is Designed for Deep Learning"



"ScaleMatrix Builds Niche Solution in HPC for Genomics and AI"



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San Diego, CA

US-WEST 02
Seattle, WA

US-SOUTH 01
Dallas, TX

US-EAST 01
Charlotte, NC

US-SOUTH 02
Jacksonville, FL



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TRADITIONAL DATA CENTERS

VS

THE DDC DATA CENTER

Engineering and Permitting
Utility Readiness
Reliable Power Supply
Power Distribution
Chiller / Cooling Supply

SAME

Engineering and Permitting
Utility Readiness
Reliable Power Supply
Power Distribution
Chiller / Cooling Supply

Finished and Improved Data Center Space

**Deploy at Any Density, Anywhere:
Data Floor, Raw Space, Warehouse,
Laboratory, Storage Area, etc.**

- Raised Floor System
- Fire Suppression
- Physical Security / Cabinet Security
- Air Filtration / Environmental Management
- HVAC Distribution and Air Handling
- Data Center Thermal Management
- Noise Management
- Availability Zone Management

WHAT'S DIFFERENT?

(S-SERIES)
**DYNAMIC DENSITY CONTROL
CABINET ENCLOSURE
PLATFORM**



**Highest Efficiency
& Density**
(Up to 52kW)

Simple, extreme
density support for
less than \$1/watt





SCALEMATRIX



ScaleMatrix' Dynamic Density Control™ (DDC) platform is designed to solve the density, efficiency, and cooling challenges presented by high-performance compute applications. Customers can colocate their HPC environment to any of our data centers across the country that utilize our DDC cabinets, or they can install the DDC enclosure platform in their facility to enjoy the flexibility and efficiency of deploying any rack-mountable hardware, at any density, for a fraction of the cost of alternative solutions.

Cirrascale Cloud Services is a premier provider of public and private dedicated, multi-GPU cloud solutions enabling deep learning.

The company utilizes its proprietary PCIe switch riser technology to provide the industry's densest peered multi-GPU platforms for cloud-based solutions targeted at large-scale deep learning operators, service providers, as well as HPC users.

CIRRASCALE BUSINESS NEED

Cirrascale provides its deep learning and HPC customers with the ability to **support up to eight GPUs in a single server.**



Cirrascale supplies these servers as a **bare metal cloud offering** so that customers can rent GPUs as a service in the cloud.



Due to the fact that each GPU can draw up to 300W of power, **each system can draw up to 3,000W of power.**



Cirrascale needed a colocation facility with the power, cooling, and rack infrastructure to **effectively and efficiently cool, and power their cloud service.**



SCALEMATRIX SOLUTION

Dynamic Density Control™ Platform

ScaleMatrix delivers unmatched power density, energy efficiency, access control, fire suppression, risk-mitigation, and more through the Dynamic Density Control Platform (DDC). It is the advanced cabinet technology of DDC that delivers the resources needed to power and cool Cirrascale servers in a hosted environment or another location.

The proprietary enclosed cabinet design leverages localized heat exchange to dramatically improve density and efficiency. As thermal loads increase or decrease inside the cabinet, DDC automatically adjusts to the needs, and is able to cool up to 52kW per cabinet and maintains the cabinet temperature within 2 degrees of the desired set-point automatically using the world's first liquid-air hybrid cooling platform.

ScaleMatrix provides an always-on infrastructure with secure, robust networking that is ideal for Cirrascale's cloud service platform.



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ELEMENTS & TECHNICAL SPECIFICATIONS OF THE SOLUTION

- Cirrascale uses the **GX8 Multi-GPU Servers**, along with Cirrascale **GX4 Multi-GPU Servers**.
- Perfectly scalable to maintain **extreme density and efficiencies** at all times.
- Dramatic **reduction of power and cooling costs** since there is no need to cool the room, as each DDC cabinet is individually cooled.
- Efficiency gains are incredible with Power Usage Effectiveness (PUE) **improvements up to 30%**. DDC delivers **PUE of 1.1** depending on the location.

CABINET	CONTROLS	COOLING	OPTIONS
Model S-1034 Usable Height 45RU Depth 72.0 in Width 24.0 in Cooling Threshold 34,000 watts	Air flow control Cooling flow control Fire supression Power management controls Physical security alarms	Modular variable speed 2500 CFM blower Operating Point 0% at 20 C° 100% at 40 C° High capacity tube-fin heat exchanger Low pressure 5GPM water supply	EPO tied to fire suppression Various power configurations available Multi-tenant insert Integration to existing monitoring system

BENEFITS TO CIRRASCALE



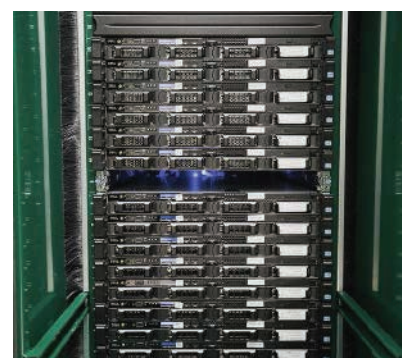
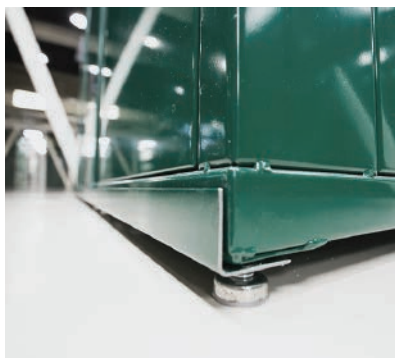
COOLED GPU
INFRASTRUCTURE



EXCEPTIONAL
DENSITY



COMPETITIVE
PRICING



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Choosing the right data center partner will help future-proof your IT investment

More companies are looking at Artificial Intelligence for their business and determining how to adjust their technology strategy to begin or scale AI. These intense workloads need a data center that is prepared for high-density demands. ScaleMatrix has been ahead of the curve efficiently cooling 52kW and beyond in a single rack. The colocation services from ScaleMatrix are faster, flexible, and more efficient than traditional data centers.

ScaleMatrix Data Centers provide the most secure, flexible, and future-proofed colocation offer in North America.

DDC Cabinet Technology Advantage

We are the only data centers with DDC™ (Dynamic Density Control) Cabinet Enclosures that enables our sites to support 1kW - 85kW of power density in a single cabinet enclosure.

Compliance Program

Our U.S. Data Centers meet the most stringent regulatory compliance guidelines and our compliance team makes us a valuable part of your overall IT strategy.

Enhanced Security Control & Monitoring

Biometric security at the cabinet level ensures compliance with all regulatory and security mandates.

Return on Investment

Full investment is gained when your IT runs at peak performance 100% of the time.

Cabinet Level Control and Mitigation

In traditional data centers, fire suppression, cooling, or other tenants can impact all facility occupants – the DDC cabinets ensure true risk mitigation at the single rack level.

Increased Server Life

Cleanroom quality (NEMA 3) environmental controls mean server hardware lasts longer & has fewer failures over time.

Efficiency and Competitive Pricing

Cabinet efficiency delivers PUE of 1.15-1.2, providing extremely competitive pricing due to energy savings.



SCALEMATRIX

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