

SCALEMATRIX

COLOCATION E-BOOK

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ABOUT SCALEMATRIX

ScaleMatrix is a Hybrid Service Provider delivering an array of cloud, colocation, managed services, data protection and connectivity options under one manageable umbrella. As developers of ground-breaking data center efficiency technology, the company offers a cutting edge product catalog and white-glove concierge type services at market prices which benefit from these proprietary cost-saving innovations. With a focus on helping clients choose the right platform and performance criteria for a variety of IT workloads, ScaleMatrix aims to be a one-stop shop for those looking to simply and reliably manage development, production, and disaster recovery workloads with a single partner.



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

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?

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

(S-SERIES)

DYNAMIC DENSITY CONTROL
CABINET ENCLOSURE
PLATFORM



Highest Efficiency
& Density
(Up to 52kW)

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



COLOCATION

By rethinking every aspect of traditional colocation services, we've created a greener, denser, and more cost-effective way to build data centers. From power density capabilities and unmatched security, to comfortable data center environments, we lead the market in value and service quality for clients in nearly every vertical market.



What is DDC?

ScaleMatrix Colocation services are among the best in the industry due to considerable technological, efficiency, and security enhancements made available through the use of the company's proprietary **Dynamic Density Control™** platform.

30%
MORE EFFICIENT

78
kW

< 2°
TEMP. VARIATION

Learn more at www.DynamicDensityControl.com

FUTURE PROOFING DENSITY

ScaleMatrix can support more than 70kW in a single rack, and we guarantee availability of power and cooling in writing to support your current and future requirements.

GREEN COST-CONTROL

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 individual rack level.

POWER MANAGEMENT

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

PHYSICAL SECURITY

Physical security is paramount at ScaleMatrix, including armed security guards, camera technology, and biometrically secure equipment racks.

NETWORK, BANDWIDTH, & DDoS PROTECTION

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

MATRIX TOTALCARE

Our highly inclusive support offer is the opposite of nickel and diming. Live support is available within 3 rings, guaranteed; and 20 minutes or less is always included at no cost!

DATA CENTER ENVIRONMENT

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

SECURITY | MATRIX TOTALCARE™ | LOAD BALANCING | COMPLIANCE | MONITORING | MANAGED SERVICES

US-WEST

5775 Kearny Villa Rd.,
San Diego, CA 92123

US-SOUTH

1510 Primewest Pkwy.,
Katy, TX 77449



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NOT YOUR AVERAGE COLOCATION PROVIDER

The quality and capabilities offered at ScaleMatrix are simply unavailable at other data centers. Our hybrid solutions approach makes managing and connecting workloads across development, production, and disaster recovery environments easy, secure, and cost effective.



**CLOUD
SERVICES**



**MANAGED
SERVICES**



**FILE & OBJECT
STORAGE**



**DIRECT CONNECT
OPTIONS**



**COMPLIANCE
SUPPORT**



**BACKUP &
DISASTER RECOVERY**

TRUSTED BY



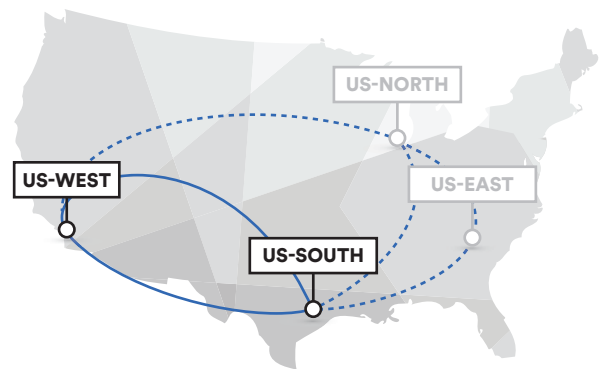
Red Door Interactive relies on fast, secure, and reliable colocation services to support our business and IT operations. The ScaleMatrix data center has the right amenities, experts, and tools to ensure our technology infrastructure meets our needs."

- DENNIS GONZALES

Vice President, Operations



GEOGRAPHIC DIVERSITY



100GB

National
Bandwidth
Network

#1

In Data
Center
Density

100%

U.S Based
Support
Services

UNPARALLELED SUPPORT

24/7/365 White Glove Support
Tape Rotation, Rack & Stack, Equipment Repair

SECURITY | MATRIX TOTALCARE™ | LOAD BALANCING | COMPLIANCE | MONITORING | MANAGED SERVICES

US-WEST

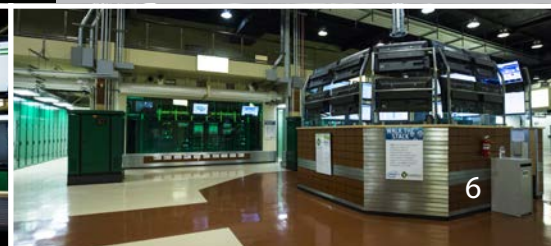
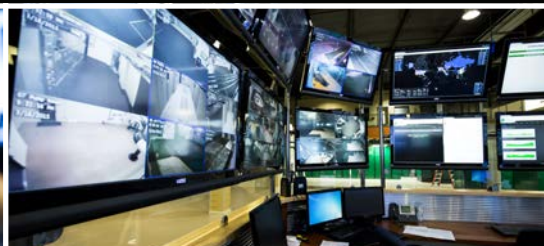
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7 CHALLENGES FACING DATA CENTER OPERATORS WITH HPC REQUIREMENTS

Increasing Thermal Density

1

The Dynamic Density Control™ (DDC) platform can be newly deployed or bolted-on to an existing data center to provide **variable density support for any workload**. Instant HPC support!

Limitations from Alternative Cooling Technology

2

DDC means high density without limitations. **Install any rack-mountable hardware up to 52kW** and forget the challenges and restrictions associated with immersion or water-cooled solutions.

Increasing Resource Costs (Power & Water)

3

The **closed-loop** DDC design delivers industry-leading PUE with minimal water requirements to help keep utility costs associated with the data center down.

Long-Term Planning (Predicting the Future)

4

Hardware profiles are changing. With DDC cabinet enclosures, your data center will **operate at peak efficiency and dynamically scale with your workload demands** as they grow.

Aging Data Centers (Enterprise or Service Provider)

5

Extend the use of your data center investment by deploying DDC cabinets. With more efficient and higher density design, they will help extend the range of your investment and enable problem-free HPC deployments at any density.

Asset & Resource Planning (How NOT to Strand Your Resources)

6

With Dynamic Density Control™, you have the **freedom to deploy, move, and change HPC deployments**, location, and hardware as you see fit. Gone are the days of stranded precious resources and trading efficiency for density!

Edge Use Cases Edge Data Center Edge Deployments

7

Based on a modular design, DDC's NEMA enclosures can be deployed in a variety of locations not normally suited for data center use cases. **Deploy one or hundreds with confidence**. Let integrated security, fire suppression, and access control take care of the heavy lifting.



SCALEMATRIX



ScaleMatrix is a Hybrid Service Provider of colocation, cloud, managed services, data backup, DR, connectivity, and cabinet technology. Our enterprise solutions are available in our data centers, in the cloud, or on-premise wherever you are.

The cabinet technology of the Dynamic Density Control Platform gives you a greener footprint with lower power costs, better security, and the ability to cool any IT hardware from 1kW – 52kW.

Cirrascale Corporation is a premier developer of hardware and cloud-based solutions enabling GPU-driven deep learning infrastructure.

Their patented Vertical Cooling Technology and proprietary PCIe switch riser technology provides the industry's densest rackmount and blade-based peered multi-GPU platforms. The company sells to infrastructure operators, hosting and cloud service providers, and 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



ScaleMatrix offers advanced cabinet technology within our high-density data centers, and is

one of the only data centers in the world to deliver the resources needed to power and cool the Cirrascale servers in a hosted environment.

ScaleMatrix Dynamic Density Control™ Platform has a proprietary enclosed cabinet design leveraging localized heat exchange to dramatically improve density and efficiency.

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 GX8 Multi-GPU Servers** make up the major elements of the solution, along with Cirrascale GX4 Multi-GPU Servers.
- The **ScaleMatrix Dynamic Density Control** cabinet environment is managed to within 2 degrees of the desired set-point automatically using the world's first liquid-air hybrid cooling platform.
- The efficiency gains are incredible with **Power Usage Effectiveness (PUE) improvements up to 30%**. DDC delivers **PUE of 1.1** depending on location.

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

BENEFITS TO CIRRASCALE



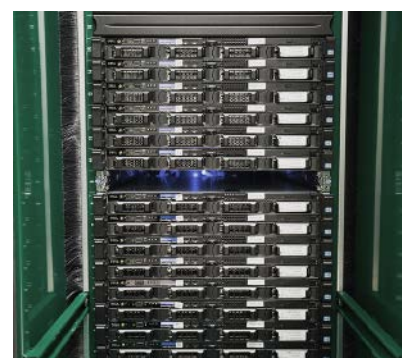
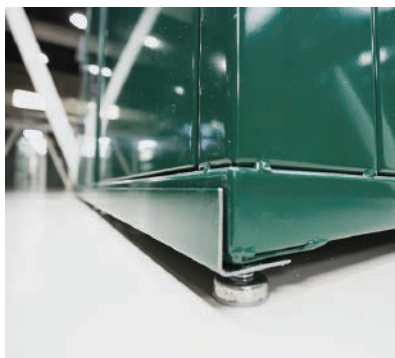
COOLED GPU
INFRASTRUCTURE



EXCEPTIONAL
DENSITY



COMPETITIVE
PRICING



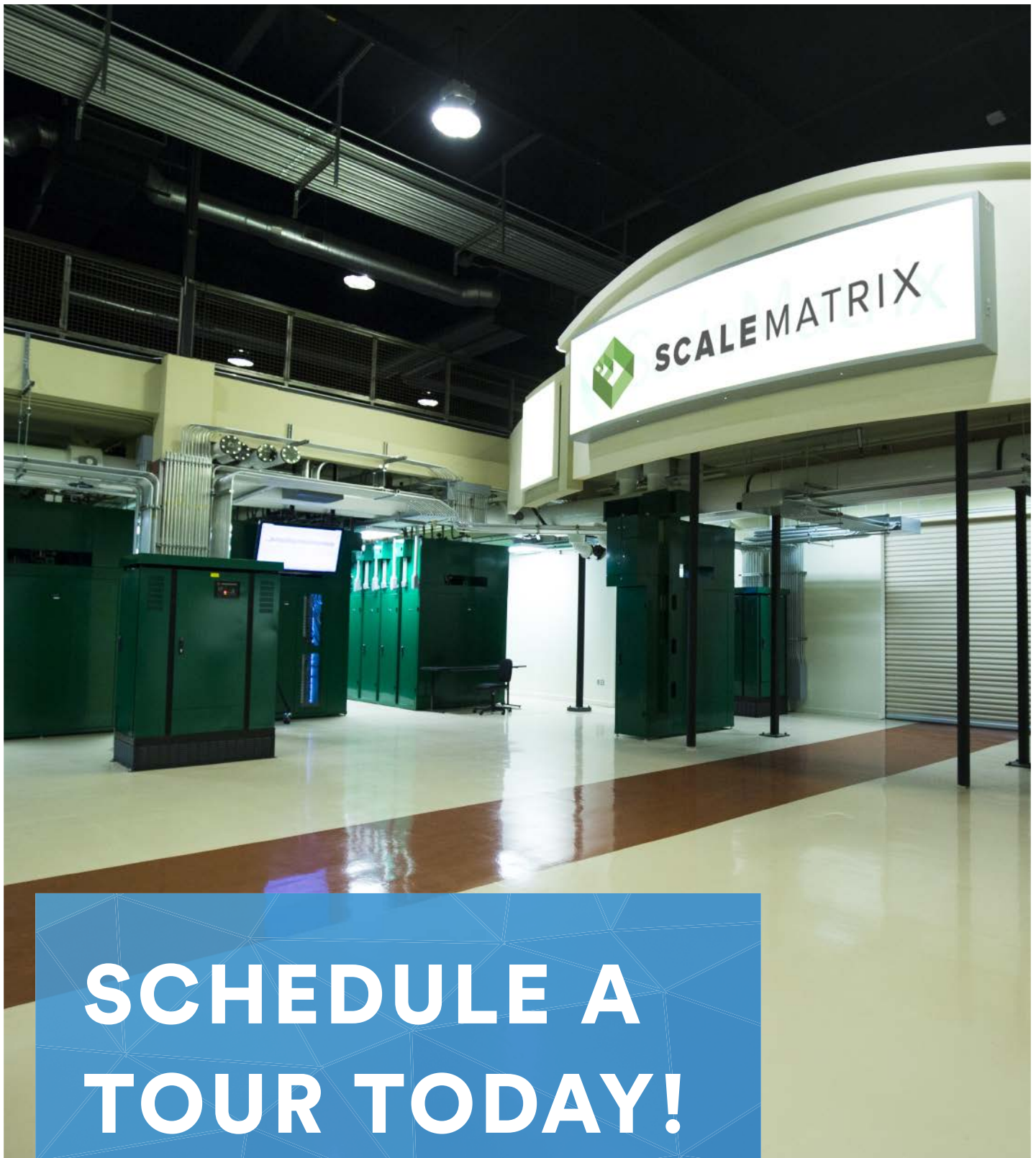
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