

# Optimizing Enterprise Data Center Infrastructure

How Seagate Exos Enterprise Drives and Systems Enable High-Capacity, High-Performance Storage Solutions for Business-critical Data Center Operations

Vertical Brief

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## Executive Summary

Whether it's AI driven or not, data center operators must efficiently manage exponential data growth and diverse workloads — including virtualization, databases, big data analytics and cloud services — all requiring enterprise-grade storage. Modern operations demand high-capacity storage architectures that consolidate petabyte-scale data, enhance mixed workload performance, ensure business-critical reliability and scale cost-effectively to maintain the operational efficiency crucial for competitive service delivery.

## Seagate Knows Data Center Requirements

**Seagate Exos® enterprise drives and systems solutions** allow data center operators to consolidate massive datasets, accelerate application performance, enable efficient multi-tenant operations and support continuous availability across data center infrastructure. Whether supporting hyperscale cloud platforms, enterprise private clouds, colocation services or managed hosting environments, Exos solutions offer industry leading capacities and empower data center operators to optimize resource utilization, maximize infrastructure density, reduce operational costs and scale capabilities as business demands evolve.

## Meeting Industry Challenges

Decades of working with data center operators have provided Seagate with deep insight into the industry's unique infrastructure storage requirements. Among the most common data center challenges are:

**Exponential data growth management:** Data center operations experiencing 30-50% annual data growth across application data, user content, backup repositories and analytics platforms requiring cost-effective, high-capacity storage that scales from petabytes to exabytes while maintaining consistent performance across diverse workload types and tenant requirements.

**Mixed workload performance:** Infrastructure supporting simultaneous database transactions, virtual machine operations, big data analytics, unstructured data and content delivery needing storage that delivers consistent low-latency performance across diverse I/O patterns while preventing performance interference between competing applications and multi-tenant workloads.

**Infrastructure density optimization:** Data center facilities constrained by rack space, power capacity, and cooling infrastructure that must have maximum storage density per rack unit to reduce physical footprint, minimize power consumption per terabyte and optimize facility resource utilization, while maintaining enterprise performance standards.

**Cost-effective scaling requirements:** Competitive pressure demanding infrastructure that optimizes total cost of ownership (TCO) through high-capacity drives, energy-efficient operations, simplified management and reduced maintenance overhead, while supporting profitable service delivery as capacity requirements grow exponentially.

**Business-critical availability:** Enterprise applications, cloud services and customer-facing platforms requiring 99.999% uptime and continuous data availability where storage failures directly impact service revenue, customer satisfaction, SLA compliance and operational reputation across 24x7 data center operations.

**Multi-tenant resource efficiency:** Cloud and colocation operators supporting hundreds of customers requiring storage that enables efficient resource sharing, maintains performance isolation between tenants, and delivers predictable service quality while optimizing infrastructure utilization and operational profitability.

**Operational Complexity Management:** Large-scale infrastructures with thousands of storage devices requiring simplified deployment, proactive health monitoring, automated management capabilities, and reduced administrative overhead that enables efficient operations without proportional staffing increases as infrastructure scales.

**Energy efficiency and sustainability:** Data center operators facing escalating power costs and sustainability mandates requiring storage solutions that minimize power consumption, reduce cooling requirements and support environmental commitments, while maintaining enterprise performance and capacity capabilities.



## Seagate Exos Devices and Systems

Seagate Exos enterprise drives comprehensively address data center infrastructure needs through purpose-built platforms optimized for capacity scaling, workload performance, operational efficiency and business-critical reliability. Exos systems further enhance these capabilities by providing scalable, responsive and innovative solutions that leverage the latest market technology to promote efficient and versatile use across a multitude of applications.

### High-Capacity Infrastructure Consolidation

Exos drives deliver industry-leading capacity density that results in massive data consolidation, supporting petabyte-scale storage deployments in minimal rack space while reducing power consumption per terabyte and optimizing facility resource utilization across diverse data center workload types.

### Mixed Workload Performance Optimization

Enterprise-grade Exos drives provide consistent low-latency performance across virtualization platforms, database systems, analytics workloads and content delivery applications, ensuring predictable response times that support SLA compliance while preventing performance interference between concurrent workloads.

### Maximum Rack Density

High-capacity Exos architecture maximizes storage density per rack unit, helping data center operators optimize facility resources by deploying more capacity in less space, while reducing power distribution and cooling infrastructure requirements that constrain physical expansion.

### Cost-Effective Capacity Scaling

Purpose-built enterprise drives deliver optimized TCO through high-capacity efficiency, reduced power consumption, simplified management and proven reliability that minimizes operational overhead while supporting profitable infrastructure scaling as data volumes grow.

### Business-Critical Reliability

Enterprise reliability features including advanced error recovery, workload-optimized firmware, and comprehensive health monitoring ensure continuous availability essential for 24x7 data center operations, maintaining service uptime and SLA compliance while protecting against data loss and service disruptions.

### Multi-Tenant Performance Isolation

Advanced Exos performance capabilities support efficient multi-tenant operations by maintaining consistent performance across diverse customer workloads, allowing resource sharing that optimizes infrastructure utilization while maintaining predictable service quality for cloud and colocation environments.

### Operational Efficiency

Simplified deployment, automated health monitoring and proven enterprise reliability reduce administrative overhead and maintenance requirements, giving efficient data center operations that scale without proportional increases in operational staffing or management complexity.

### Sustainable Infrastructure

Energy-efficient design and high-capacity density minimize power consumption and cooling requirements per terabyte, supporting data center sustainability initiatives and reducing operational expenses while maintaining enterprise performance capabilities essential for competitive service delivery.

## Achieve Multiple Advantages

**Maximum infrastructure density:** High-capacity Exos drives optimize rack space utilization and reduce facility footprint requirements, so data center operators can deploy more storage capacity per rack while minimizing power distribution and cooling infrastructure investments necessary for physical expansion.

**Optimized TCO:** Enterprise storage efficiency delivers documented TCO advantages through high-capacity density, reduced power consumption per terabyte, simplified management and proven reliability that minimizes operational overhead while supporting profitable scaling as capacity demands grow.

**Consistent application performance:** Enterprise-grade performance optimization ensures predictable low-latency response times across mixed workloads, supporting SLA compliance for database applications, virtualization platforms, analytics systems and cloud services while preventing performance interference between concurrent operations.

**Business-critical uptime:** Advanced reliability features mean continuous storage availability essential for 24x7 data center operations, maintaining service uptime, protecting customer data and supporting SLA commitments, while minimizing revenue impact from storage-related service disruptions.

**Efficient multi-tenant operations:** Performance isolation capabilities result in profitable multi-tenant service delivery by supporting efficient resource sharing across diverse customer workloads while maintaining predictable service quality that secures customer satisfaction and retention.

**Scalable growth architecture:** Purpose-built enterprise infrastructure supports seamless capacity expansion from petabytes to exabytes, maintaining consistent performance across diverse workload types while enabling cost-effective scaling that adapts to evolving data center demands without infrastructure redesign.

**Reduced energy consumption:** Advanced power management and high-capacity design minimize operational power requirements and cooling costs, reducing total operational expenses while supporting sustainability commitments and environmental compliance requirements across large-scale data center deployments.

**Simplified operations management:** Enterprise reliability and automated health monitoring reduce administrative overhead and maintenance complexity, enabling efficient infrastructure operations that scale without proportional staffing increases and yet maintain service quality standards.

**Workload versatility:** Optimized performance across diverse I/O patterns supports simultaneous virtualization, database, analytics and content delivery workloads on consolidated infrastructure, maximizing resource utilization while maintaining application performance requirements across mixed data center environments.

**Future-ready infrastructure:** Scalable Exos architecture accommodates emerging technologies, evolving workload requirements and growing capacity demands without requiring infrastructure replacement, protecting data center technology investments and continuous service evolution.

**Proven enterprise heritage:** Decades of hyperscale and enterprise deployment experience ensure field-proven reliability, validated performance and comprehensive support that reduces operational risk and provide confidence for business-critical data center infrastructure investments.

## Seagate: Your Trusted Infrastructure Partner

Seagate Exos solutions enhance data center operational excellence by providing the comprehensive storage foundation essential for supporting diverse workloads, optimizing infrastructure efficiency, and delivering competitive services that drive customer satisfaction and profitability. Infrastructure density can be maximized through high-capacity storage that optimizes facility resources, operational costs can be reduced through energy-efficient designs that minimize power and cooling expenses, and service reliability can be enhanced through enterprise-grade platforms that maintain continuous availability for business-critical operations.

Seagate Exos solutions successfully address the critical challenges facing data center infrastructure by delivering storage architectures purpose-built for the demanding capacity, performance and reliability requirements of modern operations. More than just storage drives, Exos solutions become the infrastructure foundation for competitive data center services — always scalable, consistently reliable and dedicated to the operational capabilities essential for successful service delivery.

With Seagate Exos solutions, data center operators gain the comprehensive storage infrastructure necessary for supporting diverse workloads and multi-tenant operations, while maintaining the enterprise reliability and cost efficiency essential for profitable large-scale services. This positions Seagate not merely as a storage vendor, but as a strategic infrastructure partner for data center companies implementing technologies that drive operational excellence and competitive advantage.

Contact your CDW sales representative for more information