Seagate Cloud-Scale Storage Array

High Density Array with Dual, 12Gb/s Controllers in a 5U84 Enclosure

Product Highlights

- 5U standard 1m rack-mount enclosure for up to 8PB of data per rack

- Efficient power conversion and adaptive cooling technology

- ADAPT data protection technology to make data constantly available

- Up to 84 3.5" Seagate SAS hard disk drives or Solid State Drives per 5U enclosure

- Drawer design provides extremely high density per rack unit

- Easy access to hot swap drives

- Expansion capability up to 336 drives

- Dual 12Gb SAS I/O modules with integral data path redundancy

- Dual redundant controllers for enhanced reliability

Future-Proof Storage Infrastructure

Big Data proliferates at mind-boggling speed – business data such as files and presentations, video files from surveillance systems, analytics data, all of which needs to be stored somewhere, and has to be available to end users where they need it, when they need it.

A storage solution for today should also take into consideration the volume and use scenarios in the future. That's why Seagate puts industry leading dollars and time into R&D to engineer products that store more data in less space, while still delivering the features and functionality that make them fast, efficient, and cost-effective.

Seagate now introduces the Cloud-Scale 5U84 Storage Array to its growing fleet of enterprise-grade storage solutions. We applied the same groundbreaking technology innovation that made our lower density models the fastest in their industry price bands, to this new high density, high capacity model. Now, there's no need to choose between capacity and performance; we provide it in the same, feature-rich product.

This product allows for flexible AFA, HFA, and HDD configuration options, Now, using minimal SSDs and intelligent firmware that boasts advanced data tiering technology, Seagate delivers a high density solution that is also high performance and feature rich.

Cost-Effective

Seagate delivers a space-conscious storage model that packs up to 1PB of storage space into a single chassis, expertly designed to occupy only five data center rack units. With 84 drive bays rigorously tested to function fast and efficiently with 8, 10, and 12 TB drives, this system delivers exceptional value for the dollar for OEMs, cloud service providers, private cloud builders, and enterprise data centers

- High density design stores more data in a smaller space, reducing the cost of floor space, heating and cooling, and maintenance

- With high read and write throughput for demanding streaming applications, businesses are paying less for more

The 5U84 Storage array enables uninterrupted business continuity with dual, hot-swappable, high availability controllers that contribute to the system's 99.999% uptime rating.

The unique, space-saving and energy-saving drawer design of the 5U84 Storage Array hosts a combination of 84 Seagate solid state (SSD) and hard disk drives (HDDs) in only 5 rack units.

High Availability, High Performance

Areal density is important, but performance is the second half of the value equation. Powered by intelligent software, the Seagate 5U84 system has unique features to usher data in and out of the system seamlessly so that every resource is used to its maximum potential.

- Exclusive Seagate ADAPT data protection eliminates 95% of performance degradation during disk rebuild when compared to traditional RAID solutions. The technology disperses data across many drives, allocating more resources to rebuild so data is available, and business is not interrupted

- Throughput is delivered at 7GB/s sequential read and 5.5GB/s sequential write, so access by end users to business-critical data is virtually instantaneous

- Seagate Intelligent Tiering technology automatically sorts hot and cold data to ensure highest performance dries are used only when they're needed.

Easy to Set-Up and Maintain

Data centers are growing, but companies need to maintain them with fewer resources than ever before. The Seagate 5U84 Storage Array is five steps out-of-the box simple, reliable, and stores more per rack unit, so there is less overall equipment for administrators to manage.

- Seagate designs every component in the 5U84 – from the fast controller to the precisely engineered chassis and high capacity drives, so the system functions more effectively and efficiently than higher priced models where performance and reliability is reduced because components are not optimized to function together

- Seagate Systems are built with a uniquely modular architecture so many components, including I/O modules, controllers, and software, are interchangeable. This accelerates time-to-market of new technologies, and simplifies and reduces costs of upgrading for enterprises and clouds

Seagate has the right system for your unique needs. Our storage experts work with OEMs, cloud service providers, private cloud owners, and enterprises to understand needs and deliver the most cost-effective, performance rich solutions tailored to use cases.

Visit seagate.com/enterprise-storage

Seagate 5U84 Storage Array

Specifications

Models – 4865 Fibre Channel or iSCSI, 4565 SAS	4005 Controller Performance	7GB/s read throughput | 5.5GB/s write throughput
	Expansion BODs	J1284 (5U84) | Maximum of 3x 5U84 EBODs
	Advanced Features	Thin Provisioning | Snapshots | Asynchronous | Replication
	High-Availability Features	Redundant Hot-Swap Controllers | Redundant Hot-Swap Disks, Fans, Power
		Dual Power Cords | Hot Standby Spare | Automatic Failover | Multi-Path Support
	With eighty-four 3.5" drives	Up to 84 drives per chassis | 1008TB max capacity per chassis
	Physical	Height: 8.75 in / 222.3 mm | Width: 17.5 in / 444.5 mm | Depth: 38.63 in / 981 mm | Width w/ ear mounts: 19.01 in / 483 mm
		RBOD weight: 180 lb / 82 kg | RBOD weight with drives: 298 lb / 135 kg | EBOD weight: 175 lb / 80 kg
		EBOD weight with drives: 287 lb / 130 kg
Hosts	External Ports	8 per system
	Fibre Channel Models	Host Speed: 16Gb, 8Gb Fibre Channel | Interface Type: SFP+
	iSCSI Models	Host Speed: 10Gb, 1Gb iSCSI | Interface Type: SFP+
	SAS Models	Host Speed: 12Gb, 6Gb SAS | Interface Type: HD Mini-SAS
Drive Support	4565, 4865	Nearline SAS
Data Protection	Default	ADAPT data protection technology
	Additional Data Protection Options	0, 1, 3, 5, 6, 10 and 50
System Configuration	System Memory	16GB per system (4005)
	Volumes per System	1024
	Mirrored Cache	Yes
	Supercapacitor Cache Backup	Yes
	Cache Backup to Flash	Yes – Non-volatile
Management	Interface Types	10/100/1000 Ethernet, Mini USB
	Protocols Supported	SNMP, SSL, SSH, SMTP, HTTP(S)
	Management Consoles	Web GUI, CLI
	Management Software	RealStor Storage Management Console
		Remote Diagnostics | Non-disruptive Updates | Volume Expansion
Power Requirements – AC Input	Input Power Requirements	200-240VAC 50-60Hz
	Max Input Power	1047W maximum continuous
	Heat Dissipation	3572 BTUs/hour | Platinum rated power supplies
Temperature and Humidity Ranges	Operating Temperature	RBOD: 5°C to 35°C (41°F to 95°F) | EBOD: 5°C to 40°C (41°F to 104°F)
	Shipping Temperature	-40°C to +70°C (-40°F to +158°F)
	Operating Humidity	20% to 80% non-condensing
	Non-Operating Humidity	5% to 100% non-precipitating
Declared Acoustic Noise Levels	Sound Power	$<L_{WAd}$ 6.6 Bels (re 1 pW) @ 23°C
Shock and Vibration	Shock, Operational	5.0 g, 10 ms, ½ sine pulses, Y-axis
	Shock, Non-Operational	30.0 g, 10 ms, ½ sine pulses (Z-axis); 20.0 g, 10 ms, ½ sine pulses (X- and Y-axes)
	Vibration, Operational	0.21 G_{rms} 5 Hz to 500 Hz random
	Vibration, Non-Operational	1.04 G_{rms} 2 Hz to 200 Hz random

Specifications

Safety (Country) - latest edition /amendments		UL 60950-1 (United States) | CAN/CSA-C22.2 No.60950-1-07 (Canada) | EN 60950-1 (European Union)
		IEC 60950-1 (International) | CCC (China PRC – CCC Power Supplies) | BIS (India – BIS Power Supplies)
Electromagnetic Compatibility	Emissions	FCC CFR 47 Part 15 Subpart B Class A (United States) | ICES/NMB-003 Class A (Canada)
		EN 55022/EN 55032:2012 Class A (EU) | AS/NZS CISPR 22/CISPR 32 Class A (Australia/New Zealand)
		VCCI Class A (Japan) | KN 22/KN 32 Class A (S. Korea) | CNS 13438 Class A (Taiwan)
	Harmonics	EN 61000-3-2 (EU)
	Flicker	EN 61000-3-3 (EU)
	Immunity	EN 55024 (EU) | KN 24/KN 35 (S. Korea)
Environmental Standards (latest amendments)		The RoHS Directive (2011/65/EU) | The WEEE Directive (2012/19/EU) | The REACH Directive (EC/1907/2006)
		The Batteries Directive (2006/66/EC)
Standard Country Approvals (Mark):		Australia/New Zealand (RCM), Canada (cUL/ICES/NMB-003 Class A), China (CCC – PSU only), European Union (CE), Japan (VCCI),
		South Korea (MSIP), Taiwan (BSMI), United States (FCC/UL)