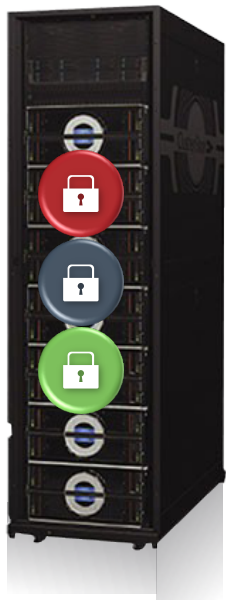


# Seagate ClusterStor™ SL220 Secured Lustre Engineered Solution

World's First data-centric Multi-Level Security Scale-out Storage Solution



## Problem

Separate networks, compute and storage for different data sensitivities.

## Solution

ClusterStor SL220 enables a per file permission access control and audit capability. Labels are defined per security level. Higher security levels can read down to lower levels enabling MLS and consolidation.

## Enables Multi-level Security (MLS) while satisfying need for massive scale

- Overcome legacy barriers and bottlenecks
- Unprecedented scale in performance and capacity with fastest time to productivity
- Industry unique end-to-end security administration solution with fully integrated diagnostics and management
- Certified Multi-level Security (MLS)
- Intelligence community cross domain
- Complete and explicit audit trails - *Know who is doing what on the system*
- **Data-at-Rest Security with FIPS140-2 certified Self-Encrypting Drives and external key management**

## Greatly improve intelligence center efficiency and productivity

- Significantly increase mission productivity and agility
- Relieve floor space, power and cooling constraints
- Reduce operational and management complexity

## Significantly reduce CapEx and OpEx cost

- Reduce capital equipment acquisition, complexity and security administrative costs

## Industry first scale-out parallel file system for cross domain solutions

- Built-in solution visibility, security administration and management to dynamically respond to evolving threat
- Simplified and efficient use of operational, management and intelligence resources

## Supports massive parallel, globally concurrent and secure file system access

- Tens of thousands of clients and billions of files

## Delivers highest performance scalability, reliability, availability and serviceability

- Over 1TB/s file system performance and over 90 PB usable data storage capacity

ClusterStor  
CS9000 HW  
Platform



Security-Enhanced Linux, Secure  
Lustre, MLS Policy, ClusterStor SL  
Client



**Multi-Level  
Security for  
Lustre Storage**

Seagate Services: *Maximize Value by Bringing Seagate's Expertise to You*



## Professional Services

TIME TO VALUE

Strategic consulting, solution design, implementation and migration



## Education Services

DEVELOP "IN HOUSE" EXPERTISE

Develop your team's skills and expertise to optimize your investment



## Support Services

EXPERT HELP

Support from experts, with SLAs that meet critical business needs

Specifications Seagate ClusterStor SL220 Secured Engineered Solution for Lustre		
General Information	Base OS	Red Hat Enterprise Linux 6, patchless kernel
	SELinux	Enforcing mode, Red Hat MLS reference policy with Seagate enhancements
	Certification	ICD503 ready
	Update Unit	Intel-based CPU server with DVDROM and dedicated HDD
	Parallel File System Performance	Up to 63 GB/s bandwidth performance per 42RU height rack
	File System Capacity (raw)	Up to 2,688 TB per rack using 6TB SAS HDDs
	Scalable Storage Unit (SSU)	Up to 6 in base rack (first) Up to 7 in storage expansion racks (second and greater)
	Object Storage Servers	Up to 12 in base rack (first) Up to 14 in storage expansion racks (second and greater)
	Base Metadata Management Server (ClusterStor Management Unit - CMU)	High availability server attached to storage enclosure 2U four node server and 2U 24 drive enclosure
	Client Access	InfiniBand QDR or FDR
	Management Network	1 Gigabit Ethernet (dual management network)
	File System	Secure Lustre® 2.5 with Seagate supported enhancements
	Maximum inodes	Up to 2.4 Billion
	Data-at-rest Security	Encryption
Key Management		Third-party key manager
Disk Drives	SSU Hard Disk Drive	6TB and 8TB drives, SED-FIPS 140-2 available
	Metadata and Management Server Hard Disk Drives (CMU)	Dual ported 6Gb/s SAS drives: 600/900 GB or 1.8TB (FIPS140-2 only) capacity per drive
	Scalable Storage Unit Drive Configuration	2 SSDs, RAID 1, 1+1 80 HDDs, 3.5" 7.2K RPM, 8 x RAID 6 (8+2) MDRAID, 2 hot-spares
	Metadata and Management Server Storage Drive Configuration (CMU)	RAID 1, 1+1 20 HDDs, 2.5" 10K RPM, RAID 1 & 10, 2 Global Hot Spare drives
Dimensions	Height	1,991 mm (78.4 in)
	Width	600 mm (23.62 in)
	Depth	1,200 mm (47.24 in)
	Weight	1,141 Kg (2,510 lbs)
Systems Availability	Hot Swappable	Disk Drives, Power Supplies, Fans, Power Cooling Modules and Server Modules
	Power	Redundant Power Supplies and Power Cooling Modules
	SSU Power Cooling Modules	5 redundant fan modules per SSU, each with dual fans
Power Consumption	Base Rack Configuration	11.93 Kilowatts Nominal (without Update Unit)
	Storage Rack Configuration	12.27 Kilowatts Nominal
Heat Dissipation	Base Rack Configuration	40,721 BTU Nominal
	Storage Rack Configuration	41,882 BTU Nominal
Altitude and Temperatures	Operational Altitude	-30 to 3048m (-100 to 10,000ft)
	Operational Temperature Range	5°C to 32°C
	Temperature Variance	De-rated by 1°C/300m above 900m below the specified maximum temp.
	Humidity	20% to 80% non-condensing
Warranty Information	Hardware	1 Year
	Software	90 Days
Environmental Standards	Disk enclosures 80 PLUS® Gold Certified power efficiency with adaptive cooling, or option for 90 PLUS® Platinum Certified power efficiency with adaptive cooling technology. Seagate is registered through BSI to the international standard for environmental management systems ISO 14001:2004 and holds certificates for each of its three manufacturing locations at Havant UK, Guadalajara Mexico and Seremban Malaysia. 1 Rack configuration attributes above provide a representative example.	

**Take the Next Step: To learn more about Seagate® Cloud Systems and Solutions, visit [www.seagate.com/hpc](http://www.seagate.com/hpc)**

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