

Lenovo DCG Storage overview

Lenovo

Joseph Layous
Storage Sales Manager - ME

A global technology leader

52,000

Employees serving customers in 160+ countries

#212

Fortune 500

7

Nationalities in leadership executive council

100%

Publicly traded

#1

PC Vendor in the world**

\$1.2B

AI & IOT investment

#5

On Gartner high tech supply chain ranking*

36

Manufacturing facilities, 7 research centers and 71 offices globally

● Headquarters
● Lenovo Manufacturing
● Other Manufacturing

*<https://www.gartner.com/doc/3886076/>

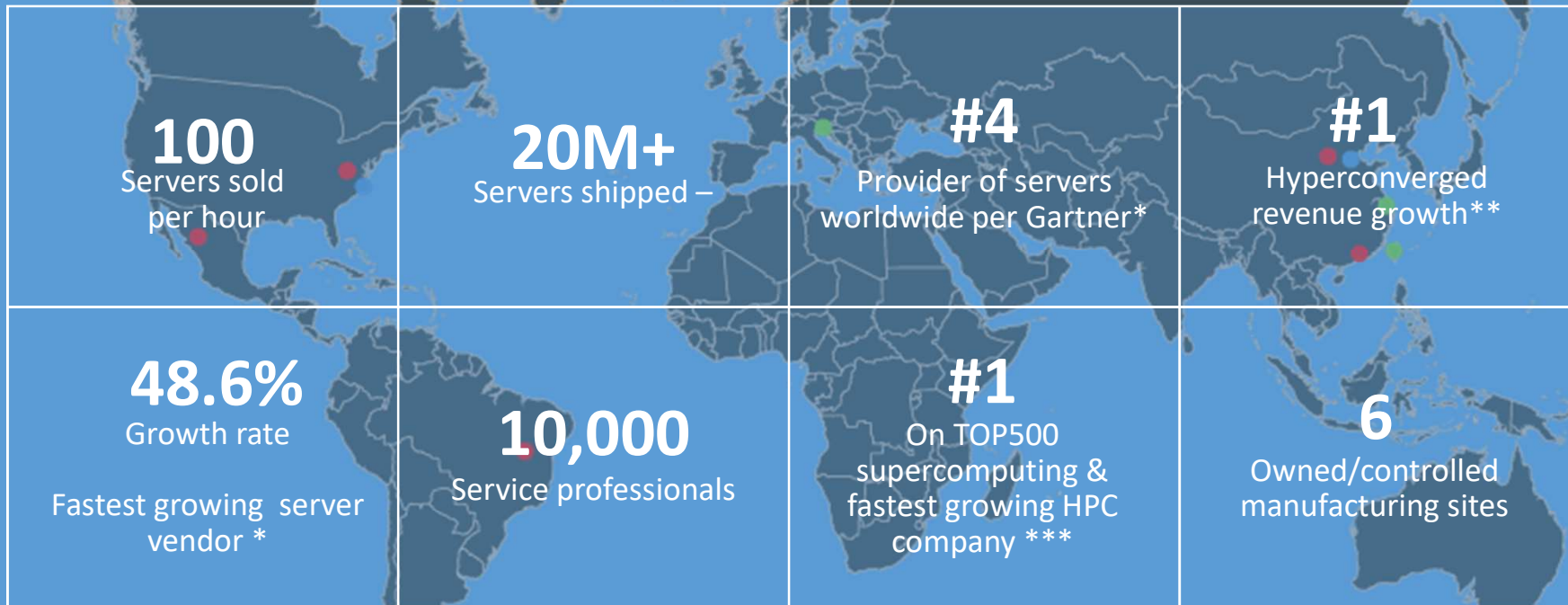
**<https://www.idc.com/getdoc.jsp?containerId=prUS44385418>

Lenovo



An experienced & innovative global team

DATA CENTER GROUP
















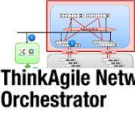













- Headquarters
- Lenovo Manufacturing
- Other Manufacturing

Lenovo

*<https://www.gartner.com/doc/3886076/>
** <https://lnv.gy/2yjPYSv>
*** <https://bit.ly/2N537Eu>

+ Lenovo DCG Portfolio Spans The Entire Data Center

World class portfolio for end-to-end data center requirements

Server Highest reliability in the industry ThinkSystem	Rack & Tower 	Mission Critical 	Dense 	Blades 		
Storage Unbeatable Price Perf. & latest innovations ThinkSystem ThinkAgile	Entry 	Mid-range 	All-Flash & Hybrid 	Direct Attach & Archive 	Storage Switches 	
Networking Best performance at lower cost ThinkSystem ThinkAgile	Embedded 	Top of Rack 	Campus and Core 	Cloud Network OS ANSIBLE openstack 	Network Orchestration ThinkAgile Network Orchestrator 	
SDI Transformative IT ThinkAgile	Certified Nodes Microsoft vmware NUTANIX 	Integrated Appliances vmware NUTANIX 	Integrated Systems Microsoft ThinkAgile CP Series 			
Solutions Best of breed Engineered Solutions ThinkSystem ThinkAgile	Cloud Microsoft redhat vmware openstack 	Big Data cloudera IBM Hadoop MAPR 	Analytics IBM SAP BWA 	Database SAP HANA Microsoft IBM 	VDI CITRIX vmware 	Software-defined Storage CLOUDIAN nexenta DataCore 
HPC The Racing Arm of Lenovo IT ThinkSystem ThinkAgile	Ultradense 	Artificial Intelligence at Scale 	WaterCooled 	Computing Orchestration LiCO™ 		

End to end services that span from basic to consultative engagements



ThinkSystem Storage Solutions

TruScale



Unified Storage
DM Series



SAN Storage
DE Series



Hypercovered
HX, VX, MX

EDGE TO ENTERPRISE TO CLOUD DATA MANAGEMENT



DSS

Lenovo



Networking
DB Series - FC

ThinkSystem[™] DM SERIES

Lenovo Scalable & Unified

- Unified SAN & NAS
- ONTAP Data Management
- 99,9999% up time.
- Cloud Tiering
- Lenovo xClarity support
- MFG & Supported by Lenovo



UNIFIED
PORTFOLIO

SIMPLIFIED
DATA MANAGEMENT

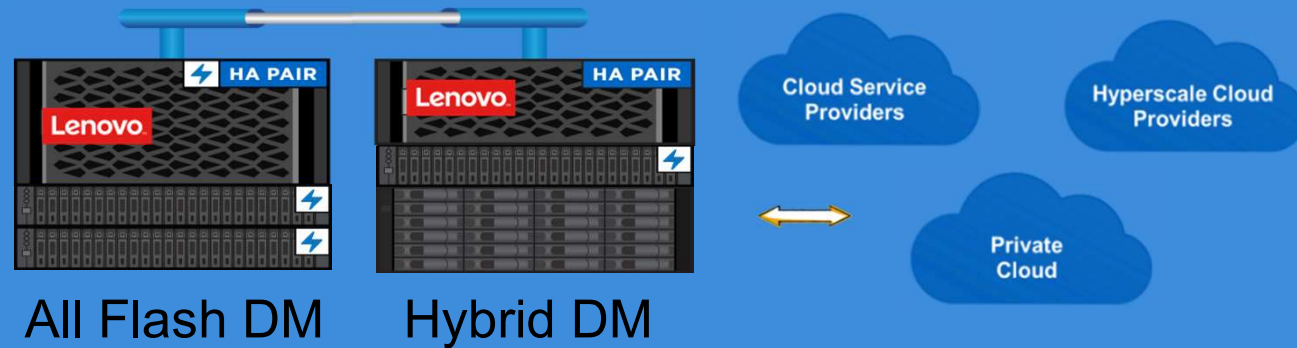
FEATURE
RICH

Software Features

Included Features	Included "OFFTAP" Features	Optional Features
Protocol: NFS	Active IQ Unified Manager (formerly OnCommand UM)	SnapLock Bundle
Protocol: iSCSI	OnCommand System Manager (off box cluster aggregator)	FabricPool
Protocol: FC	Multipath I/O Utility (OS dependent)	FlexCache
Protocol: CIFS	NetApp Manageability SDK	
Protocol: NVMe	NFS plugin for VMWare VAAI	
SnapRestore	Virtual Storage Console	
SnapMirror Async	Anti-Virus Connectors (based on supported ISV)	
SnapMirror Sync	Host Utilities	
FlexClone	OnCommand API Services	
SnapCenter	MetroCluster RCFs	
SnapManager	MetroCluster Tie breaker	
SnapDrive for Unix/Linux		
FlashCache (Not included in Flash Systems)		
FlexGroup		
RAID DP		
RAID TEC		
Flash Pool (Hybrid systems only)		
Background Deduplication (Hybrid/Flash systems)		
Inline volume/aggregate Deduplication (Flash systems only)		
Inline/background Compression (Hybrid/Flash systems)		
Inline Compaction (Flash systems only)		
Thin Provisioning		
Advanced Drive Partitioning		
Snapshots		
MetroCluster (requires additional hardware)		
Volume Encryption (NVE) (**Available to non-restricted countries only)		
Onboard Key Manager (**Available to non-restricted countries only)		
Storage Quality of Service (QoS)		
OnCommand System Manager (on box UI)		

ThinkSystem DM Series value proposition:

Accelerate / Optimize / Protect / Secure



Supported protocols: FC, iSCSI, CIFS and SMB, FCoE, and NFS and parallel NFS (pNFS)

Unified Management

SAN and NAS workloads

Built-in storage efficiency

Nondisruptive operations

Scale-out and scale-up expansion

Advanced application integration

Secure, multitenant management with QoS

Integrated data protection

ThinkSystem DE SERIES

Lenovo Performance Block

- Block-only Storage
- Entry to High Performance
- AFA and Hybrid Block
- Asynch & Synch Replication
- Lenovo xClarity support
- MFG & Supported by Lenovo



SCALE UP
ARCHITECTURE

HIGH
PERFORMANCE

1M
IOPS

ThinkSystem DE Series value proposition:

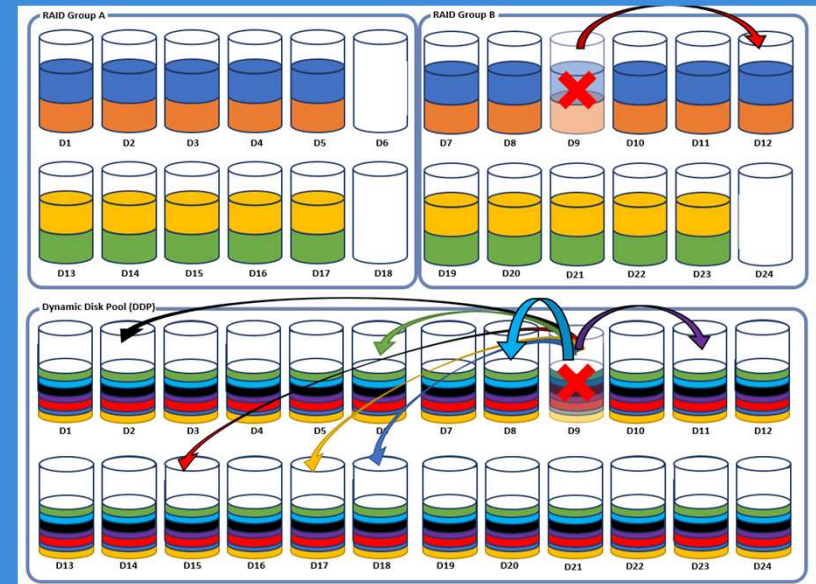
Accelerate / Simplify / Flexible / Protect

Enterprise storage features include synchronous and asynchronous mirroring, volume copy, snapshots, Data Encryption, thin provisioning, hybrid cloud backup, etc.

Simplify RAID management for upgrading / downgrading capacity while maintaining consistent performance even during drive recovery.

99.9999% up-time; industry leader in reliability, availability, and serviceability

Integration with enterprise application vendors (VMware, Microsoft, Splunk, and more)



RESOURCES

DM SERIES

COLLATERAL

- Product Guide - <https://lenovopress.com/lp0941-lenovo-thinksystem-dm-series-unified-storage-arrays>
- All-Flash Data Sheet – <https://lenovopress.com/datasheet/ds0047-lenovo-dm-series-all-flash-array>
- Hybrid Data sheet - <https://lenovopress.com/datasheet/ds0048-lenovo-thinksystem-dm-series-hybrid-array>

VIDEOS

- Product Video - <https://www.youtube.com/watch?v=yypokrtWJaA&feature=youtu.be>

RESOURCES

DE SERIES

COLLATERAL

- Product Guide - <https://lenovopress.com/lp0940-lenovo-thinksystem-de-series-storage-arrays>
- All-Flash Data Sheet - <https://lenovopress.com/datasheet/ds0051-lenovo-thinksystem-de-series-all-flash-array>
- Hybrid Flash Data Sheet - <https://lenovopress.com/datasheet/ds0049-lenovo-thinksystem-de-series-hybrid-array>

VIDEOS

- Product Video - <https://www.youtube.com/watch?v=yypokrtWJaA&feature=youtu.be>

thanks.

Lenovo