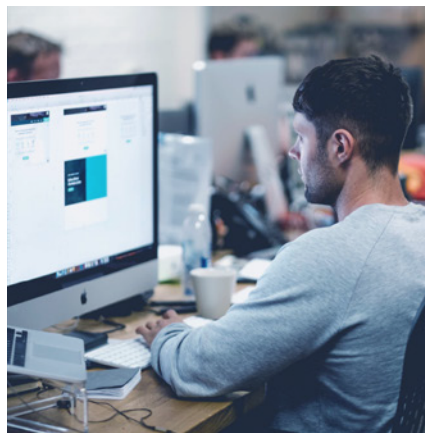


## Lenovo ThinkSystem Powered by RAIDIX 4.X

### Low End Data Storage Systems (24 drives) for Backup Infrastructures

**Software-defined storage Lenovo based on RAIDIX 4.X** software is a viable solution for backup tasks: high availability and data recovery speed can protect from significant system downtime, improve RTO (recovery point objective) and RPO (recovery time objective). Storage system proves low costs of ownership and high level of availability, especially for large volumes of data.



Сервер: **Lenovo ThinkSystem SR650**

Программное обеспечение: **RAIDIX 4.7.0-L**

### Joint Solution Highlights

- Significant RTO and RPO Reduction
- Effective multi-threads mode processing
- Additional Data Protection with Remote Replication
- Flexible solution scale-out with change of archive volume
- Solutions performance proves significant reduction of time required for regular backup testing (for Health Check and other technologies of similar type)
- Performance loss at sequential workloads in data recovery mode: Less than 10%
- Easy customization and system configuration for the tasks of various complexity
- Significant TCO reduction

# Lenovo ThinkSystem Powered by RAIDIX 4.X

## High Speed Backup Processing with Best Administrative Costs

### Significant RTO and RPO Reduction

Guaranteed high level of performance for sequential workload provides significant reduction of RTO (recovery point objective) and RPO (recovery time objective). This is achieved by developed algorithms of vector calculation, unique SSD caching, and technical characteristics of hardware platform.

### Availability and Data Integrity for Large Storage Volume

Backup systems are the final stage of data protection – data loss at this point is totally unacceptable. Therefore, backup infrastructure storage must ensure maximum availability and data integrity.

Required level of availability in the proposed solution is ensured by record recovery speed of software array, and guaranteed reliability of Lenovo hardware. Utilizing unique levels of RAID 7.3, RAID N+M in conjunction with Partial Reconstruction feature allows to solve error of latent sector error that occurs with large storage volumes.

Additional data protection is provided by synchronous and asynchronous replication that allow you to create and store a copy in remote data center.

### Optimization of Storage Costs

Lenovo drive platforms with high storage density are capable of providing significant space for backups with minimum hardware needed. Unique features of RAIDIX software are aimed at effective work with large volumes of data while ensuring minimum redundancy of hardware components.

Key technology for storage optimization and reduction of TCO is RAID 7.3, developed by RAIDIX company. It is an analogue to RAID 6 but more reliable, thanks to calculation of three checksums. RAID 7.3 significantly reduces risk of disk failure keeping performance at the same level.

## Solution Specification

Storage Software	RAIDIX 4.7.0-L
Storage Server	Lenovo ThinkSystem SR650
Controller Configuration	Single controller
Speed Acceleration	Proprietary RAID Engine Advanced Reconstruction Adaptive read-ahead SSD cache QoS (Automatic QoS)

## Lenovo ThinkSystem Powered by RAIDIX 4.X

Data Availability	<p>Proprietary RAID Engine</p> <p>Synchronous and Asynchronous Replication</p> <p>Silent Data Corruption Protection</p> <p>Partial Reconstruction</p> <p>RAID 5, RAID 6, RAID 7.3, RAID N+M</p> <p>Flexible HotSpare Settings</p>
Data Integrity	<p>Silent Data Corruption Protection</p> <p>NVDIMM Write-back Cache Protection</p>
Disaster Recovery	Synchronous and Asynchronous Replication
Storage Cost Optimization	RAID 7.3 (Wide Striping)
Maintenance Optimization	<p>Partial Reconstruction</p> <p>QoSmic (Automatic QoS)</p>
Infrastructure Integration	<p>SAN Optimizer for External Storage Virtualization</p> <p>Block Access Protocols: FC, SAS, iSCSI, SRP</p> <p>File Access Protocols: NFS 4, SMB, AFP, FTP</p> <p>MS Active Directory and LDAP authentication for NAS users</p> <p>Lun Masking</p>
Customization and Adjustment Opportunities	<p>Wide Range of File and Block Access Protocols</p> <p>Cluster-in-a-Box functionality</p> <p>Administrative Service Automatization by CLI and API</p>
RAID Levels	RAID 0, 1, 5, 6, 7.3, N+M and 10
CPU (per node)	<p>Up to 12HDDs: 2x CPU Intel Xeon Bronze 3106</p> <p>Up to 24HDDs: 2x CPU Intel Xeon Silver 4108</p>
Maximum Drives Supported	24
Storage Capacity	Up to 144 TB (12x 12 TB)
Drive technology	<p>SATA, SAS or NL SAS HDDs</p> <p>SATA, SAS SSDs (only for L2 cache)</p>
Cache (per system)	16 or 32 GB
Performance*	<p>Up to 3.9 GBps sequential read throughput</p> <p>Up to 3.7 GBps sequential write throughput</p>
Form Factor (controller)	1 x 2U rack mount

## Lenovo ThinkSystem Powered by RAIDIX 4.X

Supported Host OS	Mac OS X 10.7, 10.8, 10.9, 10.10 Microsoft Windows Server 2008R2, 2012, 2012R2, and 2016 Red Hat Enterprise Linux (RHEL) 6 and 7 SuSE, ALT Linux, CentOS Linux, Ubuntu Linux VMware vSphere 5.0, 5.1, 5.5,6.0, 6.5
Warranty	3-year limited warranty with optional upgrades available
Support	Lenovo single point of contact for 24/7

\*Internal performance measurements with multiple RAID6 of 24 HDDs 7.2K RPM

### Why Lenovo

Lenovo is a leading provider of systems for the data center. The portfolio includes rack, tower, blade, dense, and hyperconverged systems, and provides enterprise class performance, reliability, and security. Lenovo also offers a full range of networking, storage, software, and solutions, as well as comprehensive services that support business needs throughout the IT life cycle.

### About RAIDIX

RAIDIX is a software developing company specializing in storage solutions for data intensive workloads. Technology innovations including proprietary RAID engine and unique algorithms of parallel calculations create core value of company's products that root in deep mathematical research and scientific intelligence of in-house lab. RAIDIX data storage solutions are tailored for needs of Media & Entertainment, Video Surveillance, HPC, Technical Computing and other data-rich industries.

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