

# Lenovo Scalable Infrastructure

## Take the complexity out of complex solutions

### Solutions Made Simple

Lenovo Scalable Infrastructure (LeSI) is a fulfillment framework for designing, manufacturing, integrating, and delivering data center solutions, with a focus on high performance computing (HPC), technical computing, and Artificial Intelligence (AI) environments.

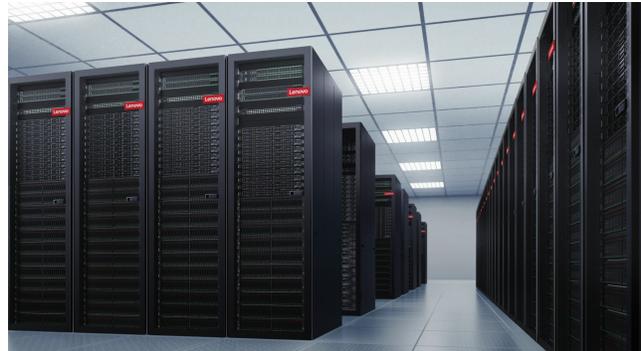
LeSI lets you focus on maximizing business value instead of the complexities of configuring, setting up, and optimizing the hardware and software. The process begins with interoperability testing that creates Lenovo's "best recipe" configuration and continues with an innovative solution design based on your unique requirements.

After that, the solution goes through factory integration testing. The process doesn't end until we deliver (and optionally install) the complete, customized, ready-to-run IT solution for your data center.

### De-risk Your Deployment

Lenovo Scalable Infrastructure minimizes the effort of putting solutions into production through a rigorous process that includes:

- **Component Interoperability** - LeSI solutions are built on industry-leading Lenovo and OEM hardware, software, and firmware components. Lenovo thoroughly tests and optimizes all LeSI components together as a complete solution for reliability, interoperability, and maximum performance.



- **Solution Design and Assurance** - LeSI solutions are designed and configured by a team of experts to optimally address each client's unique business needs. The solutions are first built virtually within an industry-leading solution configurator, and after the configuration is completed, a development and engineering review process validates the feasibility of the solution.
- **Factory Integration** - LeSI solution hardware is pre-loaded with optimized firmware, pre-integrated and pre-cabled in the rack, then tested at the rack level to minimize risk at installation time.
- **Onsite Setup** - LeSI solutions can range in size from a small cluster with several nodes, to a massive supercomputer with many thousands of nodes across hundreds of racks.
- **Post-Install Support** - Once your LeSI cluster is installed and operating, it is supported by Lenovo as a single entity, not a collection of components.

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## Specifications

Bill of Material	
Lenovo Servers	ThinkSystem SD530, ThinkSystem SD650, ThinkSystem SR630, ThinkSystem SR650, ThinkSystem SR655, ThinkSystem SR670, ThinkSystem SR850, ThinkSystem SR860, ThinkSystem SR950
Lenovo Storage	D1224 Drive Enclosure, D3284 External High Density Drive Expansion Enclosure
Lenovo Networking	<ul style="list-style-type: none"> <li>• 1Gb Ethernet ThinkSystem NE0152T</li> <li>• 10Gb Ethernet - RackSwitch G8272, G8296</li> <li>• 10Gb Ethernet - ThinkSystem NE1032, NE1032T, NE1072T</li> <li>• 25Gb Ethernet - ThinkSystem NE2572</li> <li>• 40/100Gb Ethernet - ThinkSystem NE10032</li> </ul>
HPC Interconnects	Mellanox InfiniBand Fabric <ul style="list-style-type: none"> <li>• Mellanox SB7800 36-port Non-blocking Managed EDR 100Gbps InfiniBand Switch</li> <li>• Mellanox SB7890 36-port Non-blocking Unmanaged EDR 100Gbps InfiniBand Switch</li> <li>• Mellanox QM8700 40-port Non-blocking Managed HDR 200Gbps InfiniBand Switch</li> <li>• Mellanox QM8790 40-port Non-blocking Unmanaged HDR 200Gbps InfiniBand Switch</li> </ul> Intel® Omni-Path Fabric 100 Series <ul style="list-style-type: none"> <li>• Intel OPA 100 Series 24-port and 48-port Unmanaged Edge Switches</li> </ul>
Racks and More	Rack Cabinets <ul style="list-style-type: none"> <li>• LeSI 42U 1200mm Deep Primary Rack, LeSI 42U 1200mm Deep Expansion Rack, LeSI 42U 1100mm Enterprise V2 Dynamic Rack, LeSI 42U 1100mm Enterprise V2 Dynamic Expansion Rack</li> </ul> Rack Options <ul style="list-style-type: none"> <li>• Lenovo Rear Door Heat eXchanger V2, Lenovo WCT Manifold Environmental Monitoring Probe Kit, KVM Switches and Consoles</li> </ul> IntraRack Cable Service <ul style="list-style-type: none"> <li>• LC Fibre storage and network cables, SAS Cables, UCO/KCO/VCO Cables, 1Gb Ethernet Cables (Yellow, Blue, Green, Black), Optical MTB Cables, Copper and Optical QSFP Cables, DAC and DAC-SFP+ Breakout Cables</li> </ul>
Operating Systems	Red Hat Enterprise Linux, SUSE Linux Enterprise Server, CentOS
Lenovo Software	Lenovo Intelligent Computing Orchestration (LiCO)
OEM Software	IBM® Spectrum Scale™, Exceclero
OSS Software	xCat/Confluent, Antilles
Scalability	Individual configuration based on the components above scaling from single to 10,000s of systems
Services	<ul style="list-style-type: none"> <li>• 1410 rack onsite hardware installation is included at no additional charge</li> <li>• HPC cluster software services and support line are available as optional fee-based services</li> <li>• Cluster Installation Support Services are available through the Professional Services as optional fee-based services</li> </ul>
Warranty	3-year parts, customer replaceable unit (CRU) or on-site labor, limited warranty, with individual nodes retaining the warranty and service upgrade offerings for that machine type; optional warranty service upgrades. Support is 9x5, next business day



## Solutions Support and Warranty

LeSI clusters come with a three-year warranty and offer solution-level interoperability support while under warranty/maintenance. Interoperability support is based on a "best recipe" release of software and firmware levels that Lenovo warrants to work seamlessly together as a fully integrated data center solution.

Warranty services upgrades and post-warranty upgrades are available to ensure uninterrupted coverage to match the planned life of your system. Lenovo offers a wide range of flexible warranty maintenance upgrades and post-warranty maintenance agreements, including enhanced service hours, faster response times, and longer terms of service to match your business objectives.

## About Lenovo

Lenovo (HKSE: 992) (ADR: LNVGY) is a US\$45 billion Fortune 500 company and a global technology leader in driving Intelligent Transformation. Lenovo's data center solutions (ThinkSystem, ThinkAgile) are creating the capacity and computing power that are changing business and society.

## For More Information

To learn more about the Lenovo Scalable Infrastructure, contact your Lenovo representative or Business Partner, or visit [lenovo.com/thinksystem](http://lenovo.com/thinksystem). For detailed specifications, see the LeSI product guide, [lenovopress.com/lp0900](http://lenovopress.com/lp0900).

## Lenovo Services

Lenovo offers a comprehensive portfolio of services designed to support the full IT life cycle of your Lenovo assets, to fully address your deployment needs, including:

### Lenovo Deployment Services

- Basic hardware installation
- Integration, migration, and expansion
- Customized HPC deployment services

### Lenovo Data Center Infrastructure Services

- Data center best practices workshop
- Assessment of the thermal and electrical health of your data center
- Planning for power, cooling, and energy efficiency
- Installation services, including chilled-water products such as Rear Door Heat Exchangers (RDHx), or modern hybrid cooling products like hot-water cooling and adsorption chillers

In addition, Lenovo can provide Premium and Managed Services, including:

- **Lenovo Premier Support Services** for prioritized call queuing direct to Level 2 technicians for select systems for comprehensive support covering server operating systems and business applications
- **Lenovo Enterprise Software Support** for comprehensive support covering server operating systems and business applications
- **Lenovo Managed Services for HPC Clusters** for 24x7 monitoring and technical system management for your cluster

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