Capture the Power of High-Performance Computing with SUSE and Lenovo

High-performance computing (HPC) is no longer the sole domain of well-funded research institutions. Enterprises across industries such as finance, manufacturing and healthcare are employing HPC today to gain a competitive edge. Capturing these HPC benefits for your enterprise is now easier than ever. By teaming up with Lenovo and SUSE, not only do you get a powerful and efficient HPC solution with strong support, you also partner with organizations renowned for their HPC leadership.

SUSE and Lenovo HPC at a Glance:

+ *Award-winning HPC systems with exceptional performance and energy efficiency*
+ *Simplified administration with a management platform that lets your data experts focus on their jobs*
+ *Preinstalled, configured and tested rack solutions for rapid deployment*
+ *Built-in enterprise support for important HPC software to reduce the cost of ownership*

■ Products:

SUSE Linux Enterprise Server for
    High Performance Computing
SUSE Enterprise Storage
Lenovo ThinkSystem servers
Lenovo Distributed Storage Systems
Lenovo Scalable Infrastructure
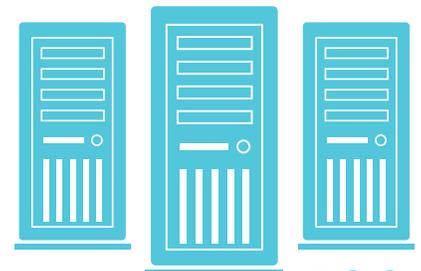Lenovo Intelligent Computing Orchestrator

As computationally intensive tasks become more important, the HPC market has changed and grown. Large research institutions once dominated HPC because they were the only places with the funds, knowledge and patience to create the custom supercomputers that were once synonymous with HPC.

Today, HPC infrastructure is most often built on Intel-based Linux clusters, and with the support of experienced hardware and software vendors like Lenovo and SUSE, enterprises can build these infrastructures without tedious customization.

Expertise in Supercomputing

Lenovo and SUSE share decades of experience in the HPC community. Both are founding members and major contributors to OpenHPC, a group dedicated to easing HPC adoption through the setting of open standards.
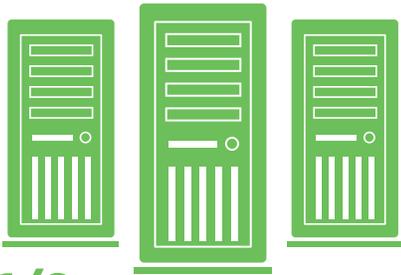
Lenovo is one of the fastest-growing providers of HPC hardware, according to

More of the world's top **500** supercomputers in

Italy, Spain, Norway, Germany, Denmark and China

are built on Lenovo hardware than any other platform.

TOP500. More of the world's top 500 supercomputers in Italy, Spain, Norway, Germany, Denmark and China are built on Lenovo hardware than on any other platform.[1]

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1 **www.top500.org/lists/2017/11/**

1/2 of the top 500 supercomputers in the world run on
SUSE Linux Enterprise Server

SUSE has similar supercomputing chops, with 40 percent of the top 100 and 50 percent of the top 50 supercomputers in the world running on SUSE® Linux Enterprise Server.

But the two companies' HPC experience doesn't stop at supercomputers.

A History of HPC Innovation
SUSE Linux Enterprise Server is the only Linux distribution that includes supported HPC packages within the distribution. These packages, contained in the SUSE HPC Module, are updated on a more frequent schedule than the base OS to keep up with rapidly evolving HPC technologies.

The Lenovo and SUSE teams have worked together for years. When Lenovo recommends HPC software packages, the SUSE team can quickly adopt those into the SUSE HPC Module so joint customers can take advantage.

Both partners work closely with Intel to ensure that you get the most from the chips that act as the foundation for your HPC system.

Enterprise IT Excellence
The two companies' experience goes beyond HPC as well. Lenovo x86 servers achieved the highest reliability ratings among all competing x86 platforms[2], and Lenovo has been rated number one in technical service and support customer satisfaction.[3]

2 *ITIC,* ITIC 2017 Global Reliability Survey Mid-Year Update*, June 14, 2017.*
3 *Ibid.*

SUSE Linux Enterprise Server is a world-class, secure open source server operating system, built to power physical, virtual and cloud-based mission-critical workloads. SUSE has been offering enterprise Linux for more than 25 years. All of this experience shows in the Lenovo and SUSE HPC infrastructure.

An HPC Solution Founded on Experience and Expertise
SUSE and Lenovo offer a solution based on Lenovo ThinkSystem servers and SUSE Linux Enterprise Server for High Performance Computing. Lenovo engineering means you get powerful, high-capacity HPC infrastructure in a small footprint. This condensed form factor, combined with Lenovo's advanced cooling, can help you control data center costs without sacrificing performance.
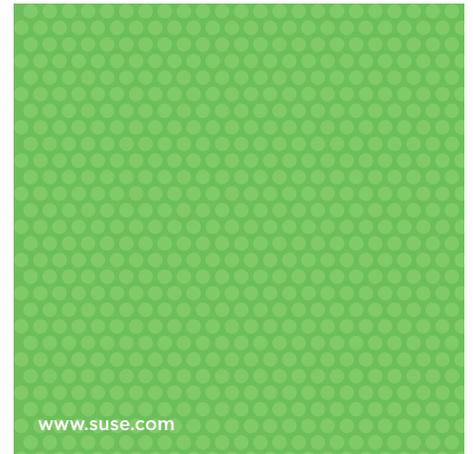
With this solution, you get popular Open-HPC packages that are supported by SUSE. This enterprise-quality support is another way the solution can help you control costs.

- Advanced water-cooling technology
- Software platforms for cluster management
- Preconfigured and tested racks
- Scalable AI solutions
- Award-winning storage solutions

An even more important benefit is how your data scientists and researchers can focus on their tasks—not on the management of a cluster. Lenovo intelligent Computing Orchestration (LiCO) simplifies cluster administration so you can

> "We have relied on SUSE Linux Enterprise Server in high-performance computing for approximately 15 years, and have always been very satisfied with the operating system."

HERBERT HUBER
Division Head of Super Computing
Leibniz Supercomputing Centre

efficiently manage HPC and artificial intelligence (AI) workloads.

Expert configuration and implementation services ensure that all components work together seamlessly and further take the burden off your staff so they can focus on using your HPC systems to push the boundaries of your field.

Lenovo and SUSE also combine to help you build software-defined storage that's ideal for HPC environments.

The Right Infrastructure for Business Success
Capturing the power of high-performance computing doesn't have to strain your organization. By working with Lenovo and SUSE, you can get an infrastructure that gives you the capacity and power you need in an easy-to-use, energy-efficient package that helps you compete and innovate.

Learn More about SUSE Linux Enterprise Server for High Performance Computing at: **www.suse.com/products/server/hpc/**

Website: **suse.com/lenovo**

E-mail: **lenovo@suse.com**

With Lenovo and SUSE, you not only get a powerful and efficient HPC solution with strong support, you also partner with organizations renowned for their HPC leadership.