Lenovo Unveils Next Generation of Intel-Based Smart Infrastructure Solutions to Accelerate IT Modernization

25 new solutions leverage 4th Gen Intel® Xeon® Scalable processors to deliver significantly increased performance and efficiency for mission-critical, AI, high performance computing (HPC) and containerized workloads

- Lenovo delivers more than double the workload performance of the previous generation systems with new 4th Gen Intel Xeon Scalable Processors[1]
- New Lenovo ThinkSystem servers and ThinkAgile hyperconverged solutions help businesses simplify and consolidate IT with an AI-ready platform for virtualization, hybrid multi-cloud and sustainable computing
- New Neptune™ Direct Water-Cooling solutions reduce power consumption for complex workloads to help customers achieve sustainability goals

January 10, 2023 – RESEARCH TRIANGLE PARK, N.C. – Today, Lenovo (HKSE: 992) (ADR: LNVGY) unveiled 25 new ThinkSystem and ThinkAgile server and hyperconverged solutions powered by Intel's 4th Generation Xeon Scalable Processors as part of its recently [announced](#) Infrastructure Solutions V3 portfolio. Designed to help accelerate global IT modernization for organizations of all sizes, the integrated solutions deliver advanced performance, efficiency and management capabilities specifically optimized for complex workloads, including mission-critical, AI, HPC and containerized applications.

"In today's competitive business climate, modern infrastructure solutions that generate faster insights and more efficiently enable complex workloads from the edge to the cloud are critical across every major industry," said Kamran Amini, Vice President and General Manager of Server & Storage, Lenovo Infrastructure Solutions Group. "With the performance and management improvements of the Intel-based ThinkSystem V3 portfolio, customers can reduce their IT footprint by up to three times[2] to achieve greater ROI and more easily transform their infrastructure with one seamless platform designed for today's AI, virtualization, multi-cloud and sustainable computing demands."

As global data proliferation continues, businesses need a new IT architecture that spans client-edge-network-cloud-intelligence to help them innovate to meet ever-evolving customer needs. The next generation of Lenovo ThinkSystem and ThinkAgile servers and storage with 4th Gen Intel Xeon Scalable processors feature built-in accelerators that can help achieve more efficient utilization and power efficiency across the fastest-growing workloads that businesses depend on today. Additionally, the portfolio provides a unique open architecture with advanced management, superior reliability and extended security to help companies of all sizes work across diverse clouds while leveraging existing IT environments.

Doubling performance for mission-critical workloads

The next generation of Lenovo solutions with 4th Gen Intel Xeon Scalable processors accelerate data networking, AI inference and analytics, delivering improved performance to help businesses better manage, process and analyze the explosive growth of data. As the data demands for today's businesses exponentially increase, the new high-end ThinkSystem and ThinkAgile V3 servers are designed to more effectively power today's most demanding workloads across all industries, including in-memory databases, large transactional databases, batch processing, real-time analytics, ERP, CRM, legacy system

replacements and virtualized and containerized workloads. The portfolio also enables faster system configuration setup compared to the previous generation with enhanced XClarity Controller (XCC2) software.

Solutions, like the new ThinkSystem SR850 V3, deliver the high performance, reliability and versatility needed to tackle high-intensity workloads in a dense, 4-socket 2U design, enabling businesses to quickly respond to expansion needs such as increased data management across manufacturing, healthcare and financial service applications. The server features predictive failure analysis, light path diagnostics and embedded tamper detection to avoid application failures and downtime for more secure data center operation.

Greater performance, less power consumption with new Neptune™ systems

Cooled by fifth generation Lenovo Neptune™ Direct Water- Cooling technology, Lenovo's new ThinkSystem SD650 V3 and SD650-I V3 servers extend Neptune™ efficiency to a new generation of systems that enable customers to reduce power consumption up to 40 percent while still achieving maximum performance.

"bp is excited to be an early experience site for Intel's 4th Gen Xeon Scalable processor with Lenovo. With support for faster, next-generation DDR5 memory, PCIe 5.0 and Compute Express Link (CXL) 1.1, our new cluster will enable scientists to shorten their time to discovery. This technology will underpin our research efforts supporting bp's net zero future," said Elizabeth L'Heureux, head of HPC, bp.

Over the last decade, Lenovo has extended liquid cooling beyond CPUs and memory to PCIe, storage, and GPUs and more. The new systems leverage Neptune cooling for High Bandwidth Memory (HBM) on select models, providing HPC applications up to four times more memory bandwidth and delivering up to 2.8 times generational performance improvement. HPC users will now have the latest generation Intel Xeon Max Series CPUs with HBM and Intel Data Center Max Series GPUs, all cooled by Lenovo Neptune™ to efficiently run the most demanding modeling and simulation workloads.

HPC workloads utilize system resources at much higher levels, over longer periods of time than other workloads. Lowering a supercomputer's power usage without sacrificing performance comes with many benefits. Every watt of electricity consumed is converted into heat which must be removed from the system. In air-cooled systems, heat is removed by system fans, requiring even more power. With Neptune™, liquid removes the heat, negating the need for power-consuming fans. This allows HPC users to attain greater performance while reducing the energy consumed and the environmental impact of the data center.

From Exascale to Everyscale™, Lenovo is committed to enabling organizations of all sizes access the next era of supercomputing technologies to help them solve humanity's greatest challenges.

Enabling scalable and secure cloud agility for the modern IT era

Lenovo is accelerating edge-to-cloud deployment with turnkey solutions to enable a smarter digital transformation and help customers accelerate their business. Designed with security, scalability and agility in mind, Lenovo's end-to-end cloud solutions are open, proven and ready to deploy. The new solutions provide pre-configured, pre-validated and cloud-ready systems with built-in lifecycle management to address customers' most urgent needs. With the new Lenovo Infrastructure Solutions

V3 portfolio, businesses can use an agile solution to grow and manage cloud platforms at scale while providing consistent cloud services.

By 2027, Gartner® predicts that more than 90 percent of global organizations will be running containerized applications[3]. While these applications enable rapid prototyping, testing and deployment to the cloud, deployment across large-scale environments is often challenging. Orchestrators, like open-source Kubernetes, enable deployment automation at scale and are quickly becoming a requirement in many organizations to support the dynamic nature of modern cloud-native applications. Lenovo's open cloud approach allows for best-in-class Kubernetes platforms and application services for container orchestration and delivery of cloud-native applications, enabling greater utilization of hardware infrastructure while improving operational efficiency.

The new Lenovo ThinkAgile V3 HX, MX and VX hyperconverged infrastructure solutions are pre-integrated with an open ecosystem of partners, including Microsoft, Nutanix and VMware software capabilities, and are available via TruScale Infrastructure as a Service for ultimate flexibility. Customers can combine the convenience of a cloud-like experience with the security and control of traditional on-premises solutions. With Lenovo Open Cloud-Automation (LOC-A) integrated software, deployment, provisioning and managing container infrastructure becomes effortless, enabling businesses to accelerate rollout with up to 81 percent faster deployment than standard IT, thereby increasing the time to revenue by average of 25 percent. For example, the Lenovo Cloud Native Solution for VMware Tanzu on ThinkAgile VX enables organizations to run and operate modern infrastructure with stability at scale while managing containers and virtual machines from the same control plane, improving resource utilization and shortening container development cycles.

Modern IT infrastructures must also be fortified against increasingly sophisticated security threats and support the highest levels of business continuity. The Lenovo Infrastructure Solutions V3 portfolio provides enhanced ThinkShield security and IT resiliency through an additional isolation layer of immunity against unauthorized access and malicious attacks. Lenovo's *Modular Root of Trust* helps protect, detect and recover from cyberattacks and digital compromises with bolstered tamper-detection and monitoring embedded into the chip design, while *Lenovo System Guard* ensures heightened security between manufacturing, delivery and deployment with advanced hardware monitoring.

Visit https://www.lenovo.com/us/en/servers-storage/alliance/intel/ to learn more about Lenovo's new ThinkSystem and ThinkAgile V3 solutions powered by 4th Gen Intel Xeon Scalable Processors.

About Lenovo

Lenovo (HKSE: 992) (ADR: LNVGY) is a US$70 billion revenue global technology powerhouse, ranked #171 in the Fortune Global 500, employing 82,000 people around the world, and serving millions of customers every day in 180 markets. Focused on a bold vision to deliver smarter technology for all, Lenovo has built on its success as the world's largest PC company by further expanding into key growth areas including server, storage, mobile, solutions and services. This transformation together with Lenovo's world-changing innovation is building a more inclusive, trustworthy, and sustainable digital society for everyone, everywhere. To find out more visit https://www.lenovo.com, and read about the latest news via our StoryHub.

[1] Based on Lenovo analysis of 2.3X improvement SR850 V2 to V3 as measured by 2017 SPEC Int Rate results and Intel projected performance increase on Sapphire Rapids. Actual performance will vary.

[2] Consolidation ratio of 3.1 racks to 1 rack when comparing SR650V1 to SR650V3 based on 2017 SPEC Int Rate results

[3] Gartner Cool Vendors™ in Cloud-Native Computing, November 2022