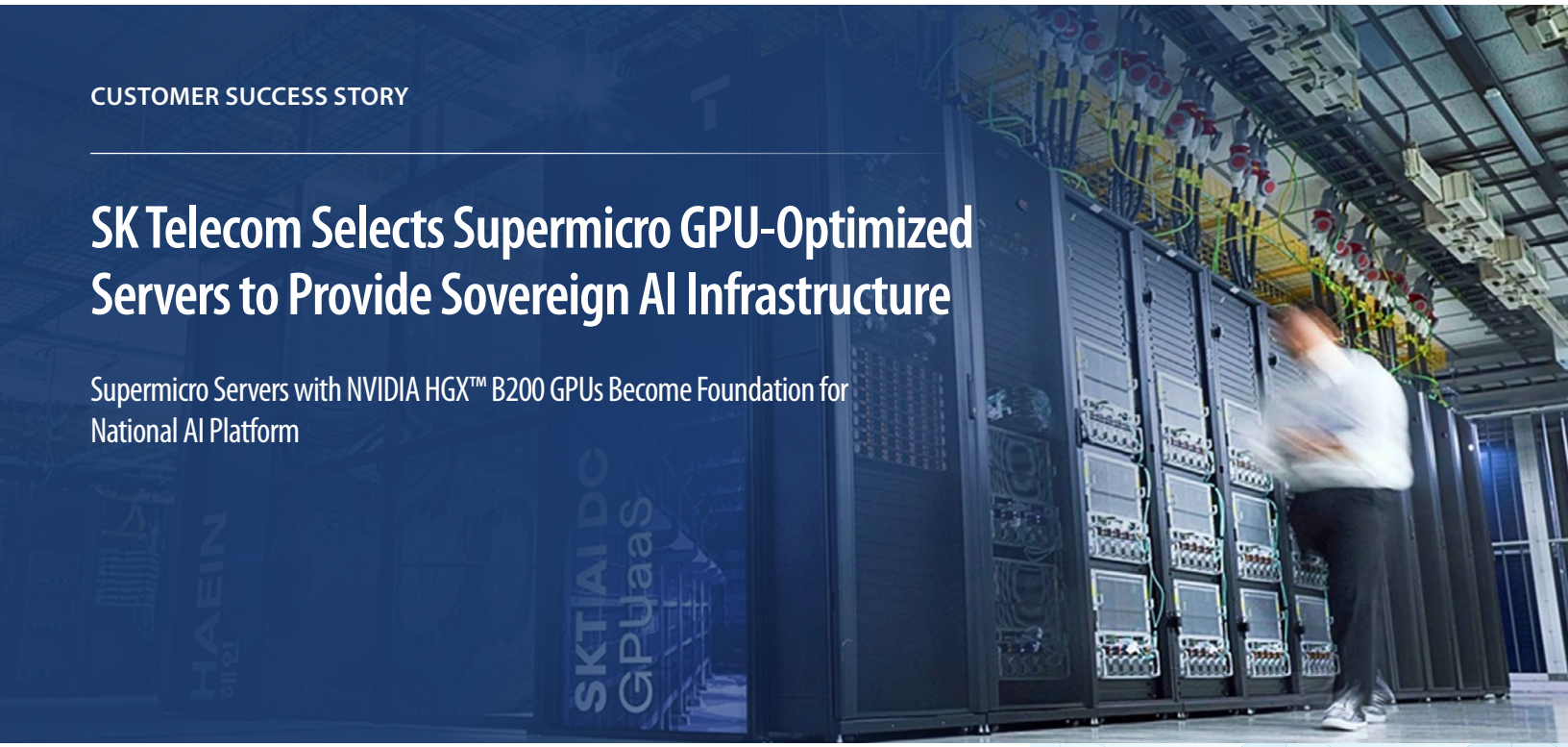
CUSTOMER SUCCESS STORY

SK Telecom Selects Supermicro GPU-Optimized Servers to Provide Sovereign AI Infrastructure

Supermicro Servers with NVIDIA HGX™ B200 GPUs Become Foundation for National AI Platform



SUMMARY

SK Telecom, based in South Korea, is a pioneering leader in the growth of Korea's telecommunications industry and is working to position the country as a significant AI power. Many of SK Telecom's solutions are designed to address customer challenges and improve their daily lives. In response to the rapidly growing demand for AI infrastructure, SK Telecom is building advanced AI data center solutions by combining capabilities across SK Group companies, including SK Hynix and SK Broadband.

As part of this strategy, SK Telecom has established a sovereign AI platform, built on an infrastructure cluster named Haein, named after the Haeinsa Temple — home to one of the world's most complete and enduring collections of Buddhist scriptures. This platform forms the foundation of its next-generation GPU-as-a-Service (GPUaaS) offering. This initiative supports Korea's "Proprietary AI Foundation Model" program led by the Ministry of Science and ICT.

The Haein cluster integrates proprietary technologies spanning semiconductors, AI models, data, and services into a full-stack AI platform. It also selectively open-sources capabilities to support domestic enterprises and accelerate Korea's AI ecosystem, with the SKT Consortium driving collaborative sovereign AI innovation.

INDUSTRY

Telecom

SOLUTION

Working closely with Supermicro and Penguin Solutions, SK Telecom fine-tuned the server configurations to outfit their data center for a variety of tasks. The Supermicro optimized GPU systems used in the infrastructure cluster are:

GPU Servers for Core AI Performance

SYS-A22GA-NBRT

- Dual Intel® Xeon® 6 series processors with P-Cores (6960P)
- NVIDIA HGX 8-GPU B200
- 2.3TB DDR5-6400 Memory
- 2x NVIDIA BlueField®-3 BF3220 DPU 200GbE

Storage Nodes Supporting Haein Data Fabric

AS -1115HS-TNR

- 5th Gen AMD EPYC™ 9454P
- 384GB DDR5-5600 Memory
- 9 x Solidigm D5-P5336 30.72TB
- VAST License

Admin Nodes for Cluster Operations Management

SYS-112H-TN

- Single Intel Xeon 6 series processors with P-cores (6760P)
- 768GB DDR5-6400 Memory

SK Telecom chose the NVIDIA HGX B200 GPU for its high-performance computation, based on test results and key benchmarks. In addition, when housed in Supermicro's SYS-A22GA-NBRT, these powerful GPUs can be effectively cooled with air cooling, allowing the systems to be installed in an existing data center without additional construction.

SK Telecom chose the Supermicro GPU-optimized servers for their:

- High-performance, air-cooled systems
- Industry-leading AI systems with a proven track record
- Rapid deployment for shorter time-to-market

SK Telecom employs its proprietary technologies in multiple ways. Its in-house virtualization solution, "Petasus AI Cloud," enables rapid partitioning and reconfiguration of the GPU cluster to meet customer needs and optimize resource usage. Additionally, SK Telecom offers "AI Cloud Manager," an AIOps platform that streamlines the entire AI service lifecycle—from development and training to deployment. This platform, backed by deep expertise in large-scale model development, improves user efficiency and simplifies development

BENEFITS

One of SK Telecom's most important gains has been the ability to bring new servers online quickly to offer its services in a timely manner. These new servers, completely integrated and tested by Supermicro, reduced the time-to-online for entire clusters by weeks, compared to earlier data center-level installations. This launch of NVIDIA Blackwell-based GPUaaS signifies another concrete milestone in Korea.

Through the deployment of the Haein Cluster, SK Telecom has significantly advanced its GPUaaS capabilities, enabling scalable, high-performance AI infrastructure for enterprises, startups, and research institutions across Korea. The cluster supports rapid AI model training and inference, helping organizations accelerate innovation cycles and reduce development time.

Additionally, the Haein Cluster has strengthened Korea's position in the global AI landscape by providing sovereign infrastructure that ensures data security, regulatory compliance, and technological independence. It also fosters collaboration across the domestic AI ecosystem by offering shared access to advanced compute resources.

> *"We are pleased with the Supermicro GPU-optimized servers. The performance is excellent, and the quick setup speed was impressive. The Supermicro GPU-optimized servers will help SK Telecom expand AI services across Korea, driving more innovation and delivering greater value."*
>
> – **Roy Kim**
> *Head of GPUaaS Business*

SUPERMICRO

Supermicro is a global leader in high performance, green computing server technology and innovation. We provide our global customers with application-optimized servers and workstations customized with blade, storage, and GPU solutions. Our products offer proven reliability, superior design, and one of the industry's broadest array of product configurations, to fit all computational need.

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SK TELECOM

SK Telecom is the largest mobile operator in Korea and has been leading the growth of the mobile industry since 1984. As the pioneer of all generations of mobile networks, the company commercially launched its the fifth generation (5G) network on December 1, 2018, and announced the world's first 5G smartphone subscribers on April 3, 2019. Now, it is taking customer experience to new heights by extending beyond connectivity. By placing AI at the core of its business, SK Telecom is rapidly transforming into an AI company with a strong global presence. It is focusing on driving innovations in areas of AI Infrastructure, AI Transformation (AIX), and AI Service to deliver greater value for industry, society, and life.

https://news.sktelecom.com/en/

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