Customer story
University of Tokyo (UTokyo)

FUJITSU

Realizing the 'Society 5.0' vision with HPC

The Japanese government is exploring the concept of 'Society 5.0', a human-centric society that balances economic progress with the resolution of social issues in a system that tightly integrates cyberspace and physical space. To realize this vision, Fujitsu built a scalable High-Performance Computing (HPC) platform, based on more than 400 PRIMERGY servers, for nine Japanese universities and two research institutes, which enables real-time analysis and collaboration.

About the customer

The University of Tokyo (UTokyo) was established in 1877 as the first national university in Japan. It offers courses in academic disciplines at both undergraduate and graduate levels and conducts research across the full spectrum of academic activity. The university aims to provide students with a rich and varied academic environment that ensures opportunities for intellectual development and the acquisition of professional knowledge and skills.

Industry: Education | Location: Japan | People: 2,573 | Web: u-tokyo.ac.jp

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Challenge

Nine universities and two research institutes participated in a joint project which needed a scalable platform that could collect and analyze data from all universities and research institutes in Japan.

Solution

- Data-driven social creation platform consists of 368 Fujitsu Server PRIMERGY CX2550 units, equipped with the latest CPUs, and 40 units of Fujitsu Server PRIMERGY GX2570, equipped with high-end GPUs

Outcomes

- Enables the collection and analysis of data in real-time by connecting databases owned by all universities and research institutes in Japan
- Users can flexibly utilize computing resources and storage capacity according to the application and requirement
- Provides computing resources to thousands of projects at the same time, achieving 8.5 petaflops total theoretical operation performance

Building the foundation of 'Society 5.0'

Data has become an increasingly important asset in society, leading to a growing need for high-performance data platforms that can aggregate data from various sources and then acquire new knowledge through advanced analysis.

That's one reason why the Japanese government is exploring the concept of 'Society 5.0', a human-centric society that balances economic progress with the resolution of social issues in a system that tightly integrates cyberspace and physical space.

To realize the data-intensive society that 'Society 5.0' aims to achieve, nine universities and two research institutes participated in a joint project, which needed a platform that could collect, accumulate, and analyze data from all universities and research institutes in Japan, as well as scaling quickly in-line with future applications and needs.

Next-generation compute power

The Data-Driven Social Creation Platform (DDSCP) consists of 368 next-generation Fujitsu Server PRIMERGY CX2550 units, equipped with the latest CPU, and 40 units of the next-generation model of Fujitsu Server PRIMERGY GX2570, equipped with high-end GPUs, as well as a storage system with 27 petabytes storage capacity, optimized for high-speed processing and big data utilization.

It was installed in the Kashiwa II Campus Research Building of the University of Tokyo. In collaboration with the Academic Information Network 'SINET' operated by the National Institute of Informatics (NII), the new platform will provide a wide range of computing resources and data collection, storage, and analysis functions to universities and research institutions throughout Japan.

In addition, it is linked to the 'calculation, data, and learning' integration supercomputer system 'Wisteria/BDEC-01', which has been introduced to the Information Technology Center of the University of Tokyo, to realize highly accurate simulations using data collected with the new platform.

Real-time analysis that scales effortlessly

Courtesy of the new Fujitsu DDSCP, it is now possible to collect, store, and analyze data in real-time by connecting databases owned by all universities and research institutes in Japan to the new platform's computing resources and storage through the 'SINET' network. This makes it easy for data providers and users in various fields to work together and strongly supports development work.

By using the virtualization platform, users can flexibly utilize computing resources and storage capacity according to the application and requirements. It also combines the functions of x86 servers with the high-speed computing capabilities needed to utilize AI and other technologies to provide computing resources that can be used by a wide range of customers.

Moreover, through its system integration, Fujitsu has built a system that can be interconnected with leading-edge storage systems and network equipment provided by its partners, enabling efficient and secure data collection, storage, and analysis. Fujitsu has created an Infrastructure as a Service (IaaS) platform that can flexibly provide computing resources to thousands of projects at the same time, achieving 8.5 petaflops total theoretical operation performance.

8.5 petaflops

theoretical operation performance

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