

PRESS RELEASE

Kyushu Electric Power, IIJ, QTnet, 1Finity and Nautilus Technologies Launching Demonstration Project for Construction and Verification of Decentralized Digital Infrastructure

FUKUOKA, KAWASAKI and TOKYO - September 24, 2025 - Kyushu Electric Power Company, Incorporated (Kyushu Electric Power), Internet Initiative Japan Inc. (IIJ), QTnet, Inc. (QTnet), 1Finity Inc. (1Finity) and Nautilus Technologies, Inc. (Nautilus Technologies) today announced that a demonstration project for decentralized digital infrastructure construction and verification in the Japanese Kyushu area will be launched from October 2025.

The project seeks to achieve an optimal synergy between power resources and computational performance by interconnecting decentralized data centers across the Kyushu area that utilize renewable energy sources, aligned with the “watt-bit collaboration” initiative, promoted by the Japanese government. ^{(*)1}

Background

Amid the rapid increase in demand for data centers with the popularization of AI and cloud services in recent years, concerns over electricity demand and data center site shortages are becoming more pronounced due to the concentration of data centers in urban areas. In response, the Japanese government is working to attract data center sites to regional areas where decarbonized power sources are abundant. ^{(*)2}

Overview

As part of the project, small-scale data centers will be deployed across the Kyushu area and interconnected via APN (All-Photonics Network)^{(*)3}, which enables communication through optical signals. These data centers will operate as one unified system, allowing seamless data storage and processing regardless of physical location. Furthermore, the network architecture will adopt photonics network interface cards (NICs)^{(*)4} capable of directly handling optical signals, replacing conventional electrical signal-based communication methods.

This will be the world’s first attempt to realize interconnection of distributed data centers^{(*)5}, a field that is expected to grow in the future, photonics NIC that facilitates low-latency, direct long-distance, high-capacity transmission between servers using optical signals. The direct interconnection of servers will also reduce the placement of various network devices in the network path and thereby reduce power consumption.

In addition, the distributed data centers will be equipped with high-performance GPU servers specialized for AI processing. To flexibly utilize data centers located in regions with varying power generation conditions between day and night, the project will verify a technology for distributed databases that enables AI and other processing by accessing data stored across multiple data centers. This approach allows computing to be performed regardless of physical location and supports efficient use of decentralized resources.

Future plans are to perform a verification of how this digital technology works with Kyushu’s local energy power grid (power supply system), aiming to create the Kyushu version of “watt-bit collaboration” —a concept that seeks to achieve an optimal balance between energy (watts) and IT processing (bits).

(*)1 Watt-bit collaboration: A vision to simultaneously realize AI utilization, decarbonization, and regional revitalization by integrating electricity ("watts") and information and communication technology ("bits").

(*)2 Publication of "Digital Infrastructure Development Plan for 2030 – Ministry of Internal Affairs and Communications, JAPAN : https://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/pressrelease/2025/6/11_2.html

(*)3 APN (All-Photonics Network): A technology for transmitting data using optical signals without the need for conversion to electric signals in everything from networks to devices. This realizes transmission with reduced power consumption, greater capacity and lower latency than conventional transmission methods.

- (*4) The IFinity's photonics NIC(Network Interface Card) : By integrating the optical transmission equipment traditionally used for inter-data center communication with server NICs, this innovative NIC enables direct optical signal connections between servers located in different data centers. By eliminating the need for electrical conversion and protocol processing, it achieves significantly lower latency and higher bandwidth.

Acknowledgment: This activity is based on results obtained from a project subsidized by the New Energy and Industrial Technology Development Organization (NEDO).

- (*5) As of September 24, 2025, based on research conducted by IFinity.

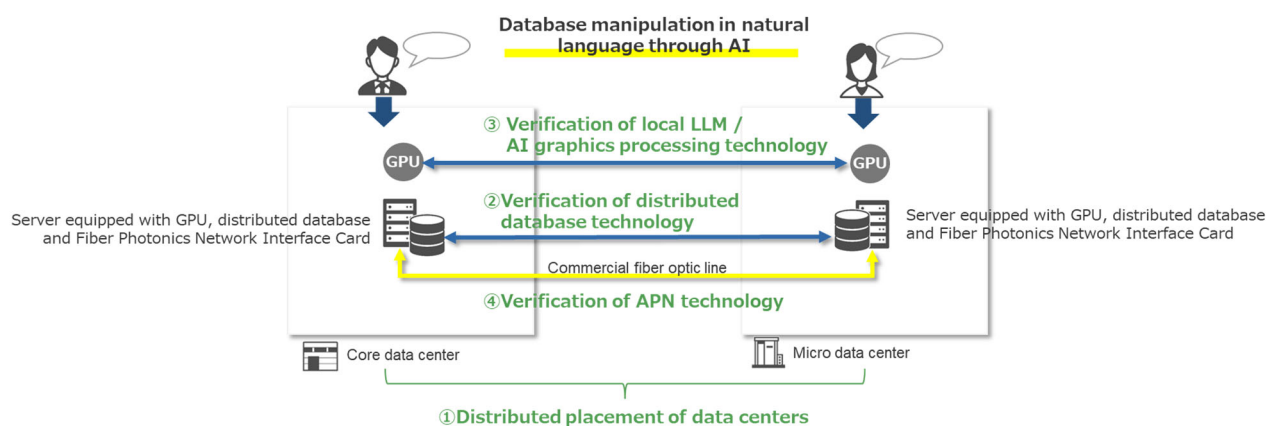
Execution Plan

- Period
From October 2025 to March 2026
- Purpose
 1. Verification of digital technology for the realization of “watt-bit collaboration”
 2. Assessment of the effectiveness of AI processing and distributed databases utilizing decentralized digital infrastructure technology
- Implementation details
 1. Distributed placement of data centers: Distributed placement of data center functions in multiple locations in Kyushu (two locations in the initial phase).
 2. Verification of distributed database technology: Verification of how processing performance and power consumption changes with the employment of distributed database technology (Nautilus Technologies' “Tsurugi”^(*6)) in AI processing.
 3. Verification of local LLM / AI graphics processing technology: Verification of effectiveness by carrying out AI arithmetic processing using GPU in a remote environment. This verification will involve simulation of data processing in natural language using the MCP^(*7) function of “Tsurugi.”
 4. Verification of APN technology: Verification of APN technology for high-speed interconnection of distributed data centers, and verification by comparison with conventional communications technology.

(*6) This work was supported by a project, JPNP16007, commissioned by the New Energy and Industrial Technology Development Organization (NEDO), Japan.

(*7) MCP (Model Context Protocol): A standardized protocol for seamless integration between AI agents and external systems.

Conceptual diagram of verification implementation



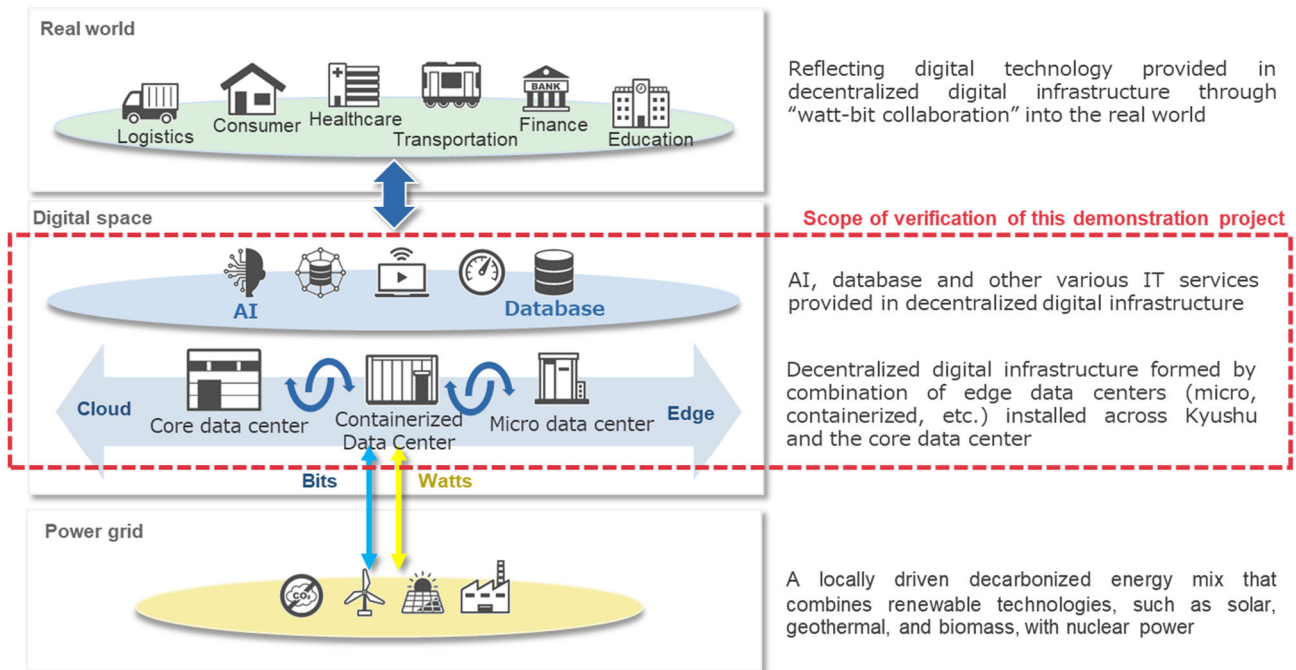
- Company-specific roles
 - < Project owner >
Kyushu Electric Power: Overall project oversight, and review of the framework of application to its business and adaptation of AI processing among data centers
 - < Project members >
IIJ: Overall project design and progress management, overall verification environment setup and demonstration work implementation, and provision and construction of micro data centers (DX edge) and GPU servers

QTnet: Provision and construction of core data center and site-to-site connection lines

1Finity: Provision and construction of new photonics NIC (Network Interface Card)

Nautilus Technologies: Provision and construction of distributed database “Tsurugi”

Scope of Project Validation and Vision for the Future



About IIJ

Founded in 1992, IIJ is one of Japan's leading Internet-access and comprehensive network solutions providers. IIJ and its group companies provide total network solutions that mainly cater to high-end corporate customers. IIJ's services include high-quality Internet connectivity services, systems integration, cloud computing services, security services and mobile services. Moreover, IIJ has built one of the largest Internet backbone networks in Japan that is connected to the United States, the United Kingdom and Asia. IIJ was listed on the Prime Market of the Tokyo Stock Exchange in 2022. For more information about IIJ, visit the official website: <https://www.ij.ad.jp/en/>.

About QTnet

<https://www.qtnet.co.jp/>

About 1Finity Inc.

1Finity, a Fujitsu company, is a global provider of communications networks for our connected world. We uniquely combine technological leadership and expertise in open optical and wireless networking, network automation, and applied AI/ML to design, build, operate, and maintain critical digital communications network infrastructure. Collaborating closely with ecosystem partners, we deliver transformative outcomes for service providers and network operators, and enable them to lower TCO, improve network performance, and increase energy efficiency. For more information, visit www.1Finity.com.

About Nautilus Technologies, Inc.

Nautilus Technologies is a leading-edge IT vendor that specializes in the development and provision of database and distributed processing technologies, primarily delivered as open-source software (OSS). It offers development and support services for Tsurugi, a next-generation relational database (RDB), as well as for the distributed processing middleware Asakusa/M3BP. In addition, Nautilus Technologies provides consulting and system integration services utilizing these products, tailored to meet the specific needs of its customers. For more information, visit <https://www.nautilus-technologies.com/>.

The statements within this release contain forward-looking statements about our future plans that involve risk and uncertainty. These statements may differ materially from actual future events or results.

For inquiries, contact:

IIJ Corporate Communications

Tel: +81-3-5205-6310 E-mail: press@ij.ad.jp

<https://www.ij.ad.jp/en/>

* All company, product and service names used in this press release are the trademarks or registered trademarks of their respective owners.