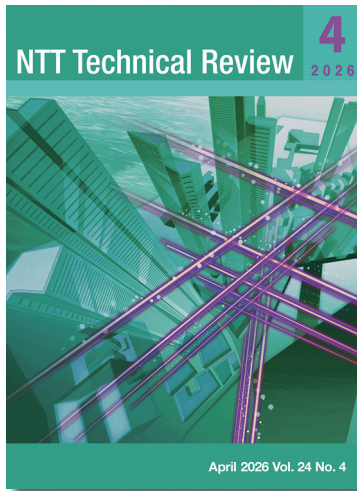


<https://www.ntt-review.jp/archive/2026/202604.html>



Front-line Researchers

- ▶ Junji Watanabe, Senior Distinguished Researcher, Communication Science Laboratories/Social Informatics Laboratories, NTT, Inc.

Rising Researchers

- ▶ Munehiko Nagatani, Distinguished Researcher, Device Technology Laboratories, NTT, Inc.

Feature Articles

Technology Development Trends of the IOWN 2.0 Era—From Communications to Computing

- ▶ Initiatives toward Social Implementation in the IOWN 2.0 Era
- ▶ Initiatives toward Multiple Vendor-sourced Composable Servers in DCI Technology Development
- ▶ A High-capacity, Energy-efficient Photonics-electronics Converged Switch with PEC-2
- ▶ Trends in Research and Development of the Latest Transponder Technology Supporting Expansion of APN Domains
- ▶ Trends in Research and Development of the Latest Controller Technology Supporting Operation of the Evolving APN

Regular Articles

- ▶ Resource Allocation with Heterogeneous Resources and Parallelism in Disaggregated Computing

Global Standardization Activities

- ▶ Recent Activities of QoE-related Standardization in ITU-T SG12

Information

- ▶ Report on “NTT R&D FORUM 2025—IOWN: Quantum Leap”

Front-line Researchers

Junji Watanabe, Senior Distinguished Researcher, Communication Science Laboratories/Social Informatics Laboratories, NTT, Inc.

▼ Abstract

The importance of well-being, which places value on people’s existence and state of mind and cannot be measured solely by economic value, has been increasing. In an unpredictable era, characterized by rapid technological development and dramatic changes in social conditions, it is necessary for people to have the flexibility to think and act to adapt to diverse values and rapidly changing circumstances while working together to create and adjust paths as we move toward our goals. Junji Watanabe, a senior distinguished researcher at NTT Communication Science Laboratories is proposing and developing specific methods for acquiring and using well-being competencies in practical settings such as school education and corporate activities. We spoke with him about his recent areas of focus and his own research style.



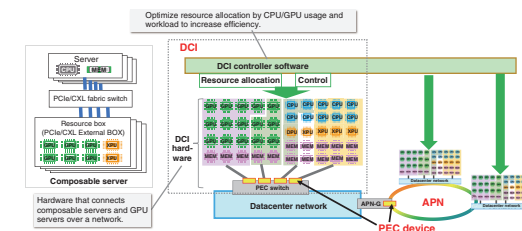
Feature Articles

Technology Development Trends of the IOWN 2.0 Era—From Communications to Computing

Initiatives toward Social Implementation in the IOWN 2.0 Era

▼ Abstract

This article introduces trends in the technological development of the Innovative Optical and Wireless Network (IOWN) 2.0 era along with its benefits on the basis of knowledge gained through initiatives such as use-case development and demonstrations and customer needs. It also introduces application use cases now being studied at NTT IOWN Product Design Center.



Regular Articles

Resource Allocation with Heterogeneous Resources and Parallelism in Disaggregated Computing

▼ Abstract

Disaggregated computing improves resource utilization by pooling central processing units, memory, and accelerators and flexibly assigning heterogeneous resources to each service component. To maximize these benefits, resource allocation and routing must be decided efficiently before execution. This article introduces a practical-time resource allocation method that models heterogeneous resource characteristics and parallel processing effects. Simulations in heterogeneous disaggregated systems show that this method meets service-performance requirements while reducing required resources by 28–51% on average compared with conventional methods.

