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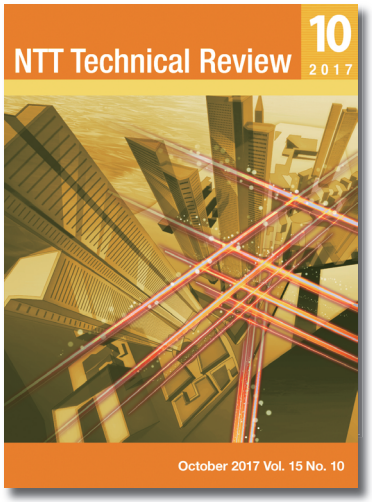

Feature Articles

NTT DATA Technology Foresight 2017—Examining Future Technology Trends and How They Will Affect Us

- Overview of NTT DATA Technology Foresight 2017
- Power of the Individual
- Decentralized Collaboration
- Ever-evolving Things
- Physical Digital Convergence
- Pervasive Artificial Intelligence
- Conversational Computing
- Environment-aware Robotics
- Precision Life Science
- Synthetic Reality
- Security for the IoT Era
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- Experience Design Innovation

Regular Articles

- Hardware Acceleration Technique for Radio Resource Scheduling in 5G Mobile Systems
- Network Resource Management Technology
- Practical Implementation of a New Clock Supply Module Supporting Telephone System Communications and Leased Line Communications for Corporate Customers

Global Standardization Activities

- Standardization Trends for Future High-speed Passive Optical Networks

Practical Field Information about Telecommunication Technologies

- Failure Analysis of Internet Protocol Terminal Equipment

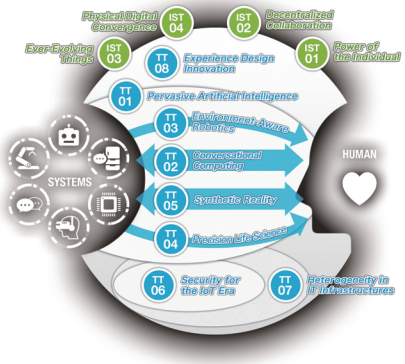
Feature Articles

NTT DATA Technology Foresight 2017—Examining Future Technology Trends and How They Will Affect Us

Overview of NTT DATA Technology Foresight 2017

▼Abstract

NTT DATA Technology Foresight is the outlook on technology trends of the near future that is compiled by NTT DATA once a year. The objective is to find the challenges our future society will face at an early stage and serve as a compass to promote the creation of new value. The Feature Articles in this issue introduce NTT DATA Technology Foresight 2017 published in January this year; this article provides an overview as an introduction to it.

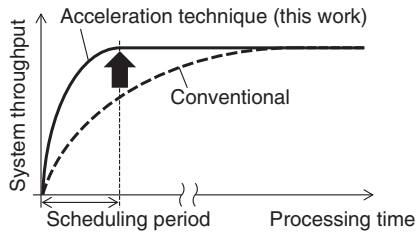


Regular Articles

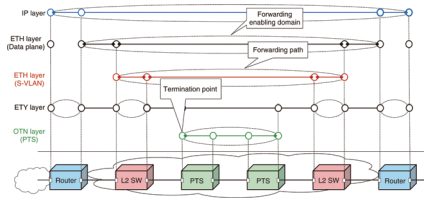
Hardware Acceleration Technique for Radio Resource Scheduling in 5G Mobile Systems

▼Abstract

This article presents a hardware acceleration technique for the scheduling process in ultra-high-density distributed antenna systems for fifth-generation (5G) mobile communications systems. In 5G systems, the overall system throughputs for a huge number of combinations of antennas and user equipment (UE) for communications have to be calculated in the scheduling process. To speed up the calculation, this acceleration technique calculates the throughputs of each UE simultaneously. Experimental results show that the acceleration technique calculates the system throughput approximately 60 times faster than without the acceleration. As a result, the acceleration technique improved the throughput by about 73% for a system with 32 antennas and 256 UEs.



Network Resource Management Technology

▼Abstract

The era of software-defined networks is approaching, and NTT is working on network management and operation architecture for various types of networks and their topologies, including current physical and virtual networks. This article presents the technology used in network resource management architecture for comprehensive network operation based on unified information models.