In this article, we introduce NTT Group’s initiatives for B2B2X (business-to-business-to-X) models and acceleration of Society 5.0 through co-creation of new value. The contents of this article are based on a lecture given by Hiroo Unoura, NTT President and Chief Executive Officer, at NTT R&D Forum 2018 held in February 2018.

Hiromichi Shinohara, Senior Executive Vice President and Head of Research and Development Planning Department, NTT

This article introduces NTT’s latest research and development activities based on a lecture presented by Hiromichi Shinohara, NTT Senior Executive Vice President and Head of the Research and Development Planning Department, at NTT R&D Forum 2018, which took place in February 2018.

Kevin Andrew, Senior Director, NTT

The Internet of Things (IoT) is expected to create high value services in various fields. We believe that the era in which IoT is fully utilized will have requirements different from those of the past for information and telecommunications networks. In this article, the influence of the new IoT era on networks and information processing is described, along with the resulting requirements. The NTT laboratories’ efforts and assumed usage scenarios are also introduced. These Feature Articles are based on lectures given during workshops at the Tsukuba Forum 2017 held in October 2017.

Hiromichi Shinohara, Senior Executive Vice President and Head of Research and Development Planning Department, NTT

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Space-division multiplexing using multicore fiber (MCF) is considered to be one of the most promising technologies for breaking the capacity limit of traditional single-mode fibers and advancing fiber optic communication systems. For transport networks to utilize the capacity of MCF efficiently, it is essential to consider inter-core crosstalk (XT) in provisioning optical paths. We developed an MCF transport network testbed and used it to demonstrate our optical path configuration scheme, in which a software-defined networking controller configures programmable transponders that include a beyond-100G digital signal processor that factors in XT.

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Demonstration of Single-mode Multicore Fiber Transport Network with Crosstalk-aware Optical Path Configuration

Applying Multicore Fiber in Next-generation High-capacity Optical Transport Networks

Hiromichi Shinohara, Senior Executive Vice President and Head of Research and Development Planning Department, NTT

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