Prof. Toshitaka Tsuda

Waseda University

Core network in 5G Mobile era and ICN

Abstract: Mobile communication is heading to 5G era, and intensive efforts are going on to make it reality. It is expected that the 5G mobile network will provide Ultra wide bandwidth, Ultra terminal density, and Ultra short response time, which meet to the social requirements to networks.

One of the important aspects of 5G mobile network discussion is that not only the radio access part of the network but also the evolution of core network part are included within the scope, which is new for mobile network discussion. 3GPP is discussing both aspects, and ITU-T focus group FG IMT-2020 which I myself participated made an output document recommending the possible standardization discussion topics of the core network part. One of the key of the core network discussion is the introduction of the Slice concept.

Slice is a logical network configured of virtualized network resources and functions. Plural number of slices having different service characteristics can be simultaneously provided on a common platform in dynamic manner. Introduction of Slice make it possible for an emerging network paradigm such as ICN(Information Centric Networking) to be realized as one of the Slice.

In my talk, I will touch upon the possible core network evolution in 5G mobile era, and in this context the possible introduction of ICN with some benefits that ICN will provide to make the fundamental targets of 5G mobile network become the reality.

Biography: Dr. Toshitaka Tsuda received BS, MS, and PhD degrees in electrical engineering from the University of Tokyo in 1970, 1972 and 1975, respectively. He joined Fujitsu Laboratories Ltd. in 1975, where he engaged in R&D of digital signal processing, micro-processor architecture, video coding, ISDN transmission, optical communication, packet switching, and network architecture. In Fujitsu Laboratories, he worked as Senior Vice President, Member of the Board, Managing Director of Fujitsu Laboratories of Europe, and Chairman of the Board of Fujitsu Laboratories of America. 2012-2015 he was a Professor of Waseda University, and currently he is a Guest Professor of Waseda University, an associate Member of Science Council of Japan, IEICE Publication Director, and IEEE Japan Council chair. He is a Fellow of IEEE, an Honorary member and Fellow of IEICE. He is former President of IEICE and former IEEE Tokyo Section chair. He made several keynote speeches, ICC2011 and NOMS2012 being some examples.