
Optical and Wireless Integration: A Passive Optical Network (PON) Time Synchronization Overview

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About the Speaker



Yuanqiu Luo is a senior research engineer in the advanced technology department of Huawei Technologies USA, Bridgewater, NJ. Before joining Huawei, she was with NEC Laboratories America, Princeton, NJ. Her research interests are in the areas of broadband access networks, next generation optical access, network modeling, and integrated optical/wireless networks. She is actively involved in the standards of next generation passive optical networks. She is a co-editor of ITU-T G.987, G.987.3 and a clause editor of IEEE 802.1AS. She received both her Bachelor degree in electronics and information systems and her Master degree in electrical engineering from Shandong University, China. Her Ph.D. degree in electrical engineering was received from New Jersey Institute of Technology, Newark, NJ.

About the Talk

With an ever growing bandwidth demand for emerging services, access network is expected to provide much higher bandwidth and protect legacy investment. These requirements motivate the research and standard of Passive Optical Networks (PONs). This talk starts with a brief introduction of broadband access and PONs. Various PON implementations will be examined with a focus on Optical and Wireless Integration (OWI). Time synchronization over PON is critical for OWI. After a discussion of the key challenges, the solution of PON time synchronization will be described and its performance will be investigated. The standard progress in the International Telecommunication Union Telecommunication Standardization Sector (ITU-T) and the Institute of Electrical and Electronics Engineers (IEEE) will be reviewed. Directions for future research will be presented in the last part of this talk.

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