



[Plenary Talk IV] Fast growing cloud services require scaling optical technologies

Date & Time	July 3 (Tue.) / 11:45-12:30 (45')	Place	Halla Hall, 3F
Speaker	Chongjin Xie (Alibaba Group)		

Biography

Chongjin Xie is a senior director and chief communication scientist in Alibaba Infrastructure Service at Alibaba Group, leading an optical research, architecture, design and testing team to develop datacenter optical interconnects and networking technologies to support Alibaba online platform and cloud services. Prior to joining Alibaba Group in 2014, Dr. Xie was a distinguished member of technical staff at Bell Labs, Alcatel-Lucent (now Nokia), doing research on optical communication systems and networks. He did his postdoctoral research at Chalmers University of Technology in Sweden from 1999 to 2001, and received his M.Sc. and Ph.D. degrees from Beijing University of Posts & Telecommunications in 1996 and 1999, respectively. Dr. Xie has published one book, 3 book chapters and over 200 journal and conference papers. He is an associate editor of Journal of Light wave Technology, and has served as chairs, TPC chairs or TPC members in many conferences. Dr. Xie is a Fellow of OSA and a senior member of IEEE.

Abstract

Cloud computing has become part of our daily life. Today most of the Internet services such as web-browsing, e-mails, e-commerce, video streaming, social networking are running in the cloud. Traffic in hyperscale cloud datacenters doubles every one to two years. Today 100G networks have been widely deployed in hyperscale datacenters, large volume deployment of 400G is expected to start in 2020, and over 1T will be required a few years later. The short technology cycle and fast traffic growth present a big challenge for optical interconnects in hyperscale datacenter networks. To meet the demand of fast growing cloud services, optical technologies not only need to be scalable in cost, bandwidth density and power consumption, but need to be efficient and intelligent in optical network layer as well. In this talk, we will present requirements and challenges of optical technologies for hyper-scale datacenters, including short-reach optical interconnects and long-reach optical transport technologies for metro and wide area network applications. Potential solutions to solve these challenges are discussed.