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Silicon Photonics in High-radix Low-diameter Networks

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Abstract

The tremendous increase in bandwidth requirements not only in HPC systems but also in hyper-scale data centers is increasing the trend of higher bandwidth per compute node. This increase in bandwidth per node, coupled with the ever-increasing system sizes poses unique integration challenges for system architects and designers, who are actively adopting optical interconnects to mitigate some of the design issues. Although, optical interconnects have allowed the integration of large systems, the system scalability to even larger system poses several unique requirements on the photonic modules. This talk presents the wants from photonic modules from the perspective of high radix, low diameter networks that are becoming essential for system scalability.

Bio

Ankit More received his B.S/M.S and Ph.D degrees in Electrical and Computer Engineering from Drexel University, Philadelphia, PA. He is currently a Research Scientist at Intel Corporation based out of Santa Clara, CA. In his current role, he serves as the lead network architect for Intel's system for the DARPA HIVE project focusing on energy efficient, high performance scalable networks. His research interests include high performance computing, multi-core computer architecture and parallel and distributed computing.