

**World’s First 51.2T Co-Packaged Ethernet Switch for Data Centers:** The tremendous growth in data center traffic has created an urgent need for higher bandwidth and lower power consumption/latency within data centers. A Broadcom-led team will describe the world’s first 51.2T ethernet switch system with co-packaged optics for data center connectivity. It quadruples the bandwidth of widely deployed 12.8 Tbps networking solutions, and leads to a significant reduction in overall power consumption per bit transmitted. It makes use of silicon photonic (SiPh) chiplets co-packaged with silicon switch die on the same substrate, with short interconnects. The researchers built a prototype that co-packaged eight optical engines with switch die, yielding the 51.2 Tbps performance.

The photo shows the fully assembled co-packaged optics solution with a detachable fiber connector assembly.

**(Paper# 3.1, “*High Density Integration of Silicon Photonic Chiplets for 51.2T Co-packaged Optics*,” S. Kannan et al, Broadcom/Siliconware Precision Industries Co.**