USB I/O Aggregation

For Lattice MachXO3™, MachXO5™-NX, and CrossLinkU™-NX FPGAs

Problem:

As data center and edge platforms scale, BMC and DC-SCM designs run short of pins, and routing many sideband signals adds board cost and complexity. Customers need a scalable, low-pin-count, high-performance I/O aggregation solution that complements LTPI.

Solution:

- Lattice USB I/O Aggregation consolidates multiple peripheral protocols over a single USB link, reducing dedicated pins on BMC and OCP DC-SCM platforms and simplifying routing and board layout.
- Supports USB 2.0 Full-Speed (12 Mbps) and High-Speed (480 Mbps) on Lattice MachXO3, Lattice MachXO5-NX, and Lattice CrossLinkU-NX FPGAs.
- Running on low power, instant-on Lattice FPGAs, it supports flexible expansion and dynamic configuration of I2C, GPIO and UART interfaces for diverse data center and edge management needs.
- The solution ships with production-ready OpenBMC reference firmware, which speeds deployment and lowers development and integration cost.

