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Intel Custom Foundry Demonstrates Industry-Leading General Purpose SerDes on 14nm Process

14nm SerDes is Second Generation of SerDes Family Extending Intel's 22nm Silicon Qualified SerDes Family

NEWS HIGHLIGHTS

- 14nm SerDes extends operating range while reducing power by 20 percent and area by more than 40 percent.
- 14nm SerDes offers extreme flexibility and programmability to cover broad range of SerDes protocols.

SANTA CLARA, Calif., March 20, 2014 – Intel Corporation today demonstrated silicon results for its 1 to 16 Gbps 14nm general purpose SerDes (Serializer Deserializer). This 14nm SerDes is first in a family of SerDes that will include industry-leading 10 to 32 Gbps high-speed SerDes and 1 to 10 Gbps low-power SerDes. Intel's 14nm SerDes family is the second generation of SerDes offering that is built on the success of Intel's 12 and 28 Gbps SerDes, which is currently in production on Intel's 22nm Tri-gate process technology. Intel's 14nm SerDes extend the operating range while reducing power by 20 percent and area by more than 40 percent as compared to Intel's 22nm SerDes offering.

"The first pass success of 14nm SerDes development demonstrates the readiness of Intel Custom Foundry's 14nm design platform," says Mark Bohr, senior fellow, Technology and Manufacturing Group, Intel. "What's even more exciting is that it clearly presents evidence that power, performance and area can be simultaneously improved, even for complex analog circuits, on Intel's 14nm technologies. Clearly Moore's Law is alive and well."

The 1 to 16 Gbps 14nm SerDes spans a wide range of protocols, such as USB, PCIe, Ethernet and 10G-KR with extremely low jitter while maintaining power and area efficiency. The 10 to 32 Gbps high-speed 14nm SerDes will extend this efficiency to emerging protocols such as OIF, 100G Ethernet and 32 Fibre Channel used in high-performance networking. At the same time, the low-power version will provide these same benefits, plus extremely low standby power, to protocols such as MIPI M-PHY and USB SSIC used in wireless devices. Intel's SerDes architecture has continuously improved over multiple generations providing industry-leading power, performance and area.

The Intel 1 to 16 Gbps SerDes is a complete foundry offering. It includes extensive integration, test configuration and system simulation models. While the power, performance and area targets have improved so too have other features such as ease of integration, orientation flexibility and protocol configurability.

"Co-optimization of critical IP such as this SerDes along with the process can lead to clear benefits to our customers both in terms technology leadership and time to market," said Anurag Handa, senior director, Marketing and Business Development, Intel Custom Foundry. "This announcement is just the first of many exciting announcements we will make regarding the benefits of using Intel's industry-leading 14nm Tri-gate process technology and game changing advanced IP."

About Intel
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