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CAST and Achronix Enable Processing from Data Center to the Edge with Lossless Compression IP

- *CAST Compression IP Integrated with Achronix eFPGA Technology for High-Performance, Low-Power Solution to Move and Store Big Data*

Santa Clara, Calif., April 10, 2018 – Achronix Semiconductor Corporation, a leader in field programmable gate array (FPGA)-based hardware accelerator devices and embedded FPGA (eFPGA), announced its collaboration with CAST Incorporated, a semiconductor intellectual property company focusing on semiconductor IP for electronic system designers. CAST's high performance lossless compression IP has been ported to support the Achronix portfolio of FPGA products, enabling efficient processing for Data Center and Mobile Edge Data transfer.

CAST offers a hardware implementation of the lossless compression standard for Deflate, GZIP, and ZLIB that is compatible with software implementations used for compression or decompression. The hardware implementation provided by the ZipAccel core provides high throughput – up to 100Gbps – with very high compression performance and low-latency. Coupling this with Achronix Speedcore eFPGA technology enables a high-performance, low-power solution facilitating moving and storing big data.

With the explosion of applications employing analytics, the need to transfer increasing amounts of information through bandwidth limited communication channels is found from automotive systems to large financial institutions. The cost and power to transport data is becoming significant and compression implemented with Achronix eFPGA can minimize power and maximize the capability of the network. The combination of CAST compression IP and Speedcore eFPGA IP on a custom SoC effectively increases the achievable throughput; in addition developers can utilize the eFPGA to rapidly and efficiently implement data processing algorithms.

The ability to optimize the compression algorithm in the eFPGA to address a system's specific throughput, storage and latency requirements makes this solution a consideration for hundreds of applications. Not only can throughput be increased, but significant savings in expensive memory storage can be realized.

"We are pleased to be working with CAST as part of the Achronix Partner Program," says Mike Fitton, Achronix senior director, product planning and business development. "The ability to instantiate CAST's high throughput compression cores in our eFPGA allows Speedcore-enabled ASIC and SoCs to efficiently address the data server market. The availability of eFPGA IP as a workload-specific, reprogrammable hardware accelerator enables new algorithms, including compression but also data analytics, to be rapidly implemented. The high performance of Speedcore eFPGA, coupled with its significant market traction makes it ideal for this application."

"CAST is happy to license the core to Achronix customers who benefit from Achronix's unique architecture which provides rapid flexibility, future-proofing and time-to-market for new algorithms" remarks Nikos D. Zervas, CEO of CAST Inc. "Having a proven IP solution for the Achronix FPGA toolchain and architecture facilitates the design time of our customers who have requested implementation in Achronix FPGAs and eFPGA. The IP is further optimized to take advantage of the Achronix FPGA architecture for speed and reduced size."

About ZipAccel

ZipAccel-C's flexible architecture enables fine-tuning of its compression efficiency, throughput, area and latency to match the requirements of the end application. CAST engineers provide data and analysis to help in determining trade-offs between various configurations of the core and provide support of evaluations with customer specific data samples.

About Speedcore eFPGA

Speedcore eFPGA IP can be integrated into an ASIC or SoC to provide a customized programmable fabric. Users specify their logic, memory and DSP resource needs, then Achronix configures the Speedcore IP to meet their individual requirements. Speedcore look-up-tables (LUTs), RAM blocks and DSP64 blocks can be assembled like building blocks to create the optimal programmable fabric for any given application.

About CAST Inc

CAST develops, aggregates, and integrates digital IP cores and subsystems. The company's product line includes low-power, high-value, processors, video and image codecs, peripherals, interfaces, and more; see details at www.cast-inc.com.

About Achronix Semiconductor Corporation

Achronix is a privately held, fabless semiconductor corporation based in Santa Clara, California. The company developed its FPGA technology which is the basis of the Speedster22i FPGAs and Speedcore eFPGA technology. All Achronix FPGA products are supported by its ACE design tools that include integrated support for Synopsys (NASDAQ:SNPS) Synplify Pro. The company has sales offices and representatives in the United States, Europe, and China, and has a research and design office in Bangalore, India.

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