

Socionext Implements AV1 Encoder on FPGA over Cloud Service

Exploring New Service-Oriented Product Offerings

Langen/Germany, 6. June, 2018 --- Socionext Inc., a leader in advanced SoC technology for video and imaging systems, has developed a prototype implementation of video encoder functionalities of the latest video compression format AV1 onto Amazon Elastic Compute Cloud (Amazon EC2)F1 Instance.

Utilizing F1, Socionext was able to complete the development and achieved high performance in just one and a half months. Based on this result, Socionext will explore the possibility of new, service-oriented products that allow customers to use functions of semiconductor devices through cloud services, and to provide users with other accelerators built on the cloud to boost the productivity of large-scale, high-performance cloud-based applications.

Socionext has been a leading solution provider for a wide range of video processing applications, featuring the advanced codec MB86M30 and the hybrid codec module M820 series in which the "M30" is integrated.

AV1 is a new, advanced video data compression standard established by the Alliance for Open Media, a consortium that includes Socionext. AV1 is capable of compressing data about 30% more effectively than HEVC, while keeping the same image quality. The first official specification of AV1 was released in March, and many hardware and software companies are developing the implementation. It is expected that the introduction of this new format will further promote the distribution of high-definition, high-quality video contents such as 4K.

Socionext has chosen Amazon EC2 F1 Instance as the environment in which it built a dedicated encoding accelerator onto an FPGA, available over the cloud with the Instance. It is the first prototype of a hardware-based implementation of an AV1 encoder system. By utilizing F1, Socionext was able to complete the development in just one and a half months, while also delivering very high hardware accelerator performance. It runs 10x faster than existing encoders running on a CPU only.

Socionext presented this result at the "AWS Summit Tokyo 2018" on June 1st.

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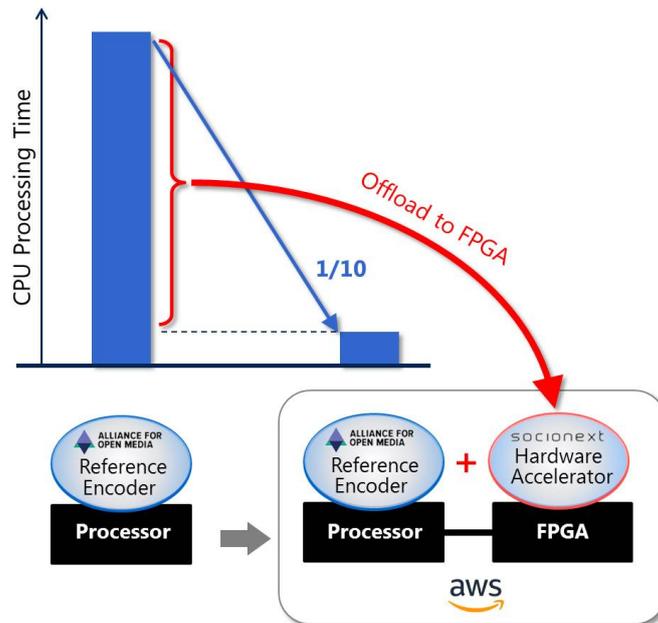


Figure: Performance improvement of AV1 codec

[\(view larger image\)](#)

Based on this encouraging result, Socionext will be able to quickly offer customers an environment to use the codec functionality through the cloud. Socionext also expects that it can help boost the performance of large-scale, high-performance cloud-based applications, by building various custom accelerators on FPGAs over the cloud, such as provided by AWS EC2 F1. Socionext will continue to explore future offerings of such service-oriented product, in addition to other silicon products.

About Socionext Inc.

Socionext is a new, innovative enterprise that designs, develops and delivers System-on-Chip products to customers worldwide. The company is focused on imaging, networking, computing and other dynamic technologies that drive today's leading-edge applications. Socionext combines world-class expertise, experience, and an extensive IP portfolio to provide exceptional solutions and ensure a better quality of experience for customers. Founded in 2015, Socionext Inc. is headquartered in Yokohama, and has offices in Japan, Asia, United States and Europe to lead its product development and sales activities. For more information, visit socionext.com.

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