CAST News

Novatek Reduces TV Boot Time with Data Decompression IP Core from CAST

WOODCLIFF LAKE, NJ USA — May 16, 2017 — Novatek Microelectronics Corp., a customer of semiconductor IP provider CAST, Inc., has applied a data decompression IP core to achieve a major consumer benefit: significantly reduced start-up delay in digital televisions.

Consumers don't like to wait when they turn on a television set. Much of this start-up or "boot time" delay is due to the time required to read the initial firmware code out of the relatively slow, non-volatile, flash memory where it is stored. Novatek's innovation dramatically reduces this boot time by storing a much smaller, compressed version of the firmware, and using a fast hardware decompression engine obtained from CAST to rapidly decompress the code during boot.

The **ZipAccel-D** GUNZIP/ZLIB/Inflate Data Decompression IP Core available from CAST is a hardware decompression engine with remarkably low latency and high throughput. Novatek successfully used its initial single-use license for the core in one of its highly integrated, programmable, system-on-chip (SoC) products targeted to digital TV manufactuers, then upgraded to a multi-use license to apply the technology to additional chipset products. The approach not only increases consumer satisfaction with a shorter boot time, but also reduces system costs by enabling the use of smaller, less expensive memory devices.

"The GUNZIP core from CAST was relatively easy to integrate, functions and performs well, and gives our DTV chipsets a distinct competitive advantage," said Daniel Ping, television products director for Novatek. "The core itself is well-designed and packaged, and CAST's excellent technical service and support has helped us meet or exceed our project schedules."

The decompression engine Novatek licensed is part of the ZipAccel™ family of data compression IP CAST sources from Sandgate Technologies. A compression engine and complete PCIe Compression Reference Design Kit are also available. Other CAST customers have used ZipAccel engines to reduce boot time and energy consumption in a variety of application areas; read about this approach in the CAST white paper *Firmware Compression for Lower Energy and Faster Boot in IoT Devices*.

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About Novatek

Novatek Microelectronics Corp. is a Taiwanese fabless semiconductor company established in 1997 and specializing in display-centered total solutions in a line of ICs and SoCs for all display applications. The company is the world's largest supplier of display driver ICs, and is ranked as the world's 10th largest and Taiwan's 2nd largest fabless company in terms of sales revenue (2015). With successful sales to major TV OEMs around the world, Novatek has been identified as one of the firms dominating the rapidly-growing Ultra HD chipset market (Strategy Analytics research report).

For more information, visit www.novatek.com.tw.

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.

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