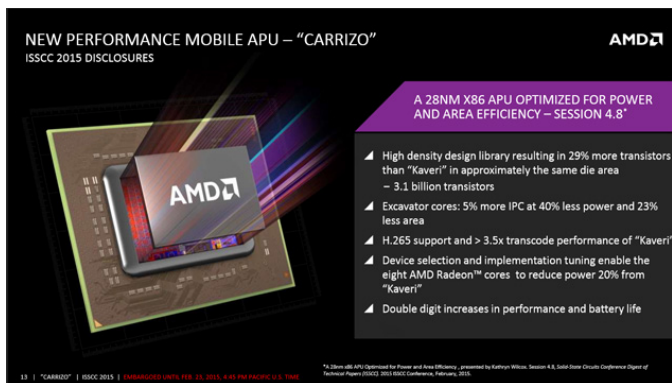# AMD Details "Carrizo" APUs

Written by Marco Attard
26 February 2015

AMD reveals the "Carrizo" A-series Accelerated Processing Unit (APU) at the International Solid State Circuits Conference (ISSCC)-- a high performance and energy efficient chip designed for notebooks and low-power desktops.

Built as a system-on-a-chip (SoC), the Carrizo combines the latest Bulldozer CPU cores, dubbed "Excavator" (with two modules providing 4 cores) and 8 "Tonga" GPU cores featuring Graphics Core Next architecture v. 1.2. It supports DirectX 12, the AMD Mantle API, H.265 video decoding and, in an AMD first, Heterogeneous System Architecture (HSA) 1.0.

HSA allows the APU to share memory between CPU and GPU for more efficient division of resources between tasks.

However AMD's main aim with the Carrizo design is power efficiency-- the company says the APU reduces x86 core power consumption by 40%, while providing "substantial" gains in CPU, graphics, and multimedia performance.

In further tech details, Carrizo is built on a 28nm process, and carries 29% more transistors than the previous Kaveri on a same size die. It also features Adaptive Voltage and Frequency Scaling (AVFS), a power management technology using frequency-sensing modules to ensure less power is wasted by the GPU and CPU.

Carrizo should appear on notebooks and low-power PCs from Q2 2015, close to mid-year target for the Intel's quad-core Broadwell processors.

AMD Details "Carrizo" APUs

Written by Marco Attard
26 February 2015

Go [AMD Discloses Architecture Details of Carrizo SoC](#)