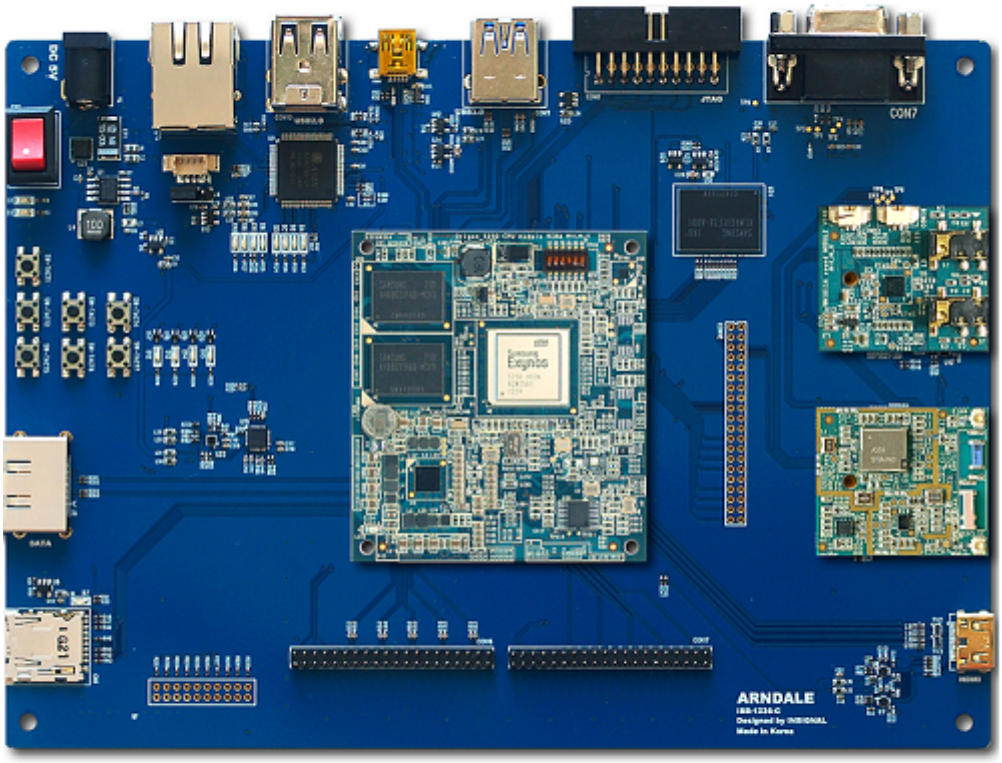
Mont-Blanc project selects Samsung Exynos 5 Processor

The project continues its research effort towards an energy efficient HPC prototype using low-power embedded technology



The project continues its research effort towards an energy efficient HPC prototype using low-power embedded technology

Salt Lake City, 13th November 2012.- The Mont-Blanc European project has selected the Samsung Exynos platform as the building block for powering its first integrated low power- High Performance Computing (HPC) prototype. The aim of Mont-Blanc project is to design a new type of computer architecture capable of setting future global HPC standards, built from today's energy efficient solutions used in embedded and mobile devices.

The Samsung Exynos 5 Dual is built on 32nm low-power HKMG (High-K Metal Gate), and features a dual-core 1.7GHz mobile CPU built on ARM® Cortex™-A15 architecture plus an integrated ARM Mali™-T604 GPU for increased performance density and energy efficiency. It has been featured and market proven in consumer and mobile devices such as Samsung Chromebook and Google's Nexus 10.

This will be the first use of an embedded mobile SoC in HPC, which enables the Mont-Blanc project to explore the challenges and benefits of deeply integrated energy-efficient processors and GPU accelerators, compared to traditional homogeneous multicore systems, and heterogeneous CPU + external GPU architectures.

"The Exynos 5 Dual packs the most powerful ARM processors with a programmable GPU in a low-power mobile device that would normally be in someone's pocket and running on a battery. Its performance density, energy efficiency, and low market price make it an extraordinary building block for prototyping a new generation of HPC systems." says Alex Ramirez, coordinator of the Mont-Blanc project.

During the first year of activities, Mont-Blanc has focused on deploying successfully an HPC system software stack and full-scale scientific applications on ARM platforms, proving that ARM-based architectures are feasible alternatives for HPC. Now the efforts gear towards integration of the Exynos platform on a HPC solution, and software exploitation of the embedded GPU.

About the Mont-Blanc project
The Mont-Blanc project, partially funded by the European Commission's Seventh Framework Programme (FP7/2007-2013 under grant agreement n° 288777) with over eight million Euros in three years, brings together leading European technology companies such as Bull, ARM and Gnodal as well as some of the most important supercomputing centers in Europe: JSC and LRZ (Germany), CNRS and GENCI (France), CINECA (Italy) and BSC (Spain). More information on page www.montblanc-project.eu

Visit us at SC'12 at the following booths: BSC #1143, ARM #122, Gnodal #4818, JSC #707, LRZ #537, CINECA #1246.

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