Spain leads European project to build world's most powerful supercomputer

Energy efficiency of new machine is primary concern for researchers

Barcelona, 29th November 2011.- The Barcelona Supercomputing Center – Centro Nacional de Supercomputación (BSC-CNS) coordinates the Mont-Blanc project, which aims to design a supercomputer with the greatest computing capacity to energy consumption ratio in the world.

The main goal of this European project, which will run for three years, is to design a supercomputer based on energy-efficient technology currently used in cellphones and mobile devices. Researchers expect to achieve a 4 to 10 times improvement in energy-efficiency compared with current technologies.

Considering that the electrical power available currently sets the performance limit of the supercomputer, this technology would enable systems between 4 and 10 times more powerful to be built.

"In current systems, the processors consume the lion's share of the power. By contrast, in Mont-Blanc we will integrate energy-efficient technology from ARM with accelerators designed for mobile devices to develop a new kind of supercomputer, just as powerful, but much more energy-efficient", said **Alex Ramirez**, leader of the Mont-Blanc project.

The project, partially funded by the European Commission's Seventh Framework Programme with over eight million Euros in 3 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-CNS (Spain).

About BSC

The Barcelona Supercomputing Center –Centro Nacional de Supercomputación (BSC-CNS) houses MareNostrum, which is installed in a former chapel and is one of the most beautiful supercomputers in the world. BSC-CNS's mission is to research, develop and manage information technology in order to facilitate scientific progress.
At BSC-CNS more than 350 people from 40 different countries perform and facilitate research into Computer Sciences, Life Sciences, Earth Sciences and Computational Applications in Science and Engineering. This multi-disciplinary approach and the combination of world-leading researchers and experts in HPC (High-Performing Computing) with state-of-the-art supercomputing resources makes BSC-CNS unique.

The center was established by a consortium made up of the current Ministry of Science and Innovation (MICINN), the Ministry of Economy and Knowledge of the Catalonian regional government and the Universitat Politècnica de Catalunya. Barcelona Tech (UPC), and is led by Professor Mateo Valero.

BSC-CNS has recently been recognized as a "Severo Ochoa Centre of Excellence". The first edition of the Severo Ochoa programme, run by the Ministry of Science and Innovation to identify and support research of excellence being carried out in Spain, selected 8 research centres and units in Spain as being among the best in the world in their respective fields. More information: www.bsc.es

About Bull

Bull is a European Information Technology company that assists its clients in optimizing their information systems, applying its knowledge and excellence in managing projects in the following key areas:
- Servers and storage solutions based on standard technologies, both for commercial and scientific computing;
- Management of infrastructure services in line with market best practices (ITIL, COBIT ...);
- Consulting and application development;
- Development of Open Source solutions that demonstrate the commitment of Bull as a pioneer in Open Source;
- Security solutions from end to end that, in projects based on our capabilities as a manufacturer, integrator and consultant, combine physical and logical security.
More information: www.bull.es

About ARM

ARM designs the technology that lies at the heart of advanced digital products, from wireless, networking and consumer entertainment solutions to imaging, automotive, security and storage devices. ARM's comprehensive product offering includes 32-bit RISC microprocessors, graphics processors, video engines, enabling software, cell libraries, embedded memories, high-speed connectivity products, peripherals and development tools. Combined with comprehensive design services, training, support and maintenance, and the company's broad Partner community, they provide a total system solution that offers a fast, reliable path to market for leading electronics companies. More information: www.arm.com

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