BSC highlights the need for European research in big data hardware and software

BSC warns that only small, innovative companies are taking the risk of investing in new hardware, while bigger entreprises assume that change leadership will come from big US companies.

Barcelona Supercomputing Center has presented this morning the big data roadmap that it has coordinated on behalf of the European Commission. The presentation was given as part of the Big Data Congress and BSC used it to highlight the need for Europe to carry out research on new solutions for hardware and software for big data use.

The *RETHINK big project* chose to present its final results at the Congress, which is currently taking place in Barcelona. Coordinated by BSC, the project consortium consisted of a number of European academic institutions and companies.

The roadmap drawn up as part of the project emphasises that Europe is currently at a disadvantage in terms of leadership in software and hardware design: “The European ecosystem is highly fragmented while media and internet giants such as Google, Amazon, Facebook, Twitter and Apple […] are designing their own infrastructures from the ground up,” the study states. “European companies that are not closely considering hardware and networking technologies as a means to cutting cost and offering better future services run the risk of falling further and further behind.” Such improvements in hardware should reduce both production costs and energy consumption.

A part of the study, the project team conducted a survey on the willingness of European IT companies to innovate and try out new hardware structures. The survey results revealed that large telecommunications companies are very cautious when adopting new technologies and prefer to work with established standards. However, smaller entreprises show a greater will to take risks and to invest in new hardware, provided that they can afford to.

The roadmap was presented by Paul Carpenter, Senior Researcher at BSC and member of the RETHINK big editorial team. He pointed out the steps and opportunities that *RETHINK big* has put forward as ways for the EU to increase its leadership in the sector. These include “stimulation of research into new hardware architectures for application in artificial intelligence and machine learning, and encouraging hardware and software experts to work together for co-design of new technologies.”

Barcelona Supercomputing Centre has significant experience of working with large quantities of data and provides companies in a range of sectors with technologies to increase their competitive advantage. The centre also works on the design of architectures and software to reduce the cost of a number of projects including Smart Cities, personalised medicines and monitoring of air quality.

About RETHINK big

The RETHINK big Project is a 2-year Collaborative Support Action funded by the European Commission in order to write the European Roadmap for Hardware and Networking optimisations for Big Data. This industry-driven project has been led by the Barcelona Supercomputing Center (BSC) and includes large industry partners (including ARM and THALES), SMEs and academia (University of Manchester, EPFL, etc.). The RETHINK big Roadmap identifies business opportunities from 89 in-depth interviews with European industry stakeholders in the area of Big Data and predicts the future technologies that will disrupt the state of the art in Big Data processing in terms of hardware and networking optimisations. Moreover, it presents coordinated technology development recommendations (focused on optimisations in networking and hardware) that would be in the best interest of European Big Data companies to undertake in concert as a matter of competitive advantage.

Barcelona Supercomputing Center - Centro Nacional de Supercomputación

---