

Thursday, December 11 2008

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Irish researchers to collaborate with IBM on supercomputer initiative

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The Centre for Telecommunications Value-chain Research (CTVR) has announced that a team of its researchers has begun working with technology giant IBM on a project that could ultimately lead to the creation of the world's fastest and most powerful computer.

The team is collaborating with IBM on the development of a new optical network that may form a crucial part of the next generation of 'supercomputers' to be designed by the multinational. Optical networks are used to spread computing workloads over thousands of individual systems, allowing for the processing of vast quantities of data at phenomenal speed.

At present, the fastest computer in the world is the IBM Roadrunner, based in the Los Alamos National Laboratory, in the United States. IBM, supported by the CTVR team and other teams of Irish researchers, has just launched its Exascale initiative, geared towards producing systems that can operate 1,000 times faster than the most powerful computers in operation today.

Professor Donal O'Mahony, Director, CTVR, said: "Right now, the world's fastest computing system can carry out around one thousand trillion arithmetic operations per second. We are looking to help create a new system that will run at speeds up to a thousand times faster, allowing for newer, more challenging problems to be handled".

"The new supercomputers that IBM plans to build will be designed to trawl through massive quantities of data from the Internet and other sources to provide insights into real world issues - such as climate change, stock market fluctuations, and so forth - which affect all of us," said Prof O'Mahony.

The CTVR will cooperate with teams from complementary fields in other universities to carry out the research. The CTVR has expertise in the area of optical control planes, while teams from the Tyndall National Institute in Cork and NUI Galway have experience in the design of optical transceivers and in optical processing, respectively.

Prof O'Mahony said: "This shows that the Government's strategy for enhancing our research and innovation capability is working. The investments that were made some five years ago by Science Foundation Ireland in boosting our research capacity are now paying off in the form of our ability to attract projects of this kind".

"This will hopefully lead to the creation of high value jobs, as the research moves towards the product development phase. On a wider level, projects like this can play a major role in reinvigorating the Irish 'knowledge economy' by adding to Ireland's reputation as a centre for world-class research in high-tech disciplines," he said.

About the Centre for Telecommunications Value-Chain Research (CTVR): The Centre for Telecommunications Value-Chain Research is a joint venture between the Irish university sector and a number of industrial partners



IBM, supported by the CTVR team and other teams of Irish researchers, has just launched its Exascale initiative. JB Reed/Bloomberg

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