PH gets its first supercomputer

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The Philippines, through the Department of Science and Technology (DOST), is getting its first-ever supercomputer via a donation made by tech giant IBM.

The acquisition, announced during the IBM 2013 Technology Conference and Expo at the Edsa Shangri-La Hotel in Mandaluyong City, is expected to equip the country with high performance computing capabilities needed to develop practical solutions to pressing local problems.

Officials of DOST, UP, and IBM Philippines during the press launch of Blue Gene

Called the "IBM Blue Gene", the supercomputer will be housed at the University of the Philippines under the DOST's supervision. The unit is expected to arrive soon, according to IBM Philippines.

The supercomputer will be the fastest, most powerful single computer infrastructure in the Philippines. It is expected to enhance the technical computing capabilities of Filipino scientist, allowing high-speed processing and crunching of massive datasets with low power consumption.

Essentially, the supercomputer is an accumulation of several thousands of independent microprocessors that can be prompted to solve one or several computing tasks.

Its colossal capacity makes it an ideal platform for complex scientific disciplines requiring high technical computing and useful for the integration of many datasets, complex mathematical formulas and modeling, simulations, and iterative functions.

Thus, the IBM Blue Gene is seen as helpful in areas like climate modeling and weather prediction, nuclear energy, and research and development (R&D) for life sciences, such as gene sequencing and drug discovery.

The supercomputer will primarily be used to support the Philippine government's priority R&D projects focused on reducing poverty, improving government processes, and tools and enabling smarter weather management, as based on the National Economic Development Authority's Medium Term Development Plan.

A priority initiative around weather prediction will be the pilot project to use the IBM Blue Gene supercomputer as its platform.

"This is a direct result from the agreement between the DOST and IBM in May 2012, to jointly build a Philippine Systems and Technology R&D Lab to help accelerate national economic growth," said Mariels Almeda Winhoffer, president and country general manager of IBM Philippines.

A priority R&D project, the DOST and IBM will collaborate on how the supercomputer can complement DOST's Nationwide Operational Assessment of Hazards or Project Noah, the government's flagship program and integrated information system for disaster mitigation and climate change.

Prone to natural disasters, the country is expected to benefit greatly once the projected is completed, as citizens and various government agencies can better prepare and plan what to do and what emergency response programs to activate, if and when a weather-related disaster occurs.

"The IBM Blue Gene supercomputer will be most applicable to DOST's major programs such as Noah and Smart Agriculture," said DOST secretary Mario G. Montejo.

"First we will work toward Blue Gene's integration to Project Noah to provide more advanced seven-day local weather forecasts. We can also use it to run various weather models and validate the accuracy of results almost real-time," Montejo said.

"Smart Agriculture, the newest flagship program of the DOST, will also gain from our newest supercomputing capability in modeling climate change scenarios, building database for agricultural land use, and computing for monthly irrigation requirements per province," he added.

Other possible projects to be aided by the IBM Blue Gene supercomputer include flood management and genomics. **– DOST-STII**