Hundred-Tera Flops China Born Super Computer is ranked in Top 10 fastest Super Computer in the world

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The Dawning 5000A Super Computer, powered with Windows HPC Server 2008,  made it to top 10 fastest computer in the world with a peak performance of 180 Tera Flops and theoretical performance of 233.47 Tera Flops in the latest Top500 list. China has become the second country following the U.S. to possess the capability of developing such system in the world.

“This system hosted at Shanghai Super Computing center combines both high performance and usability effectively.” Says Zhao Xiaofang, Director of High Performance Computing Center at Chinese Academy of Science.

One compute day on the super computer is equal to running on an home pc for 33 years

“Literally, one compute day on the super computer is equivalent to running an home pc for 33 years”, says Yao Jifeng, Technical Director of HPC at Shanghai Super Computing center. From Dawning  1, 1000, 2000, 3000, 4000, now through 5000A, these machines improved from peak performance of 2.5 billion calc / sec to now 100 trillion calc /sec.  China’s hpc r&d is rapidly changing history.

This time, Dawning started collaborating with MS in high performance computing at Nov 2007.  July 2008, windows HPC achieved an efficiency rating of 84% during initial testing, laying ground for the top 500 list run.   Oct 28th, 2008, It achieved a peak performance of 180 Tera Flops, taking HPC in China into a new Era.

The Win-Win of high performance & “ease of use”

“The collaboration between MS and Dawning pushes HPC into mainstream for China.  MS products’ simple UI and their “ease of use” allow newbie to get into HPC.” Says Zhao.

In the HPC market, reliability of OS and “ease of use” are the main selection criteria for customers.  Also,  two other critical traits for an optimized OS and software runtime environment, comprehensive ecosystem and vertical-ized software optimization and integration, are also key factors for the customer’s application.   Microsoft  Corporate Vice President Zhang Ya-Qin says, “Windows HPC is a widely used platform, by using MS HPC, we hope to bring Dawning server to world market.”

Dawing’s Vice President Nie Hua says, “By collaboration, we further accelerated server technologies in China, elevates MS’ influence & reputation in the HPC market.  Moreover, speeding up HPC application and adoption in China.”

You can’t see HPC, but it’s making our lives easier like never before

“Supercomputing’s development is similar to the history for libraries.  Due to user demand, the first library was created, then many followed.  However, due to the lack of a global indexing system, suddenly the need for the library of congress emerged.” Says Zhao.   She further explains, “Just like the libraries, computer system went from centralized to PCs, now trending back to centralized services once again.   HPC used to serve only the elite few scientific projects, now it’s showing up in our daily lives.”

“HPC is a strategic facility that serves as a foundation to solve very difficult problems in many field of studies, such as aerospace, weather research, drug research, rice Genome project.”  Yao says, “Even airline scheduling, dipper material uses HPC for data processing.”

“HPC as it matures, becomes more and more transparent.  You don’t see HPC, but it’s everywhere.   It’s silently making our lives easier, just like utility has become today.  That is our ultimate goal.”