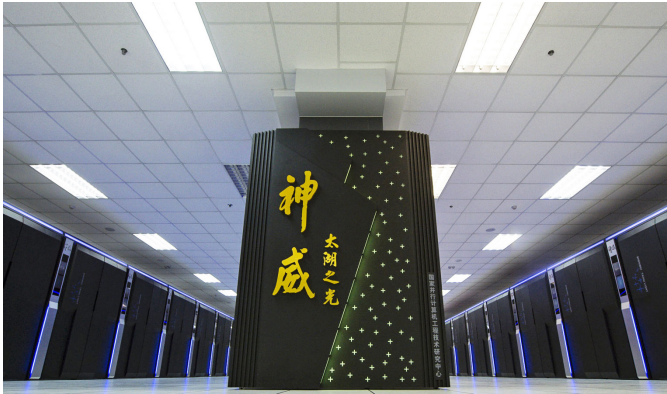


TOP500 Names Chinese Supercomputer as World's Fastest

Written by Marco Attard
24 June 2016

The ISC High Performance Conference reveals the fastest supercomputer in the world-- the Sunway TaihuLight, a Chinese machine boasting performance of 93 petaflops.



The previous TOP500 champ was the Tianhe-2, another Chinese machine. The TaihuLight is 100% made in China, being powered by a locally developed ShenWei processor and a custom interconnect, and as such is proof China no longer needs Western technology in order to compete against the best of the supercomputing world.

“As the first number one system of China that is completely based on homegrown processors, the Sunway TaihuLight system demonstrates the significant progress that China has made in the domain of designing and manufacturing large-scale computation systems,” the Chinese National Supercomputing Centre says.

The processor inside the TaihuLight is the SW26010. It is the successor of the SW1600, a 16-core chip found inside BlueLight, a 796-teraflop machine built in 2011. A single SW26010 chip has 260 cores, and is able to crank out "just over" 3 teraflops, making it on par with Intel's "Knights Landing" Xeon Phi and other high-end multi-core designs.

The TaihuLight has 40960 nodes, with each node housing a SW26010 chip, making a machine with over 10 million cores. The actual architecture inside the SW26010 is a mystery, but TOP500 speculates it is based on DEC Alpha technology. The OS is also custom, being a version of Linux dubbed Sunway Raise OS.

Interestingly, the success of Chinese processing might be the result of a 2015 US embargo--

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trade restrictions prevented an upgrade of the Tianhe-2 to Xeon Phi CPUs, bringing about a push in Chinese processor development.

Go [China Tops Supercomputer Rankings With New 93-Petaflop Machine](#)