

Chinese supercomputer will feature The Godson-3B: A mesh style processor

May 2 2011, by Katie Gatto

(PhysOrg.com) -- Chinese researchers expect to unveil the Dawning 6000 supercomputer in the third quarter of 2011. Unlike the previous versions of this supercomputer, the current version will be something very different when it comes to the hardware powering the processor. The previous versions have all American-made chips inside of them. Instead this version of the machine will feature the Godson-3B, a high-end processor that was created in China.

Like any [processor](#) on the market the Godson-3B has some benefits and some detriments to it. This processor is not the fastest on the market. It has a peak frequency of 1.05 [gigahertz](#), which makes it much slower than competitors that can operate at more than 5 GHz.

The real benefit to this processor is its [energy efficiency](#). The processor has the capability of executing 128 billion floating-point operations per second while using just 40 watts of power. This is about twice as efficient as some of its competitors.

This chip comes with a modified structure that allows for the relaying of messages among multiple processor cores.

Unlike the chips current in development by both Intel and IBM, which will both feature a ring style, the Godson chip feature a a modified version of the grid like interconnect system that is known as the mesh network.

The processor was developed by a team of researchers that was being led by Weiwu Hu at the Chinese Academy of Sciences, in Beijing. This mesh formatting allows for the energy-use reduction. The chip also have the potential to be highly scalable for larger sized systems, though smaller ones may find the ring architecture to be more adaptable.

More information: Earlier research paper:

[www.computer.org/portal/web/cs ... i/10.1109/MM.2009.30](http://www.computer.org/portal/web/cs...i/10.1109/MM.2009.30)

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