Subject: Re: Computer trouble
Posted by icedog90 on Sun, 08 Jan 2006 02:52:16 GMT
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Scythar wrote on Fri, 06 January 2006 18:32icedog90 wrote on Fri, 06 January 2006 15:56Scythar wrote on Fri, 06 January 2006 12:25icedog90 wrote on Fri, 06 January 2006 14:53Dual channel isn't a certain type of memory, it's two sticks of DDR that are both exactly the same and are being effectively doubled in bandwidth from the RAM to the CPU.

http://en.wikipedia.org/wiki/Dual_channel

Actually, the bandwidth is only doubled between the RAM and memory controller. There's still only one frontside bus (between CPU and chipset), which is exactly why dual channel doesn't bring such a huge performance increase in AMD chips than Intel, since AMD doesn't have as fast FSB and it creates a bottleneck. Intel's fast 800 Mhz(= 2x DDR400 speed) is great for dual channel arcitechture.

I knew someone would jump in and attempt to correct me because I said "bandwidth". I was talking about the bits, not the actual bandwidth. Utilizing two 64-bit channels, it results in a total bandwidth of 128 bits for moving from the RAM to the CPU.

There isn't a straight databus between RAM and CPU, it all goes through the chipset.

The problem is that the FSB(CPU<->chipset) is only 64-bit, so the uber1337 2x64-bit dual channel memory(Chipset<->RAM) bus can't fit through the FSB, causing a bottleneck, and nowhere near 2x transfer rates.

This is becoming obsolete info when 128-bit FSB is becoming more common or there's some other new tech stuff involved, but anyone with Athlon XP-family CPU, for example, will not benefit all that much from dual channel.

Now you're going into another topic...