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ARE CONTROLLER CARDS THE ACHILLES' HEEL OF RAID SYSTEMS?

Not Anymore According to LSI Logic in Partnership with Southland Micro Systems: A RAID Controller Card with a Transferable Battery Backed Up (TBBU) DDR DIMM

February 23, 2003 Irvine, CA – RAID (Redundant Array of Independent Disks) systems, although an excellent solution for companies that require an inexpensive option for a high level of massive storage reliability, are not without their flaws. With the RAID controller being a possible Achilles' heel, how do two industry leaders partner to create a more reliable solution for customers that demand even greater reliability?

A division of LSI Logic located in Norcross, GA, a recognized industry leader of highly reliable RAID controllers, had an interesting new concept, but needed an equally reliable partner to complete their solution. They turned to Southland Micro Systems of Irvine, CA, a privately owned memory module manufacture specializing in proprietary designs to create a transferable battery backed up (TBBU) DDR DIMM for their RAID controller card.

All computer systems have the possibility for failure, whether due to an internal component failure or an external cause resulting in a loss of power. These types of occurrences can happen to RAID systems even with their redundancy. The difference in this newly combined controller card with the TBBU DIMM is that there is an opportunity to save data if the controller card fails.

Most computing systems require DRAM (dynamic random access memory) memory devices, either directly on the system board or in a specific module form factor with the Dual In-Line Memory Module as the current industry standard. Standard DIMMs require a constant source of power, typically provided through the system board DIMM socket, in order to process data. DRAM DIMMs are a volatile memory design, meaning they do not process or store data without a constant source of power as compared to the non-volatile flash devices often found in compact flash cards for digital cameras.

Why not use non-volatile flash devices as the solution?

“Flash devices do not have the speed or the density that DRAM offers. A TBBU DIMM, however, has a battery (similar in appearance to a watch battery) along with battery backup circuitry. As the DIMM senses a loss of power, it activates the battery backup circuitry, transferring the source of power from the DIMM socket to the battery resident on the module. This gives a system administrator the opportunity to transfer the DIMM from a damaged RAID controller card to a new one while maintaining the integrity of the data. Although the controller may be a loss, the data (which is what is most important) is not lost”, explains John Terpening, VP of Engineering at Southland.

Why did LSI Logic choose Southland as a memory module partner for their new RAID controller cards?

“We audit all potential suppliers. Southland did very well in their audit across all departments, from the warehouse to engineering, manufacturing and quality control. Plus, they have the engineering talent and know how to meet our special needs”, said Stan cook, Purchasing Manager with LSI.

Now customers that rely on RAID systems for a lower-cost, high-reliable mass storage computing have a solution with even greater reliability with little extra cost impact.

Founded in 1981 in Milpitas, CA, LSI Corporation is a leading provider of innovative silicon, systems and software technologies offering a broad portfolio of capabilities and services for the Storage and Networking markets.

Southland Micro Systems, located in Irvine, CA and founded in 1987, is a leader in the design and manufacturing of proprietary computer memory modules servicing a wide array of OEMs.

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If you would like more information about this story, technical data sheets or to schedule an interview, contact Douglas Dolan, VP of Sales and Marketing with Southland Micro Systems at (949) 380-1958 or ddolan@southlandmicro.com.