

## **GNP demonstrates Intel-based blade architecture is ready for high-availability applications**

*By Bruce Rostowfske*

System manufacturers are touting a new type of server architecture called blade. Blade is a low-cost, low-power design that lets engineers fit hundreds of densely-packed computers into a standard rack by optimizing the available processing power of DSP and I/O boards. In addition to eliminating space needed for traditional separate host CPU and I/O boards, this super-slim server architecture enables multi-node clusters. For those applications that require scalability of processing power and I/O, blade is the next-generation architecture alternative.

GNP has demonstrated the effectiveness of blade's low-power/high-density design in a carrier-class telecommunication application powered by four Intel StrongARM-based computers. By loading its high-availability middleware, Continuant Cluster Suite, directly onto Intel's integrated 32-bit StrongARM SA-1110 I/O processing boards, GNP eliminated the need for system slot processors and provided a clustered platform for natural load-balancing. In a clustered blade configuration, these low-power processors support administration and application operations so that the system integrator does not need to design in a high-availability dual-host server to support other I/O computers.

Continuant Cluster Suite is ideal for implementing blade architectures for core network applications due to its combination of five-nines availability and scalability. Blades are commonly used to power applications running at the edge of a network, and are therefore not the standard default server architecture for high-availabil-

ity applications. However, the blade configuration is ideal for core network applications with high-reliability requirements.

GNP's patent-pending Natural Clustering Technology, embedded in the Continuant middleware, keeps all nodes active and responsible for work distribution in an N+k configuration, where N is the number of blades required to maintain a desired performance level and k is the built-in reliability level. When in a blade environment, the middleware communicates between the application and the hardware framework, including OS and drivers, thus ensuring 99.999 percent uptime. Blade is a comprehensive operations framework that automates routine HA functions and provides out-of-band remote control and maintenance.

Blades are modular, scalable, low-power, low-cost computers, and GNP's demonstration proves that this architecture can function as part of a high-density server farm. When combined with effective clustering middleware and powerful embedded communications technologies like CompactPCI Packet Switched Backplane (cPSB), blade boards will emerge as a standard network application design. Whether as the primary application in a server farm, or one of many, blades support scalable high-availability applications for optimized computing power in limited space.

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