

Gaming Machines Powered by Next-Generation Intel® Processors and Advantech Customization Services

A premier developer of electronic casino amusements was searching for a COM Express Type II CPU solution to power its new line of next-generation gaming machines. An important requirement was for the COM to be able to seamlessly integrate with the developer's custom carrier board design. Furthermore, the advanced gaming machines employed touch panels, revolutionary 3-D graphics and high-definition video. A low-power, high-performance chipset solution was absolutely imperative.

The developer contacted Advantech, known for being a leading provider of gaming customization services and solutions. After thorough analysis of the gaming machine's demanding technical specifications, Advantech engineers selected the SOM-5788 for the project. The deciding factor was its next-generation Intel® Core™ i7 processor.

The SOM-5788 featured 8 gigabytes of DDR3 (1066 MHz) in addition to VGA, LVDS, HDMI support and HD audio output. By combining such advanced capabilities with a low-power, high-performance solution, it was the ideal COM Express CPU module to mount on the gaming machine's carrier board. The Intel® Core™ i7's evolved chip architecture enabled graphics processing directly within its processing core, as opposed to on a separate chip. Boasting 1.5 times greater graphical performance than that of a GM45 platform, the i7-based SOM-5788 would significantly boost the slot machines' performance - a feat not possible with an older, more traditional 3-chip COM configuration.

Data storage capability is a critical consideration when designing gaming applications, which made the SOM-5788's ability to support five hard drives (1 PATA and 4 SATA) a welcome feature. The game developer consulted Advantech about designing a custom failsafe measure, designed to prevent abrupt AC power failures from affecting the slot machines' ability to save and backup critical information. Advantech engineers created a "time-delay" solution that allowed the slots to stay powered just long enough for the time needed to back up data in the event of an impending shutdown due to power failure.

Once the hardware solution was selected and the customization options were finalized, the game developer's engineers took charge, making good use of Advantech's exclusive SUSI interface and unified API library to integrate the SOM-5788 into the gaming machine. The software API enabled them to write applications for hardware control quickly and easily, without having to know all the technical details of the chipset or driver architecture. Its versatility was diverse enough allowing the developer's engineers to control everything from system throttling to the CPU's clock speed.

By working with Advantech to implement a next-generation low-power, high-performance Intel® Core™ i7-based processing solution into its machine, the developer was able to quickly deliver its product into the competitive gaming marketplace. Advantech's skilled application engineers and quality product support ensured that development and troubleshooting progressed with no delays. Furthermore, Advantech's commitment to the developer for years of additional technical support guaranteed the longevity of its gaming machine platform for many years of profitable operation.

