Flight Information Display System at Shanghai Airport (ARK-5280)

Introduction:

Since its opening in 1999, Shanghai Pudong International Airport has seen massive increases in air traffic; it handled over 17 million international passengers in 2006. To manage heavy, and ever-increasing, passenger traffic the airport needed a reliable, low-maintenance Flight Information Display System (FIDS). This comprehensive system helps passengers by serving information from a constantly updating database to multiple screens that are strategically placed around the airport. It can supply timely information on flight arrivals and departures, gate assignments, waiting halls, baggage area assignments, even destination weather forecasts. The FIDS database, input terminals, and display monitors are all connected via a TCP/IP compliant LAN for real time display.

Solution:

The airport made a request for FIDS tenders, so Advantech, along with Shanghai systems integrator Fujitsu Frontech, quickly formed a team to work out a tender bid based on Advantech's ARK-5280 compact embedded computer. Management at Pudong International liked ARK-5280's strong feature set and expandability. They also liked Advantech's other FIDS installations (using the ARK-3000 Series)–in Incheon International Airport in Korea, as well as major airports in Fujian, Yunan, and Ningxia Provinces in China. The Advantech-Fujitsu Frontech team ultimately won the bid.

ARK-5280 receives information from the airport's central FIDS server on flight schedules, luggage claim locations, weather reports, and other public information. Depending on the location, the embedded computer displays information on a 16:9 or a 4:3 monitor, in either vertical or horizontal orientation. Because of its compact and integrated design, the ARK-5280 is easily installed behind each LCD display without concern for exposed cables and wires. ARK-5280's fanless and low power consumption design ensures highest reliability, keeping passengers always updated on their flight information. And in case of possible power outage, the built-in Ethernet chipset supports remote reboot as soon as the power comes back on. ARK-5280's power switch and system indicator lights are also designed to make maintenance super easy.

System:

Advantech's ARK-5280 is a high performance, fanless, compact embedded computer, expandable by half-size single board computers. Its onboard Intel® 82551 Ethernet chipset comes with robust network ability, and supports Pre boot Execution Environment (PXE) for remote reboot. ARK-5280 can also operate over a power range from 9VDC to 32VDC. The embedded system is equipped with mounting brackets to complement its compact design: 137 x 189 x 221 mm (W x H x D), which makes ARK-5280 easily mounted just about anywhere. The dual independent VGA/SVGA/DVI displays, and anti-vibration features (cushioned HDD bay, rubber expansion card holder), plus a rich selection of I/O's (four USB 2.0 ports, four serial ports, two PCI slots), and support for up to 2 GB RAM, all make ARK-5280 a suitable solution for many embedded applications.
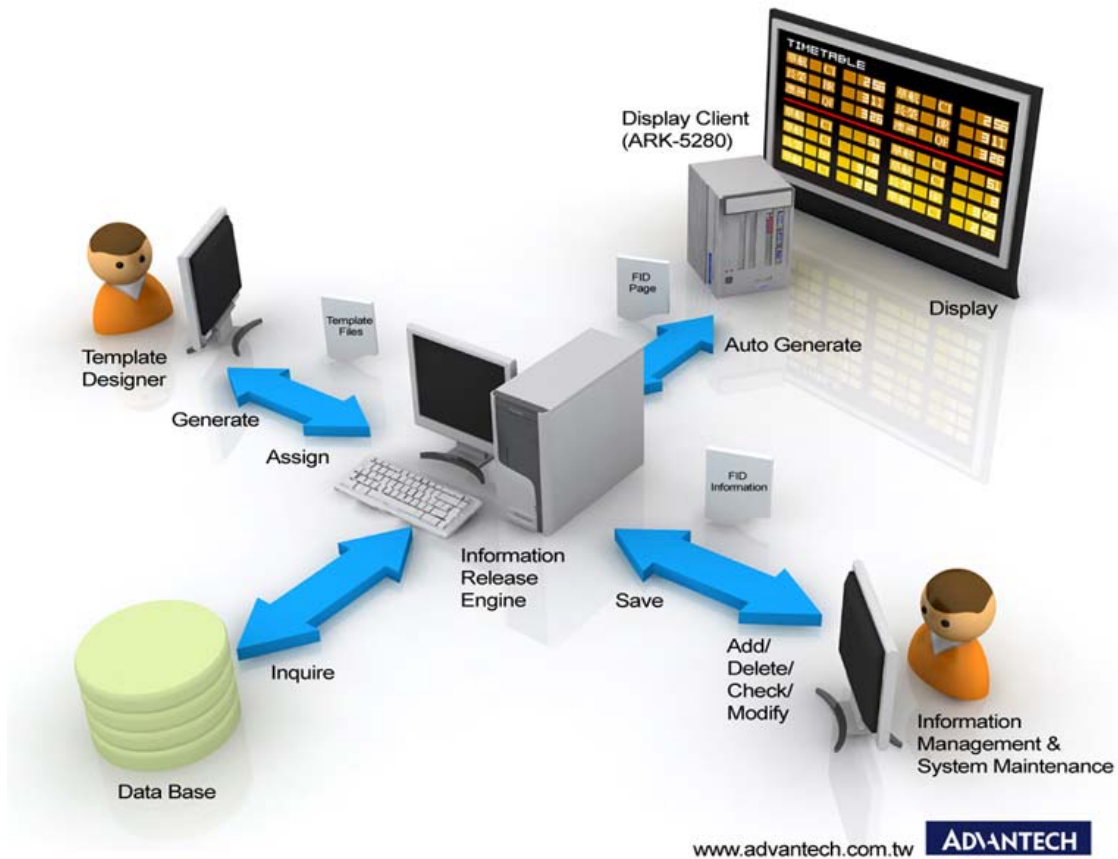
Bon Voyage:

Shanghai Pudong International Airport needed an FIDS withguaranteed low and easy maintenance, plus dependability. The highly expandable, fanless, sealed-chassis ARK-5280 fulfills all requirements perfectly.

China air transport is expected to experience a 14% growth from 2006 through 2010, with air passenger volume surpassing a trillion passenger-kilometers by the end of the decade. For travelers passing through Shanghai Pudong International, Advantech's ARK-5280 helps smooth the journey.

Benefits:

- Flexible solution with customer's choice of PCI expansion boards
- Fanless and low power consumption for high system reliability
- Integrated, sealed chassis—no exposed cables
- Compact body design for easy installation
- Anti-vibration and shock resistance for operation under harsh conditions
- Worldwide service centers and support provide customers with maximum value