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News



Cabin networks for all reasons

December 24, 2008

Something's stirring in the world of airline cabin networking. While industry leaders Panasonic and Thales are successfully marketing powerful Ethernet-based networks dedicated to inflight entertainment, a new wave of suppliers is looking to introduce systems able to support a much wider range of cabin and flight-deck applications.

Among the leaders of the trend are recent start-up Thompson Aerospace of Irvine, California, and a US/German team combining cabin systems manufacturer VT Miltope and German communications technology provider TriaGnoSys.

In September VT Miltope and Munich-based TriaGnoSys announced that they had teamed to develop a new range of all-purpose cabin networks for airliners. Applications are expected to include broadband Internet access for both crew and passengers, voice services, transmission of non-flight-critical information such as cabin inventory reports, and management of the inflight entertainment system.

"This collaboration makes total sense," said VT Miltope vice-president Robert Guidetti. "At VT Miltope we have a complete portfolio of aircraft network products. TriaGnoSys has the most efficient satellite communications software available, and can provide in-cabin communications control and the relevant access technology."

TriaGnoSys managing director Axel Jahn said the partners were aiming to produce the next generation of cabin networks. "We are providing totally flexible cabin network design," he declared. "The wide range of potential applications gives airlines and their passengers a large number of choices."

The companies are in discussions with a mobile phone service provider as well as airlines and airframe manufacturers. They expect their early customers to include airlines looking to offer Internet connectivity to their passengers.

VT Miltope was a major supplier of cabin equipment to support the now defunct Connexion by Boeing broadband service. Its name is also being linked with that of mobile phone operator T-Mobile in relation to a proposed Ku-band satellite-based passenger connectivity service.

Other recent TriaGnoSys developments include the software to operate the Inmarsat satellite link underlying the OnAir onboard mobile phone service, and a voice-over-Internet Protocol (VoIP) capability for the inflight broadband connectivity solution developed by Thales for the business jet market.

Company president Mark Thompson explains the philosophy behind Thompson Aerospace's 1Net offering. "We have created a new network management method that allows us to use a single network for multiple types of service," he says. "Our aim is to increase the value of single-aisle aircraft to their operators by increasing revenues and decreasing costs - our system provides a means to do this."

Described as a modular, multi-client, multi-purpose aircraft network, 1Net is a partitioned LAN based on a connectivity server employing an Intel Core 2 Duo processor with 4Gb of RAM and 0.5Tb of solid-state memory, all packaged in a 2MCU, 6.5lb enclosure. Connectivity functions supported include wired Gigabit Ethernet connections, onboard cellphone and 802.11b WiFi, and ARINC 429 to provide data from the aircraft's avionics, and there is provision for audio and video outputs.

A 1.2lb ARINC 628-compliant Ethernet switch power unit is used to connect the server to up to eight client systems simultaneously, and multiple servers and switches can be deployed to scale the network as needed.

Client systems currently available are Thompson's own Personalised Infotainment Portal, Cabin Attendant Portal and 1Net camera. The first features an 8.5in display, embedded keypad, audio and USB ports and passenger point-of-sale capabilities. The cabin attendant unit has a similar screen and is designed to support network control and maintenance and cabin surveillance. The camera is applicable in the cabin, on the flight deck and on the exterior of the aircraft.

Due for introduction in 2010 are an interface to non-1Net aircraft systems, a wireless access point to support passenger smartphone and laptop connectivity, a cellular picocell, a GPS module, an overhead electronics unit for control of cabin lighting, attendant call and public address, and a radio-frequency identification unit for cargo management.

Thompson and VT Miltope/TriaGnoSys are not the only emerging players looking to challenge the Panasonic/Thales hegemony. Others include Lumexis of California, with its ultra-light fibre-optic-based system, Hong Kong-based SkyGem, Alster Aero of Hamburg, which is developing some useful traction in the narrowbody VIP market, and French seat specialist Sicma. The intentions and ideas of all five are good - it's a pity they're trying to break into a market that will have its mind

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