

**CLIENT** MBS Electronic Systems  
**PROJECT** Short trade journal article  
**OBJECTIVE** Publicize the selection of MBS's **ÆSyBus** modules by Aerospace Testing International as one of the top 10 innovations of 2009.

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### Data Bus Interfacing: Now as Easy as Connecting an Ethernet Cable

MBS Electronic Systems has introduced a line of interface products that transfer data in real time between your avionics data bus and a standard Gigabit Ethernet LAN.

ÆSyBus modules for MIL-STD-1553, ARINC 429, AFDX and RS-485 represent a significant departure from traditional interface cards. These stand-alone units require no host computer, drivers or controller software.

Data transfers are processed in hardware at line speed. There are no software bottlenecks. And communication with user applications is by UDP/IP, so latency is very low.

"We looked at the trend (in data communications), which is away from parallel and towards high-speed serial," says MBS president, Charles Nicholls. "But rather than inventing a new protocol, we decided to leverage what's already there.

"Ethernet and IP protocol have been in use for 30 years. Every operating system supports them. And as technology has evolved and data rates have increased, these standards have kept pace – while remaining backward compatible.

"So unlike PC backplane technologies, which get replaced every few years, Ethernet and IP will likely be around for another 30 years. That will protect our customers' investments."

Multi-user access is another advantage. Up to 10 users can log-on simultaneously to control and monitor bus transactions. A broadcast option allows 250 or more additional users to receive data.

"And rather than having to buy expensive custom cables and proprietary software – as you do with traditional interface cards," adds Nicholls, "you can use readily available, low-cost Ethernet cables and switches...along with your favorite analysis programs, like LabVIEW."

Engineers can also take advantage of other COTS Ethernet infrastructure like WLAN and Power-over-Ethernet – and ÆSyBus' small footprint – to find solutions where space is limited, or the use of network cables is impractical.



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