

USAF VALIDATES EDGEWATER'S EXTENDED 1553 DATA BUS TECHNOLOGY *Flight Certified E1553-enabled equipment successfully flown in USAF F-16*

OTTAWA, July 24, 2007 – Edgewater Computer Systems Inc., (ECSI) provider of advanced computer and communications technology products and embedded computing applications, successfully completed a flight test of its Extended 1553™ (E1553™) data bus technology in a U.S. Air Force F-16 at the Air National Guard (ANG) Air Force Reserve Command (AFRC) Test Center (AATC), in Tucson, Arizona in conjunction with Hill Air Force Base, Ogden, Utah.

The primary purpose of the test was to demonstrate an increase in network capacity roughly 100 times the legacy throughput with no interference to the legacy 1553 system. This shows that there is a low-cost, highly robust method to substantially increase the capacity of the existing on-board network.

"It was absolutely vital to E1553 that we demonstrate its operation in a relevant environment," said **Col. Bruce A. Litchfield, Vice Commander, Aeronautical Systems Center**. "With a revolutionary technology like E1553, people have to see it work to believe it before planning to insert the technology in a platform like the F-15. Consequently, there's a certain amount of if you build it, they will come philosophy in a program like this. ECSI has demonstrated the basic operation of the core E1553 technology to address high-speed data transfer over the legacy 1553B infrastructure."

During the flight test, the ANG Block 30 F-16 performed typical mission flight and aircraft maneuvers including multiple-target tracking with radar and sensor systems and high-G turns. Extended 1553 operated concurrently with the legacy 1553 operation. There was no interference or impact to the legacy 1553 operations before, during or after the flight test while high-speed video traffic was communicated bi-directionally across the E1553 network. Two flight-certified line replaceable units (LRUs) were equipped with E1553 network interface cards – a programmable display generator (CPDG) and a commercial central interface unit (CCIU), both provided by EFW - a provider of advanced storage-management systems, color multi-function displays, display processors, digital moving maps and helmet-mounted cueing systems specifically for F-16 aircraft.

This flight test is a significant milestone for the E1553 project and solidifies that the technology is at an advanced technical readiness level in support of operational flight.

"The successful flight test of Extended 1553 in an operational environment is a significant achievement toward cost-effectively enabling the near-term capability needs of the Warfighter," said **Edgewater President Duane Anderson**. "The momentum for Edgewater's E1553, both in North America and abroad, and the support for the integration of the technology, both in government and in industry, has been exceptional. We continue to look forward to supporting future integration and deployment activities."

Flight test objectives exceeded expectations

The flight test had three objectives: To evaluate impacts of aircraft bus/avionics noise in-flight, to evaluate non-interference between Extended 1553 and the legacy 1553B data bus and to determine Extended 1553 data rates and error rates.

After sufficient planning and preparation, such as the development of mission scenarios that placed maximum loading on the legacy 1553 display bus and operations with the radar to create an aggressive

operational environment, the flight test revealed the ability to stream a clear video display while simultaneously capturing data-bus performance metrics.

“There is a great deal of interest in this flight test program, from both industry and the Armed Services, because the technology had not previously flown in an operational aircraft,” said **Orlando Cortes, Air Force Lead Engineer for the E1553 Program**. “Many people in the technical community were skeptical that the technology would survive in a flight environment. Two of the most important findings from the flight test program were that not only did it survive, it performed extremely well. Also, there was no anomalous behavior caused by cross-talk between the legacy and high-speed channels.”

About Extended 1553™ (E1553™)

Edgewater’s E1553 avionics data-bus technology allows wideband data to be carried over existing aircraft 1553 wiring and bus components without interruption or interference with other systems by maintaining the deterministic command-response nature of the legacy system. Since E1553 meets the Air Force’s basic data-rate acceptability criteria while maintaining reliable operation and interoperability with MIL-STD-1553B terminals and cable assemblies, it enables the creation of a separate network on the existing 1553 wiring infrastructure, which is most prevalent in military avionics platforms.

The flight test exposed the E1553 data-bus technology to a rugged and complex military avionics environment of a tactical aircraft in operation for the first time. However, E1553 has previously been demonstrated in a number of developmental and simulation environments including the C-130, F-16 and F-18.

About Edgewater

Edgewater Computer Systems Inc. is a privately-held provider of advanced computer and communications technology products for enterprise and embedded computing applications. Founded in 1988, Edgewater has an extensive background developing real-time high-performance multiprocessor systems for military, government, and commercial organizations. The company currently has two distinct product lines: multi-channel wireless communications and wired data communications. For more information, please visit www.edgewater.ca.

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