

# Defense Standardization Program Awards

By Mr. Gregory E. Saunders  
Director

These awards honor personnel and organizations of the Military Departments and Defense Agencies for outstanding performance in the implementation of the Defense Standardization Program. The recipients have made singular improvements in technical performance, greatly enhanced safety for DoD personnel, and avoided billions of dollars in costs.

## 2003 Distinguished Achievement Award Winner Joint Strike Fighter Weapons Integration Integrated Product Team

Through its persistent drive toward commonality, the JSF Weapons Integration IPT reduced the complexity of the design, cost of development, and scope of certification required for the JSF program. With more than 50 different weapons designated for use on the Joint Strike Fighter, testing for certification of their many variations was a huge and costly undertaking. Certification of all possible weapons stores configurations between services clearly was not achievable. To reduce risk and

complexity, generate substantial cost savings, and build in long-term interoperability, the IPT methodically scrubbed the baseline weapons list to balance capability against cost. In particular, the team looked for service-common weapons solutions.

The IPT developed a Joint Service Store Certification Guide and significantly reduced unique weapon requirements. For example, it identified a common bomb and a common fuzing system. The team's efforts resulted in a cost avoidance of nearly

\$1.2 billion. The reduction of the number of targeted configurations to only those that were most relevant and used by more than one military service enhanced interoperability and decreased the overall scope and complexity of JSF store certification, while also substantially increasing warfighter combat capability.

*Team members: CAPT David Prater, Navy; Charles Wagner, Navy; Capt John Brady, Air Force; Mark Jones, United Kingdom; John Fabnestock, Navy.*



# Defense Standard Achievement

## Standardization Agreement Looms Large on DoD Radar

Clem Huckins, MITRE Corporation, led a diverse international team developing NATO Standardization Agreement 4607. STANAG 4607 provides a common format for disseminating radar data, enabling interoperability of U.S. and NATO air-, space-, and ground-based systems. Radar data are critical for battle management and situational awareness. Problems arise when systems are not interoperable, which is the case for many weapons systems. The lack

of interoperability is a major impediment to full integration of coalition forces.

Mr. Huckins's team surveyed existing standards and adopted the best features into a new common format providing a unified standard for legacy and future systems. The resulting agreement will reduce the proliferation of unique "stove-piped" systems, enable increased efficiency and interoperability between systems, and provide a basis for the development of an advanced

(XML) version of the data format.

Mr. Huckins was key to resolving the conflicting needs of different systems, determining which parameters were common and which were essential, predicting the requirements of future and evolving systems, and adequately addressing those needs.

## Recorder Data Format Aces Tests

Alfredo Berard, Air Force, led an international team in developing a standard data-recording format that will provide uniform flight test data at all training ranges using airborne solid-state recording equipment. Recent testing requirements for advanced weapons had exceeded the capabilities of available test data tape recorders. Mr. Berard recognized that solid-state technology, capable of multiplexing high-rate streams of data, could solve the problem and meet the higher performance requirements.

Mr. Berard's team developed hardware technical specifications and a new standard format for recording data. The standard, published in Inter-Range Instrumentation Group Standard 106 Chapter 10, will save millions of dollars by reducing the proliferation of contractor-specific systems with proprietary software and license fees. Standard compliant recorders are in use at several testing locations. Those locations have already realized cost savings of \$750,000. The savings can be attributed to a wider supplier base, resulting in increased compe-

tion and lower life-cycle cost, and to a 10-fold increase in mean time between failures. In addition, those locations have seen improved interoperability, operational readiness, and efficiency, as well as higher customer satisfaction.

## DoD Gets High Mileage from Petroleum Information System

Kenneth Henz, Defense Logistics Agency, reengineered the Petroleum Quality Information System database, used by the Defense Energy Support Center, into a fully automated data processing system. DESC can now use PQIS to gather and disseminate standardized quality control data and to track trends in petroleum quality data for all DoD major fuel purchases. As a result, DoD

has a single database that contains a complete quality history of all bulk fuel procurements worldwide. DESC is working with the petroleum industry to develop a single standard, based on the new system, for exchanging petroleum quality data.

In the past, the services had multiple small labor-intensive fuel quality databases with incomplete and inaccurate data that afforded limited data access and had

minimal analytical capability. The new system is complete, accurate, flexible, and nearly paperless, with rapid data access and excellent decision support and analysis capabilities. When the Navy required a low sulfur fuel for marine use in Europe, analysis of data in the system enabled the Navy to avoid \$20 million in fuel and transportation costs.





# AS Ization Program Award Winners

## IETM Becomes a Hot Item

The Tri-Service Interactive Electronic Technical Manual (IETM) Technology Working Group, the Aircraft Industries Association, and defense contractors worked with European counterparts to expand a European aeronautical specification, S1000D, into an international specification that meets all user requirements. Warfighters rely on IETMs to maintain weapons systems. S1000D will enable the United States and its allies to view and access technical

data in a common format improving interoperability.

The team identified technical shortfalls, developed technical solutions, and incorporated important aspects of many related military standards into S1000D. Programs that use the standard, rather than proprietary IETMs, should see significant savings in total ownership costs. The new specification will also enable more competitive sourcing and follow-on contracts for technical data. The

project produced an AIA–European Aerospace Industry Association agreement for the continued support and further development of S1000D. This will cut DoD’s support cost because industry will maintain the specification over its life cycle, while providing full liaison with U.S. defense customers.

*Team members: Joseph Fuller, Navy; Steve Holloway, Air Force; Eric Jorgensen, Navy; Hervé LeBoeuf, Ph.D., IEM Technologies, Inc.; Dennis Raitz, AIA.*

## Navy Team Achieves New Heights by Jumping on COTS

A Navy team worked with 10 naval surface, subsurface, and airborne programs to standardize commercial off-the-shelf hardware and architectures for the AN/UYQ-70(V)—the Navy’s newest generation of display and processor systems for use with combat systems. The team looked at standard processors, graphics, network interfaces, storage devices, and advanced operating systems. The solution, a flexible, open-ended computer architecture standard used in commercial, industrial, and military applications worldwide, will

ensure interoperability within the battle group, compatibility within ship installations, and improved combat system readiness for the fleet.

The team identified and incorporated the design changes needed to satisfactorily complete all qualification testing, while allowing for progressive development and fielding of new warfighting capabilities. Customer involvement and a rigorous development and test process ensured the delivery of a robust, well-received set of products. The team’s solution increased sys-

tem performance 5-to-1 over legacy products. By using a standard processor architecture to upgrade aging, obsolete, and high-maintenance equipment, the team reduced the total ownership cost of all 10 participating programs, resulting in an estimated recurring cost avoidance of \$10 million over 2 years.

*Team members: Evangelos Karagiorgis, Navy; Diane Jones, Navy; Elaine Chandler, Navy; Art Peterson, Navy; Stephen Froelich, Lockheed Martin.*

## Excellent Work Results in a D

James Byrd, Air Force, led the effort to develop revision D to MIL-STD-1760, which provides for interoperability of weapons across a variety of aircraft. The revision addressed issues resulting from rapidly changing aircraft technology. He also updated MIL-HDBK-1760, which provides background information to facilitate implementation of the standard. Publication involved extensive negotiation and

coordination among the military services, Society of Automotive Engineers, aerospace contractors, the British Ministry of Defense, and NATO.

Thanks to MIL-STD-1760D, new air-to-ground stores use the same connector and signal set and most of the same aircraft software, lowering costs and improving interoperability through a standard weapon electrical interface. The first generation of

smart weapons used unique interfaces and, therefore, required extensive aircraft design changes for compatibility. The Air Force expects to spend approximately \$2 billion over the next 10 years on weapon integration. Availability of this standard, with the consensus support of the three services and industry, will substantially reduce costs and increase capabilities.



# The Defense Standardization Program

## Purpose

We champion standardization throughout the Department of Defense to reduce costs and improve operational effectiveness.

## Mission

We identify, influence, develop, manage, and provide access to standardization processes, products, and services for warfighters, the acquisition community, and the logistics community to promote interoperability, reduce total ownership cost, and sustain readiness.

## Vision

The Defense Standardization Program is a comprehensive, integrated standardization program linking Department of Defense acquisition, operational, sustainment, and related military and civil communities. It is universally recognized for advancing the Department of Defense's Joint Vision 2020 and acquisition goals.

**"Standardization is about finding common solutions for common problems and sharing them across programs. It can be a great challenge."**

**Gregory E. Saunders**  
Director, Defense Standardization Program



**2003 Defense Standardization Program Achievement Awards**  
presented by

**Mr. Louis Kratz**

**Assistant Deputy Under Secretary of Defense for Logistics Plans and Programs**