



ACQUISITION,  
TECHNOLOGY  
AND LOGISTICS

## THE UNDER SECRETARY OF DEFENSE

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WASHINGTON, DC 20301-3010

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MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (ACQUISITION,  
LOGISTICS AND TECHNOLOGY)  
ASSISTANT SECRETARY OF THE NAVY (RESEARCH,  
DEVELOPMENT AND ACQUISITION)  
ASSISTANT SECRETARY OF THE AIR FORCE  
(ACQUISITION)

SUBJECT: DoD Policy for Automatic Test Systems

This memorandum establishes policy for Automatic Test Systems. Background information is provided in the attachment.

To minimize the life cycle cost of providing automatic test systems for weapon systems support at DoD field, depot, and manufacturing operations, and to promote joint service automatic test systems interoperability, Program Managers shall use approved DoD ATS Families as the preferred choice to satisfy automatic testing support requirements. Commercial-off-the-Shelf (COTS) solutions that comply with the DoD ATS Technical Architecture should only be used if the Milestone Decision Authority concurs that a DoD ATS Family will not satisfy the requirement. Automatic Test System selection shall be based on a cost and benefit analysis over the system life cycle.

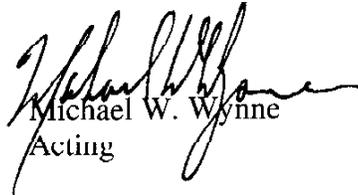
This policy will be included in DoD Instruction 5000.2 (Operation of the Defense Acquisition System) when it is updated in the near future. The Service Acquisition Executives will jointly agree on processes and procedures to implement this policy.

Designated DoD ATS Families are listed in the attachment.

The ATS Executive Agent role previously assigned to the Navy is hereby cancelled. An ATS Management Board (AMB) led by Navy and comprised of the each Service's designated lead ATS offices will coordinate Service ATS matters. The AMB will develop a Joint Memorandum of Agreement for signature by the Service Acquisition Executives to detail the processes and procedures that the Services will follow in satisfying automatic test systems requirements.



The guidance in this memorandum is effective until incorporation into DoD Instruction 5000.2.



Michael W. Wynne  
Acting

Attachment  
As stated

## **DoD Automatic Test Systems Background**

### **Background**

Automatic testing in the DoD from the 1960s to the early 1990s was characterized by stovepipe systems designed to support a specific weapon system, although there were a few exceptions where one tester supported two or three weapons systems. In 1976, Secretary of the Navy Marcy issued a report which highlighted systemic problems in automatic testing and served to focus the development of solutions for the subsequent 20 years. In the early 1990s, numerous DoD Inspector General audits pointed out a need for acquisition policy and oversight at both OSD and Service levels. DoD spent \$50 billion on automatic test systems acquisition and support between 1980 and 1992.

Congressional language in the FY93 Conference Report directed that “Comprehensive and uniform DoD-wide policy and guidance to the Acquisition and Management of Maintenance and Diagnostic ATE be developed and implemented and OSD oversight responsibility be established.”

In November 1992, OASD-PR/WSIG published “DoD Automatic Test System (ATS) Investment Strategy Study: Summary Report” which had been coordinated by the DoD ATS Executive Steering Group, made up of Flag/SES members from the three major Services (Air Force SAF/AQK, Army AMC-TMDE , Navy CNO and NAVAIR) and OSD (WSIG, PA&E, and LOG/MP), who concurred with the new DoD ATS investment strategy and follow-on actions as documented in the report. The report recommended that DoD components should meet their needs for automatic test systems by selecting from designated standard ATS families, and that a funded DoD-wide R&D program should be established immediately to provide resources for ongoing modernization of designated ATS families and to rapidly converge the designated ATS families towards common hardware and software standards at critical ATS interfaces. It stated that this program should include work on the technologies for next generation families.

The FY 94 Appropriations Bill recommended that the Secretary of Defense direct an acquisition policy requiring (1) DoD ATS families for weapon system/equipment testing needs, as outlined in the Automatic Test Systems Investment Strategy Report, (2) OSD establish a formal DoD implementation mechanism with sufficient authority, staffing, funding to ensure strategy compliance, and (3) review all ATS (ATE) acquisitions underway and currently planned for weapon system programs and for depot acquisitions (especially those of the Air Force), (4) determine where the DoD ATS families should be applied, and (5) direct changes as needed.

In January 1994, the Institute for Defense Analyses published IDA Paper P-2917, “Investment Strategy for DoD Automatic Test Systems”. This paper reported the results of an investigation into investment strategies for DoD automatic test systems. The study was chartered by the Assistant Secretary of Defense for Production and Logistics, and was conducted by a DoD and IDA team under the guidance of an Office of Secretary of Defense/Joint Service Executive Steering Group. The paper documented the results, methodology, and conclusions of the detailed technical analyses conducted in conjunction with this effort. Fifteen weapon systems were selected as representative of Defense-wide programs for in-depth ATS data collection and analysis. Selected ATS were evaluated for technical capabilities and their ability to meet multiple weapon system applications. The resulting data provided a baseline for characterizing Defense ATS acquisition costs and focusing investments. Future benefits of an improved ATS investment strategy were compared with present ATS acquisition approaches used by the Services. The study concluded that Defense-wide use of standard ATS families provides the best approach to meet automatic testing needs at the lowest possible cost.

### **Initial ATS Policy and Implementation**

As a result of the foregoing activities and studies, on 29 April 1994 OSD released a policy letter on ATS acquisitions which stated that DoD Components shall satisfy all acquisition needs for ATE hardware and software by using designated ATS families. The letter further designated the Army’s Integrated Family of Test Equipment (IFTE) and the Navy’s Consolidated Automated Support System (CASS) as the initial DoD ATS families, and specified that commercial off-the-shelf (COTS) testers and components are permitted for use at Depot and Factory levels of maintenance. The letter appointed the Navy as the DoD Executive Agent for ATS and requested a coordinated Executive Agent Charter for issuance as a DoD Directive, recommended organizational and funding adjustments to implement this policy, and proposed acquisition changes to be incorporated in DoD Directive 5000.2. This policy letter was coordinated with Assistant Secretary of the Army for Research, Development and Acquisition (ASA(RD&A)); USAF, Code SAF(AQ); Under Secretary of Defense for Acquisition and Research (USD(AR)); Director, Department of Research and Engineering (DDR&E); and DoD, Codes C, DIR/TS, AP&PI, and LOG/MP.

On 10 June 1994, the Assistant Secretary of the Navy for Research, Development and Acquisition (ASN(RD&A)) issued a letter in which ASN(RDA) undertook the assignment as ATS EA and accepted the following responsibilities: 1) definition and management of DoD ATS standards; 2) guiding ATS family product engineering; 3) establishment of ATS R&D requirements; 4) review of ATS specifications and procurements; 5) maintenance of a waiver process for OUSD(A&T); and 6) service as ATS Lead Standardization Activity. ASN(RDA) appointed the Naval Air Systems

Command, Aviation Support Equipment Program Office (PMA-260) as Director of the Executive Agent Office.

The ATS EAO established a Joint Service O-6 level ATS Management Board (AMB) comprised of each Component's ATS leadership office as well as several Joint Service Integrated Product Teams. The AMB has met at least semi-annually since formation in 1994. The Joint IPTs have defined an ATS Architecture Framework (published in the DoD Joint Technical Architecture), jointly developed testing technologies for implementation in DoD automatic testers, and published numerous handbooks and guides to assist DoD project managers.

ATS policy was formally published in DoD 5000.2-R of 15 March 1996.

### **Joint Memorandum of Agreement**

In 1997, the Service Acquisition Executives agreed via a Joint Memorandum of Agreement to procedures and processes that would be followed to implement DoD ATS policy. These procedures, along with an accompanying Cost Benefit Analysis model, were published in the DoD ATS Selection Process Guide.

### **Recent ATS Policy**

The 5 April 2002 version of DoD 5000.2-R contained explicit ATS policy which specified that:

“The PM shall use DoD automatic test system (ATS) families or COTS components that meet defined ATS capabilities to meet all acquisition needs for automatic test equipment hardware and software. Critical hardware and software elements shall define ATS capabilities. The PM shall consider diagnostic, prognostic, system health management, and automatic identification technologies. The PM shall base ATS selection on a cost and benefit analysis over the complete system life cycle. Consistent with the above policy, the PM shall minimize the introduction of unique types of ATS into the DoD field, depot, and manufacturing operations.”

When OSD downsized the 5000-series instructions in May 2003, the ATS policy statement was removed. It will be re-published in DoD Instruction 4000 (Defense Logistics System).

**GAO Audit Response**

As a result of recommendations made by the General Accounting Office in audit GAO-03-451 “Military Readiness: DoD Needs To Better Manage Automatic Test Equipment Modernization”, OSD reconsidered the assignment of an Executive Agent per DoDI 5101.1. A Joint Service ATS EA Assessment Team was formed to determine alternatives for satisfying the requirement and make recommendations. As a result of the Team’s findings, OSD determined that the ATS Management Board is the more appropriate organizational structure to accomplish DoD’s ATS-related goals and objectives.

To implement the new organizational structure and define process and procedures to be used for ATS acquisition in DoD, the ATS Management Board will develop a Joint Memorandum of Agreement for signature by the Service Acquisition Executives.

## **Designated DoD ATS Families**

Consolidated Automated Support System (CASS)

Integrated Family of Test Equipment (IFTE)

Marine Corps Automatic Test System (MCATES)

Joint Service Electronic Combat Systems Tester (JSECST)