

DEPARTMENT OF DEFENSE

Developmental Test and Evaluation and Systems Engineering

FY10 Annual Report



MARCH 2011

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Preparation of this study/report cost the Department of Defense a total of approximately \$146,237 for the 2011 Fiscal Year.

Generated on 2011 Mar23 1000 RefID: E-B453CB5
WHS Report Control Symbol DD-AT&L(A)2258

Department of Defense Developmental Test and Evaluation and Systems Engineering FY10 Annual Report. Washington, DC: Offices of the Deputy Assistant Secretary of Defense for Developmental Test and Evaluation and Deputy Assistant Secretary of Defense for Systems Engineering, 2011.

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EXECUTIVE SUMMARY

The Deputy Assistant Secretary of Defense for Developmental Test and Evaluation (DASD(DT&E)) and the Deputy Assistant Secretary of Defense for Systems Engineering (DASD(SE)) are pleased to submit the second edition of this report in response to 10 U.S.C. 139b. This report addresses activities relating to the Major Defense Acquisition Programs (MDAPs) including:

- A discussion of the extent to which the MDAPs are fulfilling the objectives of their systems engineering (SE) plans and developmental test and evaluation (DT&E) plans.
- A discussion of the waivers of and deviations from requirements in Systems Engineering Plans (SEPs), Test and Evaluation Master Plans (TEMPs), and other testing requirements that occurred during the preceding year with respect to such programs; any concerns raised by such waivers or deviations; and the actions that have been taken or are planned to be taken to address such concerns.
- An assessment of the organization and capabilities of the Department of Defense (DoD) for SE, development planning (DP), and DT&E with respect to such programs.
- Any comments on such report that the Secretary of Defense considers appropriate.

This report includes descriptions of DASD(DT&E) and DASD(SE) activities and initiatives, assessments of the Military Departments' organizations and capabilities, and a listing of engagements with major programs that have reached a significant milestone or programs that have conducted considerable DT&E and/or SE activity in fiscal year 2010 (FY10). In addition to the Military Department assessments, the DASD(DT&E) has also included an organizational and capabilities assessment of three Components with acquisition responsibility: the Business Transformation Agency (BTA), Defense Information Systems Agency (DISA), and Missile Defense Agency (MDA).

SYSTEMS ENGINEERING

The DASD(SE) pursued a number of initiatives in the areas of policy, guidance, program oversight, and workforce development in FY10, focused on increasing the SE capability and capacity of the Department. DASD(SE) prepared Department-wide USD(AT&L) policy on Development Planning (DP) and proposed new, explicit, life cycle-focused reliability policy. In addition, DASD(SE) revised a number of SE guidance documents this fiscal year, including a significant streamlining of the Systems Engineering Plan (SEP) guidance into an annotated SEP outline to make the document more useful to programs.

DASD(SE) developed a tailorable set of program measures in FY10 to monitor the cost, schedule and performance of MDAPs, as well as a framework to monitor system maturation throughout the acquisition lifecycle. In the area of workforce development, DASD(SE) sponsored Defense Acquisition University (DAU) course development and revisions and a Human Capital Initiatives (HCI) led competency survey of the entire Systems Planning, Research, Development, and Engineering–SE and Program Systems Engineer (SPRDE-SE/PSE) workforce, led the PSE component of the Key Leader Professional Development program, and continued focus on education and training initiatives. Included here is the latest workforce data for each Military Department and the DASD(SE) for the total number of civilian and military acquisition-coded personnel in the SPRDE-SE/PSE career fields, the planned growth, the FY15 planned end-state, the FY10 total number of contractor positions in-sourced to the SPRDE-SE/PSE career field, and the FY10 total number of SPRDE-SE/PSE new hires.

As part of the DASD(SE) Component Assessments, this report identifies evidence of progress made by each Military Department in FY10 in the form of policy and guidance, additional resources, training, tools, and reorganization to enhance the SE and DP capabilities of their respective organizations. These self-assessments demonstrate a commitment by each Military Department to strengthening its capabilities within these critical disciplines in FY10 and illustrate several common focus areas for improvement in FY11 across the Department, including increasing emphasis on reliability engineering, strengthening the

acquisition workforce, institutionalizing policies and processes for DP, and reinforcing interoperability and system-of-systems engineering (SoSE). Despite the progress made, the DASD(SE) continues to identify systemic issues during technical reviews related to adequate Program Management Office (PMO) staffing and appropriate personnel assignments to support execution of SE on MDAPs and MAIS programs. The Military Departments continue to struggle to identify lead or chief systems engineers and other related supporting technical staff members across programs. The DASD(SE) plans to work more closely with Component programs and Program Executive Officers (PEOs) to ensure that the importance of the SE contribution to acquisition success is understood and resourced.

In FY10, the DASD(SE) provided SE technical oversight, guidance, and assessments through continuous program engagements and focused independent reviews of major programs. Engagements during Systems Engineering Technical Reviews (SETRs) and SE WIPTs provided technical insight into program performance and health. Focused reviews such as Program Support Reviews (PSRs) used a rigorous and detailed assessment tool called the Defense Acquisition Program Support (DAPS) Methodology to independently assess program health. Typically, all reviews are customer focused to help shape a program's technical and management processes, ensure positive outcomes, and increase the probability of program success. Table 8 of this report lists the major program engagements conducted and most recent SEPs approved by DASD(SE) in support of MDAPs and MAIS programs in FY10.

DEVELOPMENTAL TEST & EVALUATION

For FY10, Components were required to provide self-assessment reports to the DASD(DT&E) based on responsibility for Major Defense Acquisition Programs (MDAPs) and programs on the OSD Test and Evaluation (T&E) Oversight List. Components provided updates to their FY09 reports regarding T&E involvement in early acquisition activities, T&E planning and strategic execution, T&E execution, and T&E personnel. In general, changes from FY09 through FY10 were minimal. The Components reported improved early acquisition activities, continued to use Section 852 funding, were impacted by base realignment and closure (BRAC) moves, and reported an increase in Defense Acquisition Workforce Improvement Act (DAWIA) T&E-coded positions.

In addition, the DASD(DT&E) requested information on the cost of doing business and also requested information on organizational structures such as a Responsible Test Organization (RTO). The DASD(DT&E) is continuing to review the costs that acquisition programs incur during the use of and investment in DT&E capabilities and in developing evaluation tools. The DASD(DT&E) is investigating an efficient way to determine the adequacy of the Test and Evaluation Strategy (TES) and Test and Evaluation Master Plan (TEMP) resources and costs associated with DT&E activities for both contractor and Government DT&E to ensure that the Government is getting best value.

Components reported improved involvement in early acquisition activities such as review of requirements and requests for proposals. This early involvement is expected to improve through implementation of T&E Key Leadership Positions (KLPs) for all MDAPs and Major Automated Information Systems (MAIS) programs, in accordance with the USD(AT&L) memorandum dated August 25, 2010. Implementation of the KLP is a means to address the issues regarding nongovernment personnel being incorrectly perceived as acting as the lead for T&E.

Components reported increases in DAWIA certifications across the T&E workforce, with 93 percent of the workforce either adequately certified or within the 24-month window for certification. However, the DASD(DT&E) remains concerned that some people conducting DT&E remain outside this DAWIA certified workforce which therefore excludes them from being accounted for in this report.

The DASD(DT&E) is reporting on 38 programs that have reached a significant milestone or had a significant test event(s).

DASD(SE) FY10 ACTIVITIES

The DASD(SE) pursued a number of initiatives in the areas of policy, guidance, program oversight, and workforce development in FY10, focused on increasing the SE capability and capacity of the Department.

POLICY

The DASD(SE) continued to develop and promulgate SE and related specialty engineering policy and guidance focused on improving the application of SE principles and best practices in the Department's acquisition programs in FY10.

In September 2010, the USD(AT&L) issued a Department-wide Development Planning (DP) policy via DTM 10-017. This policy, prepared by the DASD(SE), established elemental DP principles by defining evidence of technical analysis as a foundation for the Materiel Development Decision (MDD). It also established a cooperative relationship with the Director, Cost Assessment and Program Evaluation, for DASD(SE) technical involvement in Analysis of Alternatives (AoA) activities.

The DASD(SE), working in coordination with DASD(DT&E), the Military Departments, and other stakeholders from across the Department, has proposed new, explicit, life cycle-focused reliability policy that has completed final coordination and is nearing signature. It will be implemented with supporting guidance documents that are expected in 2011.

GUIDANCE

The DASD(SE) revised a number of SE guidance documents this fiscal year in response to statute and policy changes. These included revisions to the DAG Chapter 4 (Systems Engineering) and the DoD Risk Management Guide. New technical guidance that was released in 2010 included detailed "how-to" guidance to acquisition programs for implementing the Preliminary Design Review (PDR) Report and Post-Critical Design Review (CDR) Report and a Technical Data Definition Matrix that will help inform acquisition programs in preparing their Data Management Strategy. The DASD(SE) also released new technical guides and a number of technical papers on SE for system of systems (SoS). The DASD(SE) began work on two new guides to be completed in 2011, a DoD Technical Review Guide and a Systems Technical Requirements Analysis Guide.

In a major effort to improve technical effectiveness and operational efficiency, the DASD(SE) undertook a significant streamlining of the SEP to reduce duplication with other milestone document submissions. This revised SEP replaces exposition with a number of detailed tables listing the technical criteria, key performance metrics, risk management processes, and technical review mechanisms. This technical information will be used by the program manager (PM), the chief engineer, and the Government and contractor engineering teams in performing the critical SE tasks required to deliver technical, conforming products to the Warfighter on cost and on schedule. This revision to the SEP will make it more useful, more technically complete, and more pertinent. The ultimate goal of this revision is to make the SEP a more "living" document – one that is more likely to be used regularly in the execution of programs rather than one generated only to satisfy a regulatory and statutory requirement. In FY11, the DASD(SE) will oversee initial applications of the revised SEP outline as "expected business practice" and will adjust the format and content based on feedback from implementation on upcoming programs and new statute and policy.

The DASD(SE) reviews and approves SEPs for MDAPs and Major Automated Information System (MAIS) programs. To achieve effective engagement with programs, the DASD(SE) participates in

Program Management Office (PMO) organized SE Integrated Product Teams (IPTs) to help shape technical planning and its documentation in the SEP. Table 1 summarizes these SEP-related activities.

Table 1. FY10 SEP Guidance Activities

		SE IPT Reviews	Draft SEPs Reviewed	Final SEPs Reviewed	SEPs Approved*
MDAP	ACAT ID/ACAT IC	58	20	14	16
MAIS	ACAT IAM	15	3	4	5
Other Programs	Special Interest	1	1	1	0
	Total	74	24	19	21

* NOTE: Three SEPs from FY09 were approved in FY10.

In FY10, no programs requested waivers or deviations from requirements in the SEP.

PERFORMANCE MEASURES AND METRICS

In support of the WSARA and improving program oversight, DASD(SE) developed a tailorable set of program measures in FY10 to monitor the cost, schedule and performance of Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) programs as well as a framework to monitor system maturation throughout the acquisition lifecycle.

The SEP Preparation Guide was updated in 2010 (currently in the approval process) to require programs to identify a minimum set of technical performance measures (TPMs) as well as intermediate goals to facilitate an assessment of “execution to plan” in order to inform risk mitigation activities. Our metrics approach not only captures the deviation from the plan but the reason for the deviation in order to inform benchmarking as well as future systems engineering policies and guidance. Due to issues seen during Program Support Reviews (PSRs) related to the cost, schedule and performance of MDAP programs, our initial metrics effort will assess the “execution to plan” related to costs and schedules; staffing; reliability, availability and maintainability; software; integration; performance; and manufacturing.

DASD(SE) will capture the current status of metrics during our touch-points with programs which include PSRs, System Engineering Working Integrated Product Team meetings, technical reviews, and acquisition milestones. We will provide assessments of each program’s ability to “execute to plan”, as well as recommendations to mitigate risks related to deviations from the plan in our products (e.g., PSRs, Overarching Integrated Product Team briefing, Preliminary/Critical Design Review assessments, Defense Acquisition Executive Summary, etc.) for decision-makers.

WORKFORCE

In FY10, the DASD(SE) provided advocacy, oversight, and guidance to elements of the acquisition workforce responsible for SE, DP, and life cycle management and sustainability functions in his role as Functional Leader for the Systems Planning, Research, Development, and Engineering–SE and Program Systems Engineer (SPRDE-SE/PSE) and the Production, Quality, and Manufacturing (PQM) career fields. The DASD(SE) strives to ensure that the Department’s engineering workforce is trained and certified to meet the needs of complex SE efforts. As part of this activity, the DASD(SE) provides oversight of the DAWIA workforce certification standards for education, training, and experience, ensuring that they are relevant to and consistent with current policy and guidance, and provides direction to DAU for SE course content. To this end, the DASD(SE) sponsored the following DAU course development and revisions in FY10, primarily responding to changes in DoDI 5000.02 and 10 U.S.C. 139b:

- Development of CLE 062, Human Systems Integration (HSI).
- Development of CLE 066, SE for SoS.
- Revision of CLE 003, Technical Reviews, and CLE 036, Engineering Change Proposals for Engineers.
- Revision of SYS 101, Fundamentals of SPRDE; SYS 202/203, Intermediate SPRDE, Parts I and II; and SYS 302, Technical Leadership in SE, including HSI and safety content insertions.
- Revision of PQM 101, PQM Fundamentals; PQM 201A/B, Intermediate PQM, Parts A and B; and PQM 301, Advanced PQM.

The DASD(SE) is currently sponsoring an HCI-led competency survey of the entire SPRDE-SE/PSE workforce. The results will provide an assessment of its current health; help identify any skills gaps that may exist between the workforce's current capabilities and those needed to meet future mission requirements; and shape future workforce training, planning, and development. Initial results from this assessment are expected in mid-2011, with final results available in late-2011.

The DASD(SE) also led several workforce development initiatives intended to address the growing challenges to the Department and industry of attracting and retaining the most qualified engineering leaders. These initiatives included supporting the Assistant Secretary of Defense for Research and Engineering (ASD(R&E)) science, technology, engineering, and mathematics (STEM) strategic and implementation plans; leading the PSE component of the Key Leader Professional Development program; working with defense industry and engineering professional organizations on education and training initiatives; and conducting national and international workshops that explore lessons learned in SE education, training, and development.

Table 2 shows the latest workforce data for each Military Department and the DASD(SE) for the total number of civilian and military acquisition-coded personnel in the SPRDE-SE/PSE career fields for FY05 through FY10, the planned growth of the personnel from FY11 through FY15, the FY15 planned end-state, the FY10 total number of contractor positions in-sourced to the SPRDE-SE/PSE career fields, and the FY10 total number of SPRDE-SE/PSE new hires. The total number of SPRDE-SE/PSE personnel is projected to be more than 41,000 by the end of FY15, a growth of about 3,500 personnel since FY10.

**Table 2. SE Workforce Positions in the DoD as Reported by Service SEs and DASD(SE)
as of January 11, 2011******

Total Number of Civilian and Military Acquisition-Coded SPRDE-SE/PSE Personnel					
Fiscal Year	Year Ending	Department of Army	Department of Navy****	Department of Air Force	DASD(SE)
Data Current As Of					
FY05	30-Sep-05	11,138	16,745	5,561	13
FY06	30-Sep-06	11,964	16,670	5,536	14
FY07	30-Sep-07	11,050	16,785	6,162	13
FY08	30-Sep-08	10,769	16,495	6,430	14
FY09	30-Sep-09	10,208	18,086	7,201	13
FY10	30-Sep-10	10,647	19,279	7,625	14
Planned Growth in Civilian and Military Acquisition-Coded SPRDE-SE/PSE					
Fiscal Year	Year Ending	Department of Army	Department of Navy	Department of Air Force	DASD(SE)
FY11	30-Sep-11	301*	393**	990	9
FY12	30-Sep-12	255*	146**	150	0
FY13	30-Sep-13	208*	225**	86	0
FY14	30-Sep-14	220*	88**	170	0
FY15	30-Sep-15	125*	164**	(4)	0
Planned End-State Total Number of Civilian and Military Acquisition-Coded SPRDE-SE/PSE					
Fiscal Year	Year Ending	Department of Army	Department of Navy	Department of Air Force	DASD(SE)
FY15	30-Sep-15	11,756***	20,314***	9,017***	23***
Total Number of Contractor Positions In-sourced to SPRDE-SE/PSE Positions					
Fiscal Year	Year Ending	Department of Army	Department of Navy	Department of Air Force	DASD(SE)
FY10	30-Sep-10	51	151	339	3
Total Number of SPRDE-SE/PSE New Hires					
Fiscal Year	Year Ending	Department of Army	Department of Navy	Department of Air Force	DASD(SE)
FY10	30-Sep-10	439	1,613	741	5

* Army growth projections are limited to Section 852 new hires and in-sourced conversions only.

** Navy growth includes Science and Technology (S&T) personnel. Department of the Navy (DON) projections did not break out SPRDE between SE/PSE and S&T. S&T comprises less than 2 percent of DON SPRDE workforce.

*** Projected FY15 end-state assigned personnel based on FY10 end-state and planned growth from FY11 to FY15.

****Navy personnel data current as of February 3, 2011

DASD(DT&E) FY10 ACTIVITIES

The Office of the DASD(DT&E) has drafted a Department of Defense Instruction (DoDI) (to be completed 3rd quarter FY11) to define its responsibilities and relationships within DoD. The DASD(DT&E) continues to evolve the organizational staffing plan and is growing the Government workforce. DASD(DT&E) activities lie in several areas: policy and guidance, performance measures and metrics, test and evaluation (T&E) acquisition workforce, and program engagement.

POLICY AND GUIDANCE

New policy and guidance to emerge from the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)) with input from the DASD(DT&E) include Directive-Type Memorandum (DTM) 09-027, Implementation of the Weapon Systems Acquisition Reform Act (WSARA) of 2009; Measures and Metrics White Paper; and inputs to the Reliability DTM. The USD(AT&L) signed the WSARA DTM in December 2009 and set DoD policy outlining the responsibilities from the WSARA legislation. The DASD(DT&E) chaired an effort to develop and track measurable performance criteria of the DT&E plans within TEMPs and Test and Evaluation Strategies (TESs) and the approach to measure performance objectives related to DT&E within SEPs. The DASD(DT&E) participated in reliability working groups directed by the USD(AT&L). The DASD(DT&E) reviewed final recommendations from these groups for DT&E equities. The Reliability DTM is significant to the DASD(DT&E) because it will require the TEMP and TES to address a reliability growth program in the evaluation framework.

Future policy updates, with a T&E focus, will include information technology (IT) acquisition and information assurance (IA). The DASD(DT&E) participates in an effort to streamline, develop, and implement IT acquisition initiatives to support the FY10 National Defense Authorization Act (NDAA) and Section 804 (NDAA 2003). All new policy and policy updates are reviewed for future documentation in updates to DoDI 5000.02 (Operation of the Defense Acquisition System), the Defense Acquisition Guidebook (DAG), and Defense Acquisition University (DAU) T&E curriculum.

The DASD(DT&E) chairs or participates in many standing policy and guidance working groups, such as the T&E Working Group, and other USD(AT&L)-led groups that form as new issues arise. This year, the DASD(DT&E) participated in working groups regarding intelligence and the acquisition process. The working group results identified a need for engagement between the intelligence community and T&E community to ensure that DT&E is testing against the current threat level for any given program. The DASD(DT&E) also co-hosted the Software T&E Workshop with the National Defense Industry Association to address such challenges as how much software T&E is needed, end-to-end software testing, and changing paradigms. In addition, the DASD(DT&E) is creating a working group on scientific T&E design. The DASD(DT&E) is working with the Director of Operational Test and Evaluation (DOT&E) to increase the use of scientific and statistically based T&E methodology and tools by the DoD acquisition community.

PERFORMANCE MEASURES AND METRICS

The DASD(DT&E) is developing measurable performance criteria and the associated metrics to gain insight into DT&E performance. This effort will identify a minimal set of essential data required to perform oversight for those programs on the Office of the Secretary of Defense (OSD) T&E Oversight List. Performance criteria were defined using a best practice, issue-driven approach to provide credible information and objective insight. The performance criteria will enable better acquisition decisions, resulting in improved Warfighter capabilities and adherence to schedule and cost constraints. The DASD(DT&E) has identified an initial set of performance criteria for evaluating individual program

DT&E performance and for evaluating the overall performance of DT&E functions across DoD, including DASD(DT&E) performance.

The initial set includes six performance criteria:

1. Technical performance capabilities are functionally traceable to Warfighter capabilities.
2. Key performance parameters (KPPs) are evaluated for mission capabilities (testable, measurable, and quantifiable).
3. Evaluation framework is established for KPPs and critical technical parameters (CTPs).
4. Technical progress is demonstrated.
5. System maturity is demonstrated.
6. Safety of the system is demonstrated.

These criteria are focused on entrance and exit criteria, technical alignment of program performance capabilities, and their traceability to KPPs and CTPs. The first three criteria hone in on early acquisition life cycle activities to ensure that sound DT&E planning is performed from the outset. The remaining three performance criteria measure program results during the Engineering and Manufacturing Development phase and provide an objective foundation to assess the program's subsequent DT&E performance as it approaches Milestone (MS) C and the Assessment of Operational Test Readiness (AOTR).

In addition, the set also includes the following eight performance criteria for assessing overall DT&E focus on the performance of DT&E across DoD (e.g., assessing DT&E performance across a portfolio of programs) and the performance of the DASD(DT&E).

1. TEMP review and planning.
2. DT&E resource management.
3. DT&E phase schedule performance.
4. Improvement of AOTR credibility.
5. Adherence to T&E policy and process.
6. T&E program effectiveness and efficiency.
7. T&E workforce certification status.
8. Identification of T&E Key Leadership Positions (KLPs) and qualifications.

The DASD(DT&E) phased approach involves validating the performance criteria. In 2011, the DASD(DT&E) will conduct a pilot program activity to:

- Ensure that the proposed performance criteria, metrics, and measures provide the desired insight to support DT&E decisions.
- Ensure data availability.
- Improve metric and data definitions.
- Provide insight into necessary resources (e.g., effort and tools).

The objective in standardizing criteria and metrics is to provide decision makers and stakeholders with a common and robust evaluation methodology to present data and weigh risk to support decisions. This approach will promote more streamlined and agile oversight efforts, enabling better decisions based on the right data.

After piloting is complete, the performance criteria will be revised based on data availability, level of effort required to produce the performance criteria, and their overall value. The performance criteria and associated metrics will then be integrated into existing DASD(DT&E) program interactions. Initially, the DASD(DT&E) will focus on gaining a quantitative baseline for each program on the OSD T&E Oversight List for developmental test (DT). As data are accumulated, DASD(DT&E) analysis capabilities will grow incrementally in sophistication.

T&E ACQUISITION WORKFORCE

The DASD(DT&E) is the Functional Leader of the T&E acquisition workforce. The T&E acquisition workforce is defined by the Defense Acquisition Workforce Improvement Act (DAWIA). The DASD(DT&E) is identifying T&E course updates to DAU. The T&E workforce is starting a competency assessment with the Office of the Director of Human Capital Initiatives (HCI). The Center for Naval Analysis is conducting this assessment using subject matter experts identified by the Components. This assessment will identify the gaps in skills, education, and training of the T&E workforce and will be used to update the curriculum. In addition, the DASD(DT&E) will use the information gathered from the demographics portion of the assessment to assist the Components in developing short- and long-term strategies for the workforce. The DASD(DT&E) has updated the Modeling and Simulation for T&E Continuous Learning Module, which is in the final stages of approval. The DASD(DT&E) is currently conducting a study on educational requirements and opportunities across the Services to fill the gaps in education and training for the T&E workforce. In addition, the DASD(DT&E) is working to ensure that all appropriate Government positions are DAWIA T&E coded and at the required level of certification.

Due to increasing complexity and the DASD(DT&E) efficiency initiative to develop more scientific and statistically based T&E design methodologies, the DASD(DT&E) is investigating a change in the education requirement for all new hires in the T&E acquisition workforce. The DASD(DT&E) is considering modifying the education certification criterion to be on par with the SE requirement. The new criterion may include a technical or science degree.

PROGRAM ENGAGEMENT

The DASD(DT&E) provides an impartial evaluation of a program through T&E expertise to address key issues and risks needing design resolution before production. The primary T&E product at technical reviews is credible knowledge of a system, a component, or technology maturity as well as the ability to provide the end user with a characterization of a system's capabilities and limitations. Our program insight comes from early and continuous engagement with the programs on oversight. In FY10, the DASD(DT&E) advised 20 Defense Acquisition Boards (DABs), 73 Overarching Integrated Product Teams (OIPs), and 8 Nunn-McCurdy or Nunn-McCurdy-like reviews. The DASD(DT&E) completed and released 5 AOTR reports and approved 33 TEMPs.

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DASD(SE) FY10 COMPONENT ASSESSMENTS

The DASD(SE) requested the Secretaries of the Army, Navy, and Air Force submit an annual SE self-assessment as required by 10 U.S.C 139b, with a focus on the following:

- An update of DP and SE initiatives undertaken since October 1, 2009, against the strengths and weaknesses documented in last year’s report.
- Plans for addressing the SE training needs of new hires, including contractors who have been in-sourced and converted to Government personnel.
- Progress made in response to the Section 804 (NDAA 2003) Software Acquisition Improvement Program.
- Focus areas and plans for improvement in FY11.

Tables 3 through 5 identify evidence of progress made by each Service in FY10 in the form of policy and guidance, additional resources, training, tools, and reorganization to enhance the SE and DP capabilities of their respective organizations. These self-assessments demonstrate a commitment by each Service to strengthening its capabilities within these critical disciplines in FY10 and illustrate several common focus areas for improvement in FY11, including increased emphasis on reliability engineering, strengthening the acquisition workforce, institutionalizing policies and processes for DP, and reinforcing interoperability and system-of-systems engineering (SoSE).

Table 3A. Army Service Self-Assessment – FY10 Highlights

Army FY10 Highlights	
Improve alignment of programs to the Army Network Modernization Strategy	<ul style="list-style-type: none"> • Developed the Army’s Network Modernization Strategy, in final draft coordination, to leverage existing capabilities, integrate emerging capabilities, and align the plans for the objective systems, containing three major components: <ol style="list-style-type: none"> 1. Build network capacity at the tactical level. 2. Implement a standards-based network. 3. Establish a center for network integration. • Developed common operating environments (COEs) to drive development and delivery of future mission command systems. • Assistant Secretary of the Army for Acquisition, Logistics, and Technology (ASA(ALT)) SoSE organization leads the Network BOI Feeder Data Working Group, developed a data repository, and performed an associated analysis to inform Army leadership on the Capability Set 13-14 network needs mapped to programs.
Reinforcing SoS responsibilities across PEOs and PMs	<ul style="list-style-type: none"> • Draft SoS Handbook in development. • Established domain IPTs to work SE processes within portfolios and cross-domain IPTs to work SE processes across portfolios. • Development of integrated architecture tools and data to enable SoS analysis across several dimensions to enable program alignment, program planning, and technology insertion.
Institutionalize development and delivery of capability packages in accordance with the	<ul style="list-style-type: none"> • In FY10, the ASA(ALT) SoSE developed a means to “Organize the SoS Space.” A number of the IPTs have been formed and are operating (Integrated Base Defense (IBD) IPT, Mission Command/COE IPT, NetOps IPT, Basing IPT) and others are being formed (Platform Integration). Additionally, our network modeling, simulation, and analysis activities have helped determine

Army FY10 Highlights	
LandWarNet/Brigade Combat construct	the Capability Set 13-14 bridging strategy.
Establish policies and processes for DP	<ul style="list-style-type: none"> • The Basing IPT was formed explicitly to apply the DP policy guidance in this critical area. The effort is linked to the IBD and NetOps IPTs. A group of personnel from PEO Ground Combat Systems, PEO Combat Support and Combat Service Support, and the Weapons and Software Engineering Center have also been engaged to develop material to coordinate across PEOs in support of execution in compliance with OSD DP guidance.
Improved SE policy, guidance, and processes	<ul style="list-style-type: none"> • The Army actively supports the OSD Reliability Working Group. The Army Reliability Policy (December 6, 2007) has been rewritten and is in staffing for signature. • Training material to support release of the updated policy is in development. • The Army has used the standard SE processes to support Management Decision Packages for some time. The evolution of those processes as part of an SoS approach is an ongoing process. Referenced above is the “Organizing the SoS Space,” which is a maturing construct with many current work efforts (IPTs) that are shaping critical Army initiatives.
Section 804 (NDAA 2003) Software Acquisition Improvement Program	<ul style="list-style-type: none"> • The overarching aspects of this are being done through the COE Implementation Plan in conjunction with the Chief Information Officer/G6, but the Army continues to monitor all Mission Command software development programs’ current performance as part of the Software Blocking program and program planning activities (Planning, Programming, Budgeting, and Execution (PPBE)), and to influence futures planning and execution through the COE initiative. Software certifications are also tracked monthly.
New SE hire training	<ul style="list-style-type: none"> • The Army employs comprehensive Individual Development Plans for all individuals in the Army Acquisition Corps and makes use of numerous training and educational opportunities for our employees (current and new). The Army emphasizes the SPRDE certification through DAU and supports developmental assignments for its employees.

Table 3B. Army Service Self-Assessment – FY11 Focus Areas for Improvement

Army FY11 Focus Areas for Improvement	
Implementation of SoSE	<ul style="list-style-type: none"> ➤ Codify the “Organizing the SoS Space” construct through implementation of additional IPTs and governance structure and leveraging of cross-Army governance via the associated LandWarNet, PPBE (Weapon Systems Reviews), and Army Force Generation process.
Creating efficiencies through the application of focused SE activities	<ul style="list-style-type: none"> ➤ Significant efficiencies are expected to be achieved in the out-years through development and implementation of the six operating environments in the COE Implementation Plan. Specifics are still under development, but many of the operating environments have draft plans completed. IBD IPT and associated initiatives will, at a minimum, better organize the IBD materiel developer mission space. The NetOps IPT will develop concrete plans for development and delivery of NetOps capabilities across the Army network.
Institutionalize development and delivery of capability packages in accordance with the	<ul style="list-style-type: none"> ➤ Institutionalization of the processes and governance is occurring over time. Specifically, the Military Deputy to the ASA(ALT), Principal Deputy, and the Army Acquisition Executive (AAE) are key stakeholders in accomplishing this. The in-stride execution of the IPTs discussed above and the direct coordination and engagement with the PEOs and PEO chief systems

Army FY11 Focus Areas for Improvement	
LandWarNet/Brigade Combat construct	engineers will develop the concept into an executable plan. Once the plan is ready, the AAE will be asked to charter the governance organizations and the associated processes.
Updates to policies, handbooks, and processes for inserting DP initiatives earlier in the program life cycle	➤ ASA(ALT) SoSE has developed a draft SoSE Handbook, expected to be finalized in FY11. The Army supports activities to update Army and OSD policy in open architectures, reliability, DP, etc.

Table 4A. Navy Service Self-Assessment – FY 10 Highlights

Navy FY10 Highlights	
Bolstering SE processes to translate operational requirements into specifications and design	<ul style="list-style-type: none"> • Assistant Secretary of the Navy for Research, Development, and Acquisition Chief Systems Engineer has drafted a Mission-Level SoS Guidebook to assist systems engineers with translating operational requirements for a mission into system specifications to support interoperability of systems performing in Naval missions. The draft document is being reviewed within the Navy and will be posted in FY11. • Naval Air Systems Command (NAVAIR) is in the final phase of development of “RACER”: a process to use commercial SE tools to regain a disciplined requirements development and management process.
Prototyping methodologies handbook	<ul style="list-style-type: none"> • Working Group conducted 40 interviews with PMs and chief engineers. • Draft report under development for delivery in 2Q FY11.
Reinforcing DON Naval SE Career Roadmap, training, and appointment	<ul style="list-style-type: none"> • Systems commands (SYSCOMs), PEOs, and Naval Warfare Centers (NWCs) were restructured within a Competency Aligned Organization/IPT/NWC business model. • Marine Corps SYSCOM continued content development for the common operating single portal for accessing all training and career development information. • NAVAIR provided risk management, engineering change proposals for engineers, Systems Engineering Technical Reviews (SETRs), SEPs, and Technical Project Management training modules (750) to its engineering and science workforce. • Naval Sea Systems Command has an HSI Certificate Program taught by the Naval Postgraduate School (NPS).
Folding in predictive capabilities for mid- to long-term SE workforce projections	<ul style="list-style-type: none"> • The Acquisition Competency Council is working across the SYSCOMs in the nine competency areas (PM, SE, T&E, BFM, logistics, and facilities engineering) to align people with programs Service-wide.
Strengthening STEM K-12, undergraduate, and graduate alignment	<ul style="list-style-type: none"> • Applied Section 852 funds to increase training capacity, address documented certification training shortfalls, and expand training to meet new and evolving training needs throughout the SE Educational Continuum for STEM. • Systems Engineering Stakeholders Group (SESG) conducted a Naval SE “lessons learned” conference to develop education materials to be used in the NPS and U.S. Naval Academy engineering curricula. • NAVAIR graduated its first two cohorts of the Master of Science in SE in

Navy FY10 Highlights	
	<p>partnership with the NPS.</p> <ul style="list-style-type: none"> • NAVAIR established an advanced degree and certificate programs in physics, mathematics, and other technical disciplines, including the Joint Executive SE Management degree program.
Lead system integrator (LSI) legislation implementation	<ul style="list-style-type: none"> • SESG conducted studies of workforce, facilities, and tools to support Government LSI capabilities; performed case studies; and captured lessons learned. • SESG built a decision framework for acquisition strategies and analyses to guide the deployment and execution of LSI direction.
Standardize SE process, policy, standards, and tools across Naval SYSCOMS	<ul style="list-style-type: none"> • SESG developed and deployed a Naval SETR handbook. • Developed tailorable evaluation criteria for SETRs. • NAVAIR is in Phase II of populating its Technical Authority Database to include Airworthiness and Aviation certification and Technology Readiness Assessment processes. • Space and Naval Warfare Systems Command (SPAWAR) Engineering Competency and SPAWAR Systems Center have developed organizational standard processes covering the full range of SE processes in a product's life cycle; SPAWAR Systems Centers are on the path toward Capability Maturity Model Integration Level III maturity in 2012. • NAVSEA developed System Engineering Plan Governance procedure which mandates SEP reviews by interfacing and impacted SMEs including those outside NAVSEA. • NAVSEA promulgated an updated technical authority list which improved alignment of the R&SE competency to support systems engineering, and alignment of the Chief Systems Engineers to programs. • NAVSEA promulgated training on the implementation of NAVSEAINST 5000.9. • Developing Mission and Warfare Systems Specific SETR Guidance for deployment in FY2012. • NAVSEA established an HSI IPT to develop policies, guidance and procedures to assist the Deputy Warrant Officers in the implementation of their HSI responsibilities including addressing HSI Gaps and training guidelines.
Develop guidance and standardize processes for SoSE	<ul style="list-style-type: none"> • SoS Guidebook rewritten from a more SE-centric perspective; Net Ready KPP Guidebook released. • SPAWAR utilizing end-to-end testing capability, linking geographically distant testing labs. • SPAWAR established net-centric and interoperability competency and populated with engineers focused on SoS/platform integration and interoperability.
Section 804 (NDAA 2003) Software Acquisition Improvement Program	<ul style="list-style-type: none"> • Completed a set of evaluation criteria for assessing software maturity that would be used during mandatory SETRs for program acquisition.
SE new hire training	<ul style="list-style-type: none"> • New hires with science and engineering (S&E) degrees, including in-sourced contractors, are informed during new employee orientations and via their management that they have 3 years to complete DAWIA SPRDE Level III certification.

Navy FY10 Highlights	
	<ul style="list-style-type: none"> • SYSCOMs and field activities have local training in their competency areas to train new hires and in-sourced contractors. • Supplementing DAWIA and DAU training, SPAWAR's ongoing development of standard SE processes will be available through the Naval SYSCOM Engineering Resource Center (https://nserc.navy.mil) and incorporated into the competency development models.

Table 4B. Navy Service Self-Assessment – FY11 Focus Areas for Improvement

Navy FY11 Focus Areas for Improvement	
Improve awareness and implementation of HSI practices	➤ Provide HSI related inputs to DAU courses, update contracting language to support HSI, and update the HSI Plan preparation guides.
Support the implementation of open architecture	➤ Produce a PM's open architecture implementation guide to assist PMs with developing systems with open architectures.
Continuous improvement of software engineering practices	➤ Update the Software Process Improvement Initiative Guidebook to reflect latest DoD acquisition policy and best practices.
Support the implementation of prototyping	➤ Issue a Prototyping Guidebook 2Q FY11; capture lessons learned and best practices for software prototyping.
Support the development of a mission focus in SE	➤ Work with the acquisition PMs to provide DoD Architecture Framework products that are integrated from the solution level to the DoD Integrated Enterprise Architecture; FY11 focus for this effort will be unmanned systems.
Improve the interoperability of Naval systems	➤ Contribute to the update of policies such as Chairman of the Joint Chiefs of Staff Instruction 6212.01 to describe how to specify a measurable and testable Net Ready KPP, and DoDI 4630.08 to ensure that the artifacts produced by robust SE are integrated with the interoperability and supportability policies.
Improve Documented Guidance for Systems Engineering Processes	➤ The System Engineering Stakeholder Group is updating the Naval Systems Engineering Guide to reflect current DoD policy, including guidance for developing SEPs, which will document the processes to develop and manage the technical baseline, and the SDS, how operational requirements are translated into specifications and designs.
Standards for Systems Engineering	➤ Participating in Cross Service teams to identify and prioritize the military standards and specifications previously cancelled that need to be re-instated to improve systems engineering rigor at developers.
Systems Safety	<ul style="list-style-type: none"> ➤ Issue updates to System Safety Policy. ➤ Developing a Guidebook for the Principal for Safety. ➤ Collaborate with other Naval Syscoms on common Safety Policy and Guidance, including SETR requirements.

Table 5A. Air Force Service Self-Assessment – FY10 Highlights

Air Force FY10 Highlights	
Reliability, availability, and maintainability	<ul style="list-style-type: none"> • Air Force Guidance Memorandum to Air Force Instruction (AFI) 63-101, published on July 20, 2010, requires PMs to implement a RAM strategy that includes a reliability growth program.

Air Force FY10 Highlights	
Acquisition workforce training	<ul style="list-style-type: none"> • Developed tailored SE-focused courses: <ul style="list-style-type: none"> • SYS209, Introduction to Technology Readiness Assessments • SYS213, Manufacturing Readiness Assessments • SYS105, Introduction to DP
SE and DP resources	<ul style="list-style-type: none"> • Scientist and Engineer Advisory Council (SEAC) is investigating Air Force S&E workforce capability requirements and the mechanisms for fulfilling them. • Air Force Materiel Command/Engineering (AFMC/EN) reviewed the engineering workload at Air Force Nuclear Weapons Center (AFNWC), and command leadership reassessment led to 100-percent funding of the requested engineering manpower in AFNWC/EN.
Independent technical authority	<ul style="list-style-type: none"> • Instituted the role of PEO chief systems engineer, separating technical and acquisition authorities from organize, train, and equip responsibilities in AFI 63-101, Guidance Memo #2, and AFI 63-1201, Guidance Memo.
SE Strategic Plan	<ul style="list-style-type: none"> • Air Force-wide SE Strategic Plan being developed by the Secretary of the Air Force for Acquisition, AFMC, and Space and Missile Systems Center to encompass SE vision and goals; expected release in 2011. • Deputy Assistant Secretary of the Air Force for Science, Technology, and Engineering hosted the first annual Air Force SE Conference with 224 attendees from Air Force and OSD.
Program Support Review (PSR) process	<ul style="list-style-type: none"> • AFI 63-101, Guidance Memo #2, and AFI 63-1201, Guidance Memo #1, directing Air Force PSR process for ACAT I programs. • Air Force PSR Handbook v1.0 in coordination. (https://www.my.af.mil/afknprod/community/views/home.aspx?Filter=26217) • PSR process completed for one program (Small Diameter Bomb II) with nine more identified in the next 12–18 months. • 120-person subject matter expert corps from across AFMC was established to support the PSR process for all MDAPs.
Development Planning (DP)	<ul style="list-style-type: none"> • DP language added to AFI 10-601. DP-related updates to AFI 63-101 and AFI 63-1201 in coordination. • DP Strategic Plan and Governance Charter issued. • DP and Concept Characterization & Technical Description Guides issued. • Air Force Institute of Technology (AFIT) course SYS105, Introduction to DP, developed and piloted; scheduled 11 course offerings in FY11. • Dedicated DP positions in headquarters and product centers will increase from 169 to 230 by end of FY12. • Several Air Force programs conducted DP activities using this new guidance, notably the Advanced Pilot Training System (T-X) and Long Range Standoff.
Science, Technology, Engineering & Math (STEM)	<ul style="list-style-type: none"> • STEM governance structure established at the 3-star level. • Developed STEM strategic plan “Bright Horizons.” • 25 National Research Council STEM workforce study recommendations addressed or underway. • STEM Advisory Council established to address STEM workforce requirements. • High tech Air Force STEM recruiting booth developed for use at events nationwide. Rollout at Feb 10 BEYA Conference in Baltimore; over 200 resumes harvested.
Major command (MAJCOM)-level SE people, policies,	<ul style="list-style-type: none"> • Surveyed AFMC field center SE offices and identified best practices and desired tools; investigation underway to evaluate potential value for standard use across MAJCOMs and Air Force.

Air Force FY10 Highlights	
and practices	<ul style="list-style-type: none"> • AFMC organizational change request formalized: previous wing/group/squadron structure moved to a directorate/division/branch structure for most organizations, giving functional SE additional authority. • Product acquisition centers added 424 SE-related positions (25-percent increase) through Section 852 authority in FY10.
Reinstitute selected standards	<ul style="list-style-type: none"> • Component Working Group established, recommending nine high-priority standards to reinstitute across DoD. • Developing justification on recommended standards for review by the Defense Standardization Council.
Section 804 (NDAA 2003) Software Acquisition Improvement Program	<ul style="list-style-type: none"> • AFIT developed and implemented the Software Professional Development Program, a series of DAWIA-credit continuing education courses to improve the software management and software engineering skills and knowledge of the Air Force software workforce. • Improved software policy in the new AFI 63-1201 (Life Cycle SE) to increase awareness and improve guidance for implementing the 10 software focus areas required by Air Force acquisition policy, implementing the requirements of Section 804 (2003 NDAA). • Taking steps to re-charter the Air Force Software Intensive System Strategic Improvement Program Working Group under the Deputy Assistant Secretary of the Air Force for Science, Technology, and Engineering.
SE new hire training	<ul style="list-style-type: none"> • Supervisors assess new hires' SE competencies and determine training/certification needs locally. • Gaps in training are addressed via commercial or DAU classes as well as specific Air Force-developed courses to train new and existing personnel in key focus areas such as DP and by developing tailored SE-focused courses. • SEAC is evaluating the need for an initial skills training course for SE hires.

Table 5B. Air Force Service Self-Assessment – FY11 Focus Areas for Improvement

Air Force FY11 Focus Areas for Improvement	
RAM	<ul style="list-style-type: none"> ➤ AFI 63-1201, Life Cycle SE, currently being updated to include an expanded discussion of reliability as a specialty engineering topic; due to be completed in mid-FY11.
Workforce	<ul style="list-style-type: none"> ➤ Addressing training needs of SE new hires by developing tailored SE-focused courses. ➤ Seeking OSD assistance to increase DAU training capacity, Air Force training quotas, and SE functional training resource allocation for resident courses to support April 2009 Secretary of Defense acquisition workforce growth plan. ➤ SEAC is evaluating the need for an initial skills training course for SE hires.
SE and DP resources	<ul style="list-style-type: none"> ➤ SEAC is investigating various strategic initiatives addressing an Air Force-wide solution for present and future Air Force S&E workforce capability requirements and the mechanisms for fulfilling them. ➤ A broadly focused S&E workforce capability gap analysis baselined against the “Technology Horizons” vision and draft “Air Force S&T Strategy.” ➤ Recommendations to eliminate potential gaps by policy, advocacy, and pipeline adjustments.

Based on the self-assessments provided by the Services, efforts are underway to address policy updates with accompanying guidance to strengthen their respective execution of DP, SE, and SE for SoS. In

addition, each Service has initiatives underway to ensure that its workforce has access to training in these key areas.

An example of DASD (SE) efforts to use the self-assessments of the Services is the Software Acquisition Improvement Program (SWAIP). The Services are continuing to evolve their software processes, practices, and metrics to address new technology and program challenges. Based on the results of the Services' self-assessments and a gap assessment performed by the DASD (SE), several initiatives are planned beginning in FY 2011. These initiatives include re-establishing the DoD Software Working Group to develop objectives and a detailed plan to improve the Department's capability to address systemic software program issues, including beginning a systematic review of software and systems engineering standards, and emphasizing human capital planning to support our larger SPRDE Work Force Development Initiative.

The DASD(SE) continues to identify systemic issues during technical reviews related to adequate staffing resources and appropriate personnel assignments to support execution of SE on MDAPs and MAIS programs. The Services continue to struggle to identify lead or chief systems engineers and other related supporting technical staff members across programs.

The DASD(SE) plans to work more closely with Component programs and PEOs to ensure that the importance of the SE contribution to acquisition success is understood and resourced. The DASD(SE) also plans to focus its FY11 efforts on leveraging demonstrated best practices and driving opportunities for cross-fertilization.

DASD(DT&E) FY10 COMPONENT ASSESSMENTS

For FY10, Components were required to provide self-assessment reports to the DASD(DT&E) based on responsibility for MDAPs and programs on the OSD T&E Oversight List. The following Components responded: Army, Navy/USMC, Air Force, MDA, DISA, and BTA. The DASD(DT&E) provides an analysis of FY10 Component changes, initiatives based on the Component self-assessments in FY10, and overall analysis of workforce trends and data.

Components provided updates to their FY09 reports regarding T&E involvement in early acquisition activities, T&E planning and strategic execution, T&E execution, and T&E personnel. In general, changes from FY09 through FY10 were minimal. The Components reported improved early acquisition activities, continued to use Section 852 funding, were impacted by base realignment and closure (BRAC) moves, and reported an increase in DAWIA T&E-coded positions.

In addition, the DASD(DT&E) requested information on the cost of doing business and also requested information on organizational structures such as a Responsible Test Organization (RTO). The DASD(DT&E) is continuing to review the costs that acquisition programs incur during the use of and investment in DT&E capabilities and in developing evaluation tools. The DASD(DT&E) is responsible for approving the adequacy of resources in the TES and TEMP that are required to accomplish the DT&E planning, execution, and reporting for programs on the OSD T&E Oversight List. The DASD(DT&E) is investigating an efficient way to determine the adequacy of the TES/TEMP resources and costs associated with DT&E activities for both contractor and Government DT&E to ensure that the Government is getting best value. To fulfill this DASD(DT&E) responsibility, Components need to provide more transparency into the cost of doing T&E; therefore, the DASD(DT&E) requested follow-on information from the Components. Many Components stated that they did not have the information and/or a funding breakout that provided transparency or understanding of the acquisition program resources that are used for the T&E program requirements.

UPDATES FROM FY09 COMPONENT SELF-ASSESSMENTS

Components reported improved involvement in early acquisition activities such as review of requirements and requests for proposals. This early involvement is expected to improve through implementation of T&E KLPs for all MDAPs and MAIS programs, in accordance with the USD(AT&L) memorandum dated August 25, 2010. Many Components responded to the T&E KLP requirement with memorandums to their staff, updates to their policy documentation, and implementation of tracking mechanisms. Implementation of the KLP is a means to address the issues regarding nongovernment personnel acting as the lead for T&E. It is envisioned that the KLP will be assigned at MS A. All Components reported review of positions, in-sourcing of T&E personnel over the past fiscal year, and plans for in-sourcing over the next few years.

The ability to attract, develop, reward, and retain T&E personnel was enhanced with the addition of funding through NDAA FY08 Section 852 (Defense Acquisition Workforce Development Fund (DAWDF)). Components cited specific examples of hiring bonuses, expansion of training capacity, and awards as a direct result of Section 852 funding. DAWDF has facilitated succession planning and knowledge transfer by enabling Components to hire in advance of a planned vacancy.

Several BRAC initiatives are impacting T&E organizations. The Army Test and Evaluation Command (ATEC) is moving from Alexandria, Virginia, to Aberdeen, Maryland; MDA is moving its T&E workforce from Arlington, Virginia, to Huntsville, Alabama; and DISA headquarters, program offices, and the information technology test bed are moving from Falls Church, Virginia, to Fort Meade,

Maryland. The majority of the DISA T&E infrastructure is not subject to BRAC, so they remain located at Fort Huachuca, Arizona, and Indian Head, Maryland. Affected Components are tracking their T&E workforce through the BRAC moves and do not anticipate any negative impact to their T&E workforce. DISA is currently authorized to hire at 110 percent in preparation for losses during the move. Components are also preparing for the impact and mitigation of the OSD Government hiring freeze and reduction to service support contracts. The Department's use of service support contracts will decrease by 10 percent per year from FY11 to FY13. The cumulative 30-percent reduction is based on specific contractor data as reported by the Services and Defense Agencies. The DASD(DT&E) will continue to monitor this implementation.

Components reported increases in DAWIA certifications across the T&E workforce, with 93 percent of the workforce either adequately certified or within the 24-month window for certification. DISA, BTA, and MDA are at 100 percent; Air Force, 97 percent; Army, 91 percent; and DON, 89 percent. However, the DASD(DT&E) remains concerned that some people conducting DT&E remain outside this DAWIA certified workforce which therefore excludes them from being accounted for in this report.

DASD(DT&E) FOCUS AREAS

The DASD(DT&E) assessed specific areas of interest and priority for each Component and the Department. The results of these assessments and DASD(DT&E) recommendations are provided below.

Responsible Test Organization (RTO)

Background. Not all Components have an RTO model. An RTO is the lead Government DT&E organization that provides certified T&E expertise to plan, manage, conduct, and evaluate DT&E according to the TEMP, integrated test concept, and detailed T&E plans, as well as maintain insight into activities of the contractor and participating test organizations. An RTO acts as the Government DT&E point of contact and a conduit to the DASD(DT&E) for test reporting.

Today, based on the Components' responses, not all Components are using an RTO model. We recommend that all Components consider and establish an RTO model, as the RTO provides a robust DT&E capability for the program office and leads at an appropriate level to engage with the Program Executive Office (PEO). The RTO should be the executing agent for the program office.

Next Steps. Continue to investigate implementing the RTO model across the Components. Components will be consulted as to the most beneficial definition and application of an RTO model. Assignment of a KLP will complement using an RTO model. After consulting with the Military Departments a policy on implementing the RTO model will be incorporated into a future DoDI 5000.02 update. The Air Force has an existing RTO structure and, at the request of the DASD(DT&E), provided templates and examples of RTO designation. This information will be reviewed to determine how to apply the RTO model across the Department. Having a common RTO model will also help facilitate the rapid acquisition process. Future Annual Reports will document progress.

Prioritizing Use of Government vs. Contractor Capabilities

Background. There is no binding DoD-wide policy or guidance prioritizing use of and investment in Government capabilities for DT&E. T&E resources and facilities are documented in the TEMP. The DASD(DT&E) continues to observe significant testing being conducted at nongovernment facilities, particularly at development contractor-owned sites. Components have difficulty identifying the T&E capability investments at contractor facilities, which masks the true cost of DT&E. The DASD(DT&E) is concerned that the Government is investing in contractor capabilities where Government capabilities

already exist or where investment in new Government capabilities would be more advantageous to the Department in the long term.

Next Steps. Greater transparency is required to fully determine how much of the program's funding is being invested in nongovernment T&E capabilities, which will be documented in the TEMP. A policy that requires the program to provide this information in the TEMP will be incorporated into the next DoDI 5000.02 update. PMs will be required to conduct a cost-benefit analysis for exceptions to this policy and document assumptions and results in the TEMP. Prioritizing use of and investment in Government DT&E capabilities is beneficial to the Department. The DASD(DT&E) will investigate a means to fully determine T&E investments in nongovernment capabilities and influence programs early in the process to increase reuse, affordability, and effectiveness. Future Annual Reports will document progress.

Rapid Acquisition

Background. Currently, there is no consistent DT&E methodology or strategy to determine the minimum essential T&E required to ensure that a system is safe and to provide the end user with a characterization of system capabilities and limitations. T&E in rapid acquisition programs is critical and calls for qualified DT&E personnel to actively participate in this process. The Army rapid acquisition process engages DT&E with defined and specific steps identified to facilitate the process from beginning to end. The Army captures findings in its report on Safety Confirmation and the Capabilities and Limitations Report. DON and Air Force DT&E processes are reliant on OT&E to report on safety, integration, capability, and limitations. The DASD(DT&E) is engaged in evaluating fielding results of the Service rapid acquisitions to assess overall effectiveness and determine best policies for future rapid acquisitions. MDA, BTA, and DISA pursue rapid acquisition through adopting best practices for agile information technologies.

Next Steps. The DASD(DT&E) is studying current best DT&E practices for rapid acquisition and intends to propose updates to OSD policy and guidance to support a DT&E rapid acquisition methodology. The DASD(DT&E) will propose the minimum essential T&E and determine methodologies for rapid acquisition. Future Annual Reports will document progress.

Assessment of Operational Test Readiness (AOTR)

Background. As stated in the 2008 Defense Science Board T&E Task Force report, a significant number of programs conclude Initial Operational Test and Evaluation (IOT&E) with poor outcomes. DASD(DT&E) analysis of DOT&E Beyond Low-Rate Initial Production reports to Congress from FY01 through FY10 shows that 43 percent of the MDAPs tested were rated either "Not Effective" or "Not Suitable." In FY10, the DASD(DT&E) increased the visibility on program readiness to enter IOT&E by releasing five formal AOTRs to senior decision makers. The AOTR is intended to inform the Service decision to enter into IOT&E. This DASD(DT&E) report includes a specific recommendation to the Service Acquisition Executives regarding entry into IOT&E, data-based assessment of each KPP, and assessment of the risks associated with the system's ability to meet operational suitability and effectiveness requirements. Currently, the DASD(DT&E) must conduct an AOTR for all Acquisition Category (ACAT) ID programs in accordance with DoDI 5000.02. The DASD(DT&E) intent for an AOTR is to conjoin with the Components' Operational Test Readiness Review (OTRR) process, if possible, to minimize the impact on the program and provide feedback to the PM. The Services reported that their internal instructions and directives have been or will be updated to reflect this policy. Specifically, DON issued a policy on AOTRs, granting the DASD(DT&E) and DOT&E access to all T&E data as needed.

Next Steps. All Components need to be aware of AOTRs and include DASD(DT&E) personnel in the OTRR process with access to all necessary reports and data. For situations in which the DASD(DT&E)

recommends a strategic pause to resolve critical issues or a mitigation of identified high risk areas, the DASD(DT&E) will work with Components to investigate the feasibility of requiring the program to provide to the Milestone Decision Authority and DASD(DT&E) a memorandum outlining the rationale for proceeding into IOT&E. The DASD(DT&E) will develop measures and metrics to determine AOTR effectiveness in identifying critical issues and risks and improving acquisition outcomes. AOTR applicability will be expanding to include all MDAPs and special interest programs, in alignment with the scope of DASD(DT&E) statutory responsibilities. Future Annual Reports will document progress.

T&E Key Leadership Position (KLP)

Background. The USD(AT&L) memorandum dated August 25, 2010, identified KLPs for all MDAPs and MAIS programs. The Program Lead T&E is a position included in the mandatory list. The Components reported that they are implementing the memorandum at the Component level, and measures, requirements, and guidance that define a qualified T&E KLP are in development.

Next Steps. The DASD(DT&E) will review Component implementation of the T&E KLP across all MDAPs and MAIS programs. The TES and TEMP are required to include the designated T&E KLP. The DASD(DT&E) should ensure that properly qualified personnel are selected to fill these positions. The DASD(DT&E), as the Functional Leader for the T&E career field, will develop the certification requirements and training curriculum for the T&E KLP. Future Annual Reports will document progress.

Cyber Defense T&E

Background. There are emerging capabilities in cyber warfare that require T&E support, such as the United States Joint Forces Command Information Operations Range. The requirements for T&E in the defensive cyber domain for MDAPs and MAIS programs are not fully understood.

Next Steps. In response to emerging requirements for additional T&E cyber defense capabilities, the DASD(DT&E) will identify critical investments in cyber capability to preserve and expand to meet the increasing demand for cyber defense T&E. The DASD(DT&E), in conjunction with DOT&E and other key stakeholders, will undertake an initiative to address the gaps in this area. Future Annual Reports will document progress.

Defense Acquisition Workforce Development Fund (NDAA FY08 Section 852)

Background. The Defense Acquisition Workforce Development Fund is targeted for the recruitment, training, and retention of DoD acquisition personnel. Components reported on the use of Section 852 funding to hire interns and journeymen into T&E organizations (e.g., ATEC);, not all of these hires were allocated to T&E-coded positions. Not all personnel conducting T&E are T&E coded.

Next Steps. The DASD(DT&E) will work with the Components to determine their future needs for Section 852 funding for the T&E acquisition workforce. Future Annual Reports will document progress.

T&E WORKFORCE

The Components reported that they have sufficient T&E resources to support current and future workload. The DASD(DT&E) cannot dispute this; however, the mix of personnel conducting the DT&E effort can be improved. Based upon data received from the Components, the overall DAWIA T&E-coded positions (civilian and military personnel) represent less than 25 percent of the total DT&E workforce. The overall Government workforce which includes DAWIA T&E coded, DAWIA coded other than T&E, and non-DAWIA government positions performing T&E is 40 percent.

Next Steps. The DASD(DT&E) will work with the Components to identify an appropriate notional balance as a guide for the Components in developing long-term strategies to optimize workforce balance. In addition, the DASD(DT&E) will work with the Components to better understand the correct balance of developer, contractor, military, civilian, non-T&E acquisition, and T&E-coded acquisition positions to ensure successful execution of the T&E activities. The Components will be surveyed about their long-term strategies as well as their expected split and rationale (scoped within the Future Years Defense Program) to achieve an optimum workforce balance. Future Annual Reports will document progress.

The DASD(DT&E) is analyzing the full T&E workforce to understand the breakdown of personnel performing the DT&E mission across the Components. Components provided information on the workforce supporting the DT&E mission from the PEO, PMO, RTO, and test center on all ACAT I to III programs. Components were asked to detail the number of T&E-coded civilian, T&E-coded military, support contractors, Federally Funded Research and Development Center (FFRDC) and University Affiliated Research Center (UARC) support, T&E non-acquisition-coded personnel, acquisition-coded non-T&E personnel who support the T&E mission (e.g., SPRDE, program management, logistics), and developer T&E support (e.g., prime contractors).

This workforce data, which was requested as an appendix to the FY09 self-assessment report, is shown in Figure 1 with a comparison against the data requested for FY10. Based on data received the previous year, the DASD(DT&E) requested data on additional categories of T&E support to include FFRDC/UARC for the FY10 report.

For FY10, DASD(DT&E) requested additional data as a result of the initial analysis. The additional data did not include all T&E support at the ranges. Although not complete, enough data was provided to observe general trends across the Components. It appears as if the Army relies heavily on support contractors, Air Force relies on other T&E support, and DON has support spread across the prime contractor and support contractors. DISA relies heavily on non-acquisition T&E support, MDA has support spread across the prime and support contractors, and BTA does not have enough T&E personnel to support a general trending. We will continue to work with the Components and analyze the data.

Although the Components began implementing the T&E KLP and in-sourcing, the data show that all Components continue to use non-T&E-coded acquisition personnel (e.g., SPRDE, program management, logistics) to conduct DT&E functions. Although these resources may have some training and knowledge of DT&E, there is no means of ensuring that they are properly qualified to plan and execute an effective and efficient DT&E program.

Figure 1 shows a comparison of data provided by the Components in FY09 and FY10. Figure 2 details the data of personnel supporting ACAT I to III programs provided by each Component. The DASD(DT&E) intends to request a full update to this data for FY11 and will work closely with the Components to ensure full understanding of the data request so that complete data are submitted for a more thorough analysis. Note that the data do not fully represent all T&E personnel at the T&E ranges, which includes acquisition- and non-acquisition-coded positions.

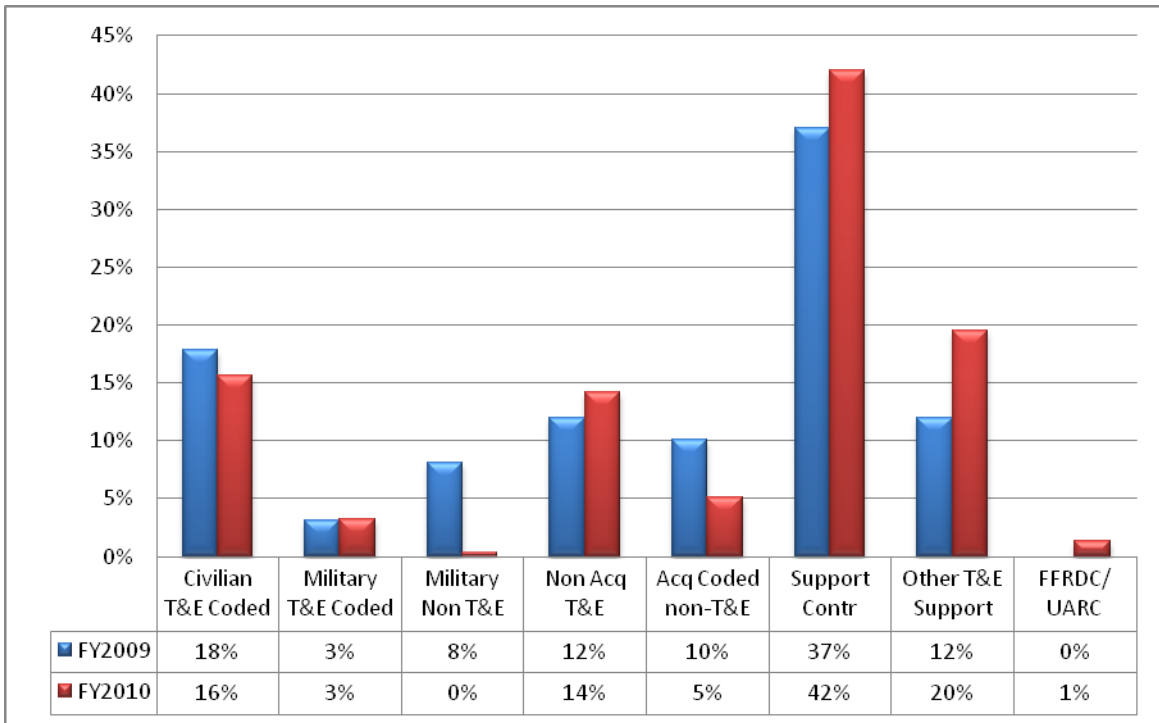


Figure 1. Comparison of FY09 and FY10 Combined Data of T&E Personnel (All Components)

NOTE: Non-acquisition T&E are the personnel who support the T&E aspects of the program who are not acquisition coded.

NOTE: Acquisition-coded non-T&E are acquisition-coded personnel other than T&E who are performing T&E functions for the program (e.g. Program Management, SPRDE, etc.).

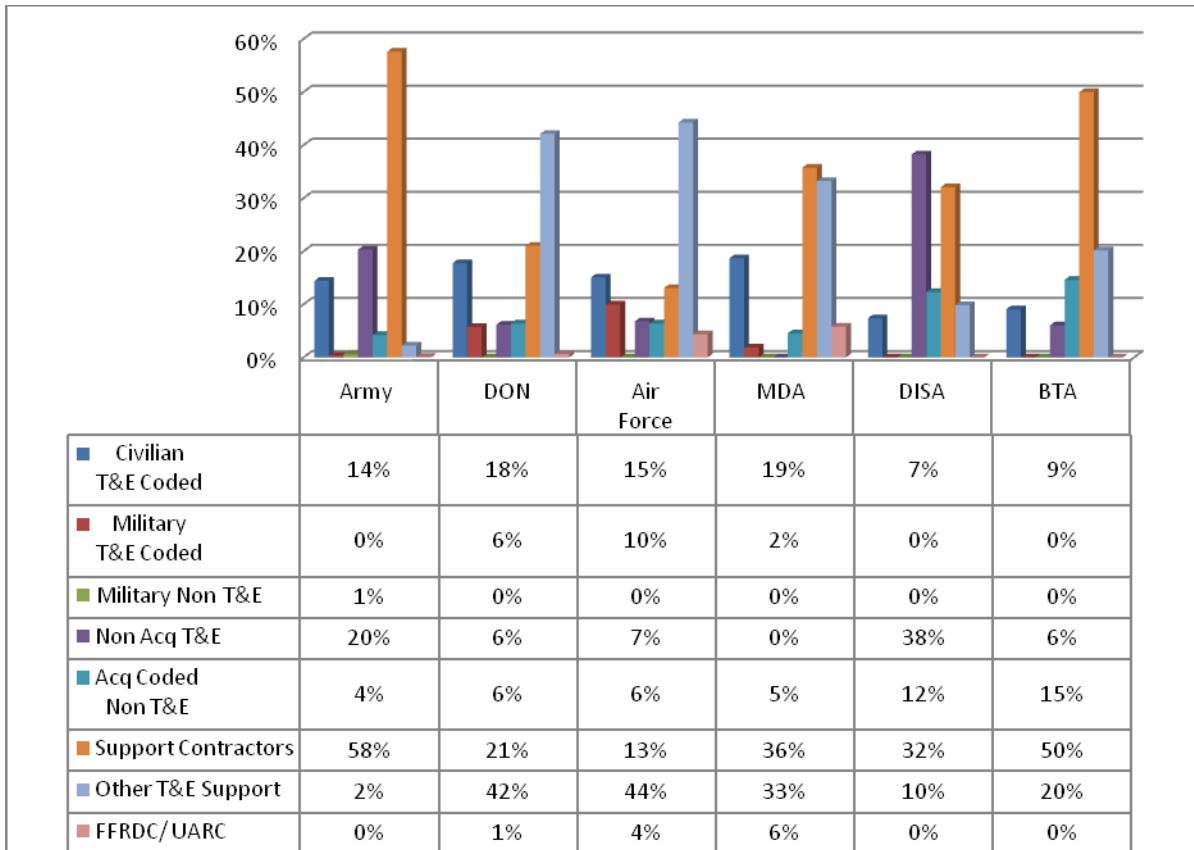


Figure 2. FY10 Personnel Breakdown

Overall, the T&E acquisition workforce has shown a growth of 554 T&E-coded positions (7 percent) during FY10. According to the Component reports and briefings, approximately 40 percent of that increase is the result of in-sourcing. Therefore, only 4 percent (350 T&E-coded positions) of the growth increases the T&E capability across the Department. For comparison, SPRDE has a 12-percent growth total for all of its career fields. Since there was such a large increase in SE, this may be an indicator of potential increase in workload for future T&E efforts.

Table 6 provides a comparison of FY09 and FY10 T&E workforce data extracted from the DAU Datamart system. The data from the DAU Datamart system match the information provided in the Component reports.

Table 6. T&E Acquisition Workforce Comparison, FY09 and FY10

Service	FY09			FY10			Difference
	Civilian	Military	Total	Civilian	Military	Total	
Army	2,222	13	2,235	2,285	19	2,304	69
DON	2,383	450	2,833	2,542	458	3,000	167
Air Force	1,353	1,277	2,630	1,592	1,246	2,838	208
OSD and Others (4 th Estate)*	194		194	304		304	110
TOTAL	6,152	1,740	7,892	6,419	1,723	8,446	554

* Includes T&E at Components other than the Services. Military positions are tracked by the Services.

The DASD(DT&E) will work with the Components to conduct a thorough review of their current acquisition workforce to ensure that their employees are properly coded as T&E when their jobs are greater than 51 percent T&E functionally per DAWIA.

Although the DASD(DT&E) is charged with providing advocacy, oversight, and guidance to elements of the acquisition workforce responsible for T&E, the T&E workforce is much larger than the 8,446 current acquisition-coded T&E personnel. The T&E workforce includes personnel supporting all aspects of the DT&E mission. The non-acquisition-coded personnel provide critical expertise in support of the DT&E mission and the success of DT&E across the Department but are not currently part of the acquisition workforce. . The DASD(DT&E) is investigating metrics and measures to better align and balance the required personnel supporting DT&E.

DASD(SE) FY10 PROGRAM ENGAGEMENT

The DASD(SE) provided SE technical oversight, guidance, and assessments through continuous program engagements and focused independent reviews of major programs. Engagements during SETRs and SE WIPTs provide technical insight into program performance and health. Focused reviews such as PSRs use a rigorous and detailed assessment tool called the Defense Acquisition Program Support (DAPS) Methodology to independently assess program health. DASD(SE) assessment teams apply the DAPS Methodology to MDAPs approaching an OIPT or DAB review. Typically, all reviews are customer focused to help shape a program’s technical and management processes, ensure positive outcomes, and increase the probability of program success. Table 7 lists the major SETRs conducted in support of MDAPs and MAIS programs in FY10.

(1) Program Support Reviews (PSRs) – PSRs are conducted on all ACAT ID and ACAT IAM programs in accordance with DoDI 5000.02 to inform the Milestone Decision Authority, OIPT, and program office of the status of technical planning and management processes by identifying cost, schedule, and performance risks as well as recommendations to mitigate those risks. PSRs are conducted to support pending OIPT program reviews, requests by the USD(AT&L), and requests from PMs. Systemic root cause analysis performed on PSR findings shows that the adequacy of staffing is the most prevalent issue in program offices. Specifically, marginal program office staffing was found in 31 percent of the PSRs. An example of this finding is the fact that Air Force space programs are only staffed at 60 percent of the requirement. Issues with the adequacy of acquisition or specialized expertise such as reliability and manufacturing engineers were found in 17 percent of the PSRs.

(2) Nunn-McCurdy Reviews – The DASD(SE) supports IPT #5, which assesses SE and risk management in support of Nunn-McCurdy certification reviews. The same methodology used to support PSRs is used for Nunn-McCurdy reviews.

(3) Focused Reviews – The DASD(SE) conducted seven focused technical reviews in FY10. These included an Independent Manufacturing Readiness Review, a Defense Management System review in concert with an Air Force Independent Technical Review, an OIPT directed review, two reliability reviews on a program, and a quick-look technical review of one program.

(4) Systems Engineering Technical Reviews (SETRs) – The DASD(SE) participates in technical reviews of MDAPs, particularly those such as the PDR and CDR, which result in PM reports to the USD(AT&L) as the Milestone Decision Authority. DASD(SE) participation provides ground-truth for assessment of these reports, and, in the case of the PDR, informs the Milestone Decision Authority’s 10 U.S.C. 2366b certification activities.

Table 7. FY10 Program Reviews

		SE PSRs	SE Reviews in Support of Nunn-McCurdy Certification	Focused Reviews	SETRs
MDAP	ACAT ID/ACAT IC/ Pre-MDAP	17	9	6	15
MAIS	ACAT IAM/Other	1	0	1	1
	Total	18	9	7	16

Table 8 provides a summary of DASD(SE) FY10 program technical engagements and reviews, types of SE reviews, status of the program's SEP, and supporting OIPT, DAB, and milestone review dates. Typically, program SEPs are developed through the SE WIPT process and utilize an OSD-approved SEP preparation guide.

Table 8. FY10 Major Program Support by the DASD(SE)

Program	Program Engagement – OSD Oversight	SEPs	SE Input to OSD Reviews
Advanced Threat Infrared Countermeasures/Common Missile Warning System (ATIRCM/CMWS)	<ul style="list-style-type: none"> • Nunn-McCurdy (Oct 09) 		<ul style="list-style-type: none"> • OIPT (Nov 09, Feb 10, Mar 10, Jul 10) • DAB MS B (Jan 10) • DAB MS C (Aug 10)
Air and Missile Defense Radar (AMDR)	<ul style="list-style-type: none"> • MS A PSR (Jan-Feb 10) 	<ul style="list-style-type: none"> • MS A – August 23, 2010 	<ul style="list-style-type: none"> • OIPT (Jul 10) • DAB MS A (Aug 10)
Air Operations Center–Weapon System (AOC-WS)	<ul style="list-style-type: none"> • MS B PSR (Feb-Apr 10) 	<ul style="list-style-type: none"> • MS B – May 2, 2008 	<ul style="list-style-type: none"> • OIPT (Mar 10) • DAB MS B (Apr 10)
Apache Block III (AB3)	<ul style="list-style-type: none"> • MS C PSR (Jan 10), Nunn-McCurdy (May 10) • Production Readiness Review (PRR) (Oct 09) • DAES (Aug 10) 	<ul style="list-style-type: none"> • MS C – August 31, 2010 	<ul style="list-style-type: none"> • OIPT (Dec 09, Aug 10) • DAB Block IIIA Remanufacture and Block IIIB New Build (Sep 10)
Army Integrated Air and Missile Defense (AIAMD)	<ul style="list-style-type: none"> • MS B PSR (Jul-Oct 09) • PDR (Nov 09) 	<ul style="list-style-type: none"> • MS B – April 22, 2010 	<ul style="list-style-type: none"> • OIPT (Dec 09) • DAB MS B (Dec 09)
B-2 Defensive Management System (DMS)	<ul style="list-style-type: none"> • Air Force Independent Technical Review (Jan-Feb 10) 		<ul style="list-style-type: none"> • OIPT (Mar 10) • DAB MDD (Apr 10)
Biometrics			<ul style="list-style-type: none"> • OIPT (Feb 10, Jul 10)
Broad Area Maritime Surveillance (BAMS)	<ul style="list-style-type: none"> • System PDR (Feb 10) • Multiple Subsystem PDR and CDRs (Oct-Dec 09, Jan 10, Jul 10) 	<ul style="list-style-type: none"> • MS B – January 9, 2009 	<ul style="list-style-type: none"> • OIPT (Nov 09)
C-27J (Formerly Joint Cargo Aircraft (JCA))	<ul style="list-style-type: none"> • IPR PSR (Dec 09) • PRR (Jun 10) 	<ul style="list-style-type: none"> • MS C – June 13, 2007 	<ul style="list-style-type: none"> • OIPT (Nov 09, Sep 10)
C-5 Reliability Enhancement and Re-engining Program (RERP)		<ul style="list-style-type: none"> • MS C – July 14, 2008 	<ul style="list-style-type: none"> • OIPT (Sep 10) • DAB (Nov 09, Dec 09)

Program	Program Engagement – OSD Oversight	SEPs	SE Input to OSD Reviews
C-130 Avionics Modernization Program (AMP)		<ul style="list-style-type: none"> • MS C – September 12, 2008 	<ul style="list-style-type: none"> • OIPT (Mar 10) • DAB MS C (Mar 10)
CH-53K	<ul style="list-style-type: none"> • IPR PSR (Oct 09) • CDR (Jul 10) • DAES (Jun 10) 		
Chemical Demilitarization Program–Assembled Chemical Weapons Alternatives (Chem Demil)		<ul style="list-style-type: none"> • MS B – July 17, 2007 	<ul style="list-style-type: none"> • OIPT (May 10)
Consolidated Afloat Network and Enterprise Service (CANES)	<ul style="list-style-type: none"> • PDR (Jul 10) 	<ul style="list-style-type: none"> • MS B – August 31, 2010 	
Cooperative Engagement Capability (CEC)			<ul style="list-style-type: none"> • OIPT (Nov 09)
DDG 1000 ZUMWALT CLASS Destroyer	<ul style="list-style-type: none"> • Nunn-McCurdy (Feb-Jun 10) • SE WIPT (Jun 10) 	<ul style="list-style-type: none"> • MS B – May 14, 2007 	<ul style="list-style-type: none"> • OIPT (Aug 10) • DAB MS B (Sep 10)
Distributed Common Ground System–Army (DCGS-A)		<ul style="list-style-type: none"> • MS C – December 3, 2009 	
Distributed Common Ground System–Navy (DCGS-N)	<ul style="list-style-type: none"> • DAES (May-Dec 09) 	<ul style="list-style-type: none"> • MS C – July 10, 2009 	<ul style="list-style-type: none"> • OIPT (Mar 10)
E-2D Advanced Hawkeye (AHE)	<ul style="list-style-type: none"> • DAES (Jun 10) • Quarterly SE Reviews (Apr 10, Jun 10) 	<ul style="list-style-type: none"> • MS C – January 30, 2009 	
E-8C Joint Surveillance Target Attack Radar System (JSTARS)	<ul style="list-style-type: none"> • OIPT-Directed PSR (Aug-Oct 10) 		<ul style="list-style-type: none"> • OIPT (May 10)
Early-Infantry Brigade Combat Team (E-IBCT)	<ul style="list-style-type: none"> • DAES (Dec 09) 	<ul style="list-style-type: none"> • MS C – December 21, 2009 	<ul style="list-style-type: none"> • OIPT (Dec 09, Mar 10) • DAB LRIP 2 and 3 (Dec 09)
Electronic Health Records (EHR)	<ul style="list-style-type: none"> • AoA Working Group (Aug 10) • SE/IA WIPT (Aug 10) • T&E WIPT (Jun 10) • Initial Integrated Product Team (Jun 10) 		<ul style="list-style-type: none"> • DAB MDD Information Technology Advisory Board (ITAB) (Feb 10)
Enhanced Polar System (EPS)	<ul style="list-style-type: none"> • System Design Review (Apr 10) 	<ul style="list-style-type: none"> • MS B – December 1, 2009 	<ul style="list-style-type: none"> • OIPT (Jun 10)
Excalibur	<ul style="list-style-type: none"> • Nunn-McCurdy (Aug-Dec 10) • DAES (Jul 10) 		<ul style="list-style-type: none"> • OIPT (Principals Reviews: Sep 10, Oct 09)

Program	Program Engagement – OSD Oversight	SEPs	SE Input to OSD Reviews
Expeditionary Fighting Vehicle (EFV)	<ul style="list-style-type: none"> • DAES (Apr 10) 	<ul style="list-style-type: none"> • MS B – May 20, 2008 	
Extended Range Multi-Purpose UAS (ER/MP)	<ul style="list-style-type: none"> • MS C PSR (Nov 09) 	<ul style="list-style-type: none"> • MS C – May 27, 2010 	<ul style="list-style-type: none"> • OIPT (Jan 10, Sep 10) • DAB MS C (Feb 10)
F-35 (Joint Strike Fighter)	<ul style="list-style-type: none"> • Independent Manufacturing Review (Jun-Oct 09) • Technical Baseline Review (Jul-Nov 10) • Nunn-McCurdy (Apr-May 10) 	<ul style="list-style-type: none"> • LRIP – November 9, 2010 	<ul style="list-style-type: none"> • OIPT (Feb 10, Mar 10)
Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)	<ul style="list-style-type: none"> • Nunn-McCurdy (Apr-Sep 10) • DAES (Jul 10) 	<ul style="list-style-type: none"> • KDP B – December 10, 2008 	<ul style="list-style-type: none"> • OIPT (Nov 09, Jan 10, Jul 10)
Global Combat Support System–Army (GCSS-A)	<ul style="list-style-type: none"> • DAES (May 10) • Post-CDR Review and Report (Jun 10) 	<ul style="list-style-type: none"> • MS B – March 11, 2008 	
Global Hawk	<ul style="list-style-type: none"> • Nunn-McCurdy PSR (Sep 10) • Reliability Review (Feb 10, Jul 10) • Nunn-McCurdy-Like (Sep 10) 	<ul style="list-style-type: none"> • MS B/C – July 11, 2007 	<ul style="list-style-type: none"> • OIPT (Mar 10, Apr 10, May 10, Aug 10, Sep 10) • DAB IPR (Jun 10) • Nunn-McCurdy-Like (Oct 09)
Global Positioning System IIIA (GPS)	<ul style="list-style-type: none"> • CDR (Aug 10) 	<ul style="list-style-type: none"> • Key Decision Point (KDP) B, January 23, 2008 • MS B, August 13, 2009 	<ul style="list-style-type: none"> • OIPT (Oct 09, Nov 09, Jan 10)
Ground Combat Vehicle (GCV)	<ul style="list-style-type: none"> • MS A PSR (May-Nov 10) 	<ul style="list-style-type: none"> • Draft MS A (ECD – February 2010) 	<ul style="list-style-type: none"> • OIPT (Dec 09) • DAB MDD (Feb 10)
Ground Soldier System (GSS)	<ul style="list-style-type: none"> • CDR (Oct 09) 	<ul style="list-style-type: none"> • MS A – January 26, 2009 	<ul style="list-style-type: none"> • OIPT (Mar 10)
H-1 Upgrades (4BW/4BN)			<ul style="list-style-type: none"> • OIPT (Apr 10, Oct 09) • DAB MS III (Dec 09)
HC/MC-130 Replacement Program		<ul style="list-style-type: none"> • MS C – February 4, 2010 	<ul style="list-style-type: none"> • DAB MS C (Mar 10)
Integrated Personnel and Pay System–Air Force (IPPS-AF)			<ul style="list-style-type: none"> • DAB MDD (May 10)
Integrated Personnel and Pay System–Army (IPPS-A)		<ul style="list-style-type: none"> • MS B – August 30, 2010 	

Program	Program Engagement – OSD Oversight	SEPs	SE Input to OSD Reviews
Integrated Strategic Planning and Analysis Network (ISPAN) Increment 2		<ul style="list-style-type: none"> • MS B – August 4, 2010 	<ul style="list-style-type: none"> • OIPT (Dec 09, Jul 10)
Joint Air-to-Ground Missile (JAGM)	<ul style="list-style-type: none"> • MS B PSR (May-Aug 10) • System Requirements Review (SRR)/System Functional Review (SFR) (Oct 09) • PDR (Jul 10) 		<ul style="list-style-type: none"> • OIPT (Oct 09)
Joint Air-to-Surface Standoff Missile–Extended Range (JASSM-ER)	<ul style="list-style-type: none"> • MS C PSR (Jun-Aug 10) • PRR (Jul 10) 	<ul style="list-style-type: none"> • MS C – August 25, 2010 	
Joint Cooperative Target Identification–Ground (JCTI-G)			<ul style="list-style-type: none"> • OIPT (Mar 10) • DAB MDD (May 10)
Joint High Speed Vessel (JHSV)		<ul style="list-style-type: none"> • MS B – December 11, 2009 	<ul style="list-style-type: none"> • OIPT (Oct 09) • DAB MS B (Dec 09)
Joint Light Tactical Vehicle (JLTV)	<ul style="list-style-type: none"> • TRR (Apr 10) • Technology Development Phase Requirements Knowledge Point Reviews (Dec 09, Apr 10) 	<ul style="list-style-type: none"> • MS A – January 31, 2008 	<ul style="list-style-type: none"> • OIPT (May 10)
Joint Precision Approach and Landing System (JPALS)	<ul style="list-style-type: none"> • PDR (Dec 09) • DAES (Jan-Oct 09) 	<ul style="list-style-type: none"> • MS B – December 5, 2007 	<ul style="list-style-type: none"> • OIPT (Oct 09)
Joint Space Operations Center Mission System (JMS)			<ul style="list-style-type: none"> • OIPT (Jan 10, Jun 10)
Joint Tactical Radio System Ground Mobile Radio (JTRS GMR)	<ul style="list-style-type: none"> • DAES (Nov 09, Jul 10) 	<ul style="list-style-type: none"> • MS B – October 2007 	<ul style="list-style-type: none"> • ESB (Aug 10, Nov 09)
Joint Tactical Radio System Handheld and Manpack Small Form Radio (JTRS HMS)	<ul style="list-style-type: none"> • DAES (Oct-Dec 09) 	<ul style="list-style-type: none"> • MS B – April 2004 	<ul style="list-style-type: none"> • OIPT (Oct 09)
KC-X Tanker Replacement		<ul style="list-style-type: none"> • MS B – December 5, 2010 	<ul style="list-style-type: none"> • OIPT (May 10)
Littoral Combat Ship (LCS)	<ul style="list-style-type: none"> • MS B PSR (Mar-Jun 10) • TRR (May 10) • Mission Ship System Integration Team (Oct-Sep 10) • 2366b Certification Review (Jul 10) 	<ul style="list-style-type: none"> • MS B – 30 Jul 2010 	<ul style="list-style-type: none"> • OIPT (Jun 10)

Program	Program Engagement – OSD Oversight	SEPs	SE Input to OSD Reviews
LPD-17 Amphibious Transport Dock	<ul style="list-style-type: none"> • DAES (May 10) 		
Medium Extended Air Defense System (MEADS)	<ul style="list-style-type: none"> • CDR (Aug 10) • DAES (Jun 10) 	<ul style="list-style-type: none"> • MS B – January 19, 2007 	
Mobile Landing Platform (MLP)	<ul style="list-style-type: none"> • MS B PSR (Sep-Dec 10) • SE WIPT (Mar 10) 	<ul style="list-style-type: none"> • MS A – January 28, 2009 	<ul style="list-style-type: none"> • OIPT (Jun 10) • DAB IPR (Jul 10)
Mobile User Objective System (MUOS)		<ul style="list-style-type: none"> • KDP Build Approval – March 8, 2008 	<ul style="list-style-type: none"> • OIPT (Oct 09, Apr 10, Sep 10)
Multifunctional Information Distribution System Joint Tactical Radio System (MIDS JTRS)		<ul style="list-style-type: none"> • MS C – December 2009 	<ul style="list-style-type: none"> • DAB Production (Dec 09)
Multi-Mission Maritime Aircraft (P-8A Poseidon)	<ul style="list-style-type: none"> • MS C PSR (Jan-Jun 10) • PRR (Jan 10) • Flight Readiness Review (Feb 10) 	<ul style="list-style-type: none"> • MS C – August 10, 2010 	<ul style="list-style-type: none"> • OIPT (Jul 10) • DAB MS C (Aug 10)
National Polar-Orbiting Operational Environment Satellite (NPOESS)		<ul style="list-style-type: none"> • KDP B/C – November 7, 2007 	<ul style="list-style-type: none"> • OIPT (Nov 09 (2), Apr 10, May 10, Jun 10, Jul 10, Aug 10) • DAB (May 10, Jun 10, Aug 10 (2))
Navy Advanced EHF Multi-Band Terminal		<ul style="list-style-type: none"> • MS C – July 27, 2010 	
Next Generation Enterprise Network (NGEN) Increment 1			<ul style="list-style-type: none"> • OIPT (Jan 10) • DAB ITAB (Feb 10)
Next Generation Nuclear Aircraft Carrier (CVN 78)	<ul style="list-style-type: none"> • DAES (Aug 10) • Critical Technology Review IPT (Nov 09) 	<ul style="list-style-type: none"> • MS B – April 10, 2007 	
Reaper Unmanned Aircraft System (MQ-9 UAS Reaper)	<ul style="list-style-type: none"> • MS C PSR (Sep-Nov 10) • SRR (Oct 09) • PDR (May 10) • DAES (Aug 10) 		<ul style="list-style-type: none"> • OIPT (Oct 09, Feb 10) • DAB IPR (Mar 10)
Remote Minehunting System (RMS)	<ul style="list-style-type: none"> • Nunn-McCurdy (Jan-Jun 10) • Critical Systems Review (Jun 10, Aug 10, Sep 10) • SE WIPT (Aug 10, Sep 10) 		

Program	Program Engagement – OSD Oversight	SEPs	SE Input to OSD Reviews
Sea Based Strategic Deterrence (Ohio Replacement Program)	<ul style="list-style-type: none"> • MS A PSR (May-Sep 10) • SE WIPT (Oct 09, Nov 09, Dec 09, Feb 10) 	<ul style="list-style-type: none"> • MS A – September 28, 2010 	<ul style="list-style-type: none"> • IIPT (Apr 10) • OIPT (Sep 10)
Small Diameter Bomb Increment II (SDB II)	<ul style="list-style-type: none"> • MS B PSR (Jan-Apr 10) 	<ul style="list-style-type: none"> • MS B – May 23, 2010 	<ul style="list-style-type: none"> • IIPT (May 10) • OIPT (Jul 10) • DAB MS B (Jul 10)
Space-Based Infrared System–High Component (SBIRS High)	<ul style="list-style-type: none"> • DAES (Jun 10) 	<ul style="list-style-type: none"> • KDP III – April 23, 2007 	
Space-Based Space Surveillance Block 10 Follow-on (SBSS)			<ul style="list-style-type: none"> • OIPT (Jun 10)
Standard Missile-6 (SM-6)		<ul style="list-style-type: none"> • MS C – June 18, 2009 	<ul style="list-style-type: none"> • OIPT (Apr 10) • DAB LRIP 2 (Jun 10)
Stryker Modernization Program	<ul style="list-style-type: none"> • SFR (Nov 09) • DVH SFR (Mar 10) • DVH CDR (Jul 10) • DVH Quick-Look Assessment (Jul 10) 	<ul style="list-style-type: none"> • MS III – March 28, 2008 	<ul style="list-style-type: none"> • DVH ADM (Apr 10) • DVH OIPT (Jun 10)
Teleport		<ul style="list-style-type: none"> • MS C – August 20, 2010 	<ul style="list-style-type: none"> • OIPT (Jan 10, Aug 10)
UH-60M Upgrades	<ul style="list-style-type: none"> • DAES (Aug 10) 	<ul style="list-style-type: none"> • MS C – November 21, 2005 	<ul style="list-style-type: none"> • OIPT (Oct 09, May 10) • DAB IPR (Feb 10)
V-22 Osprey Joint Advanced Vertical Lift Aircraft		<ul style="list-style-type: none"> • MS III – October 19, 2005 	<ul style="list-style-type: none"> • OIPT (Jun 10)
Vertical Take-Off Unmanned Aerial Vehicle (VTUAV)	<ul style="list-style-type: none"> • DAES (Nov 09, Apr 10) 		<ul style="list-style-type: none"> • Gate 6 (Feb 10)
VIRGINIA Class Submarine (SSN 774)	<ul style="list-style-type: none"> • MS III PSR (Oct-Dec 09, May 10) • SE WIPT (Oct 09) • 2366b Certification Review (Aug 10) 		<ul style="list-style-type: none"> • OIPT (Jun 10) • DAB MS III (Sep 10)
Warfighter Information Network-Tactical (WIN-T) Increment 2	<ul style="list-style-type: none"> • DAES (Oct 09) 	<ul style="list-style-type: none"> • MS B – November 6, 2007 	<ul style="list-style-type: none"> • OIPT (Oct 09, Dec 09, Jun 10, Aug 10) • DAB MS C (Feb 10) • DAB IPR (Aug 10)

Program	Program Engagement – OSD Oversight	SEPs	SE Input to OSD Reviews
Warfighter Information Network-Tactical (WIN-T) Increment 3		<ul style="list-style-type: none"> • MS B – June 2007 	<ul style="list-style-type: none"> • OIPT (Jun 10)
Wideband Global SATCOM (WGS)	<ul style="list-style-type: none"> • Nunn-McCurdy (Apr-May 10) 	<ul style="list-style-type: none"> • Build Approval – July 29, 2009 	<ul style="list-style-type: none"> • OIPT (Jun 10)

DASD(DT&E) FY10 PROGRAM ENGAGEMENT

The DASD(DT&E) is reporting on 38 programs that have reached a significant milestone or had a significant test event(s) as shown in Table 9. Significant test events include AOTRs, first flight, completed system integration lab testing, completed ground testing, and initiation of DT&E. Also included is a summary of DASD(DT&E) program technical engagements and reviews, status of the program's TEMP, and supporting OIPT, DAB, and milestone review dates. Program TEMPs are developed through the T&E Working Integrated Product Team (WIPT) process and utilize an OSD approved TEMP preparation guideline.

Table 9. DASD(DT&E) FY10 Program Engagement

Program	Program Engagement – OSD Oversight	TEMPs	DT&E Input to OSD Reviews
Apache Block III (AB3)	<ul style="list-style-type: none"> • Nunn-McCurdy (May 10) • Production Readiness Review (Aug 10) • Defense Acquisition Executive Summary (DAES) (Aug 10, Oct 10) • T&E WIPT (Feb 10, Mar 10, May 10, Jul 10) 	<ul style="list-style-type: none"> • MS C (Aug 10) 	<ul style="list-style-type: none"> • Initial Integrated Product Team (Jul 10) • OIPT (Aug 10) • DAB Readiness Meeting (Sep 10) • DAB Block IIIA Remanufacture and Block IIIB New Build (Sep 10)
Ballistic Missile Defense System (BMDS)	<ul style="list-style-type: none"> • Missile Defense Agency Integrated Master Test Plan (IMTP) v10.1 Executive Panel Review (EPR) (Jan 10, Feb 10) • Milestone Decision Authority IMTP v10.2 EPR (May 10, Jun 10, Jul 10) • Test Management Council (Mar 10, Jul 10) • IMTP v11.1 Review (Jul 10, Sep 10) 	<ul style="list-style-type: none"> • IMTP v10.1 (Feb 10) • IMTP v10.2 (Jul 10) 	<ul style="list-style-type: none"> • T&E Standing Committee (Mar 10, Apr 10) • Program, Acquisition, and Budget Development Standing Committee (Sep) • Missile Defense Executive Board (MDEB) (May 10) • MDEB for Terminal High Altitude Area Defense Production (Jul 10)
Battle Command System–Fixed (BCS-F)	<ul style="list-style-type: none"> • National Capital Region-Integrated Air Defense System Integrated Test Team (ITT) (Feb 10) • Program Management Review (PMR) (May 10) 	<ul style="list-style-type: none"> • Release 3.1 (Apr 09) 	

Program	Program Engagement – OSD Oversight	TEMPs	DT&E Input to OSD Reviews
	<ul style="list-style-type: none"> • TEMP ITT (Jul 10) • T&E WIPT and TEMP Working Group (Sep 10) • Security Working Group (Nov-Dec 10) 		
C-5 Reliability Enhancement and Re-engining Program (RERP)	<ul style="list-style-type: none"> • Weekly/biweekly Washington Working Group (Oct 09–Oct 10) (12 total) • T&E WIPT (Nov 10) • Reliability ITT (Apr 10, May 10) • Full-Rate Production (FRP) IPT (Nov 10) 	<ul style="list-style-type: none"> • TEMP (Oct 10) 	<ul style="list-style-type: none"> • OIPT (Sep 10)
C-130 Avionics Modernization Program (AMP)	<ul style="list-style-type: none"> • IIPT (Feb 10) • Parametric Analysis (May 10) • Replan IIPT (Nov 10) 	<ul style="list-style-type: none"> • TEMP (Jun 10) 	<ul style="list-style-type: none"> • OIPT (Mar 10) • DAB MS C (Mar 10)
Common Aviation Command and Control System (CAC2S)	<ul style="list-style-type: none"> • Command and Control Applications (C2APPS) ITT (Feb 10) • CDR (May 10) • T&E IPT (Jun 10) • Developmental Test Readiness Review (Jul 10, Dec 10) • Trouble Review Board (TRB) (Jul 10) • DT-1 (Jul-Aug 10) • Joint Interoperability Test (Aug 10) • DT-2 (Dec 10) • TRB (Dec 10) 		
DDG 1000 ZUMWALT CLASS Destroyer		<ul style="list-style-type: none"> • TEMP (Oct 10) • TEMP update required by Nunn-McCurdy Acquisition Decision Memorandum (ADM) 	
E-2D Advanced Hawkeye (AHE)	<ul style="list-style-type: none"> • Program Reviews (Mar 10, Nov 10) • T&E WIPT (May 10, Jun 10, Sep 10, Nov 10, Dec 10) • ITT Focus Meetings (Nov 	<ul style="list-style-type: none"> • MS C TEMP (Apr 09) • MS C TEMP Change One (Jul 10) 	<ul style="list-style-type: none"> • Nunn-McCurdy Follow-up (Feb 10, May 10, Aug 10, Nov 10) • OIPT (Dec 10)

Program	Program Engagement – OSD Oversight	TEMPs	DT&E Input to OSD Reviews
	<ul style="list-style-type: none"> 10, Dec 10) • DAES (Nov 10) 		
Early-Infantry Brigade Combat Team (E-IBCT)	<ul style="list-style-type: none"> • T&E WIPT (Jan 10, Feb 10, Mar 10, Apr 10, May 10, Jul 10, Aug 10, Sep 10, Oct 10, Nov 10) • Maturity Assessment Working Group (Mar 10, Apr 10, May 10, Jun 10, Jul 10, Aug 10, Sep 10, Oct 10, Nov 10, Dec 10) • DAES (Jul 10) 	<ul style="list-style-type: none"> • MS C (Annex J, Non-Line-of-Sight (NLOS) Launch System) (Dec 09) • MS C (Annex C, Spin Out E-IBCT) Mar 10 • MS C (Sep 10) 	<ul style="list-style-type: none"> • MS C DAB (Dec 09) • MS C NLOS OIPT (Mar 10) • MS C NLOS In-Progress Review (IPR) DAB (CNX) (Apr 10) • Maturity Assessment IPR ASD(R&E) (May 10, Jun 10, Aug 10) • IPR DAB (Continuing Low-Rate Initial Production (LRIP)) OIPT (Dec 10)
Excalibur	<ul style="list-style-type: none"> • WIPT (Jul 10, Nov 10) • Nunn-McCurdy (Aug-Dec 10) • DAES (Jul 10, Nov 10) 	<ul style="list-style-type: none"> • Version Ia-2 FRP (Jul 10) 	<ul style="list-style-type: none"> • OIPT (Principal Reviews: Sep 10, Oct 10, Nov 10) • DAB (Jul 10, Nov 10 (Paper))
Expeditionary Combat Support System (ECSS)	<ul style="list-style-type: none"> • Weekly Test Planning Working Group • Release 1 Pilot A “Go-Live” (Jul 10) • Release 1 Pilot B “Go-Live” (Dec 10) 	<ul style="list-style-type: none"> • MS B (Jun 10) 	<ul style="list-style-type: none"> • IPR (Oct 10) • Combined Institutional Review Board (Dec 10)
F-35 (Joint Strike Fighter)	<ul style="list-style-type: none"> • Nunn-McCurdy (Mar-Jun 10) 	<ul style="list-style-type: none"> • TEMP (Dec 09) 	<ul style="list-style-type: none"> • OIPT (Feb 10, Nov 10) • DAB (Mar 10, Nov 10) • Technical Baseline Review (TBR) (Jun-Sep 10) • IPR (Apr 10)
Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)	<ul style="list-style-type: none"> • Office of Secretary of Defense/Space and Intelligence Office Integrated Product Team Review (Apr-Sept 10) 	<ul style="list-style-type: none"> • TEMP (Jan 09) • 	<ul style="list-style-type: none"> • OIPT (Jul 10) • IIP (Nov 10, Dec 10)

Program	Program Engagement – OSD Oversight	TEMPs	DT&E Input to OSD Reviews
	<ul style="list-style-type: none"> • Integrated Baseline Review (Aug 10) • DAES (Jul 10) 		
Global Combat Support System–Army (GCSS-A)	<ul style="list-style-type: none"> • PMR (Jun 10) • Limited User Test OTRR (Aug-Sep 10) • 	<ul style="list-style-type: none"> • TEMP (Apr 10) 	
Global Hawk	<ul style="list-style-type: none"> • IIPT (Feb 10, Mar 10, May 10) • ITT (Feb 10) • Test Review (Feb 10) • OTRR (Aug 10) • AOTR (Aug 10) 	<ul style="list-style-type: none"> • TEMP (Feb 09) 	<ul style="list-style-type: none"> • OIPT (Mar 10, Apr 10, May 10) • DAB (Jun 10) • Nunn-McCurdy-Like OIPT (Oct 10)
H-1 Upgrades (4BW/4BN)	<ul style="list-style-type: none"> • WIPT (Aug 10, Oct 10) • IIPT (Aug 10) 	<ul style="list-style-type: none"> • AH-1Z FRP (Dec 09) 	<ul style="list-style-type: none"> • OIPT (Apr 10, Oct 10); DAB MS III (Dec 10)
Joint Air-to-Surface Standoff Missile–Extended Range (JASSM-ER)	<ul style="list-style-type: none"> • IIPT (Sep 10) • ITT (Sep 10, Nov 10) • Reliability Discussion (Oct 10) • AOTR (Dec 10) 	<ul style="list-style-type: none"> • TEMP (Aug 10) 	<ul style="list-style-type: none"> • OIPT (Nov 10, Sep 10); DAB IPR (Jan 10)
C27J Spartan	<ul style="list-style-type: none"> • IIPT (Nov 09) • AOTR (Dec 09) • T&E WIPT (Dec 09, Apr 10, Sep 10) • Multi-Service Operational T&E (Dec 10) 	<ul style="list-style-type: none"> • TEMP (Jun 10) 	<ul style="list-style-type: none"> • OIPT (Sep 10)
Joint Tactical Radio System Ground Mobile Radio (JTRS GMR)	<ul style="list-style-type: none"> • T&E WIPT (bimonthly for Joint Program Executive Office (JPEO) (approximately 10); weekly for T&E integrated team, more than 20 teleconferences) • Test Event visits to site (3) • Presentation on AOTR (at JPEO) and DT&E Org-Intro (1) • System Integration Testing– and Network Enterprise Domain related software capabilities, maturity testing (WIPTs on new technology – Wideband Network Waveform (3)) 	<ul style="list-style-type: none"> • MS B (Oct 07) • MS C TEMP (Dec 08) • 	<ul style="list-style-type: none"> • DAES (Nov 10, Jul 10) • Executive Steering Board (ESB) (Nov 10)

Program	Program Engagement – OSD Oversight	TEMPs	DT&E Input to OSD Reviews
Littoral Combat Ship (LCS)		<ul style="list-style-type: none"> TEMP (Dec 08) update due after Feb 11 Seaframe MS B 	<ul style="list-style-type: none"> Mission Module T&E IPT, Seaframe T&E WIPT, OIPT, MS B DAB DASD(DT&E) visit to LCS 2, observed DT&E, collaborated with Commander, Operational Test and Evaluation Force regarding integrated testing
Mine-Resistant Ambush-Protected (MRAP) Vehicle	<ul style="list-style-type: none"> T&E WIPT (Jan 10, Apr 10, Jun 10, Aug 10, Dec 10) 	<ul style="list-style-type: none"> Post-MS C TEMP Update for LRIP (Nov 09) 	
Mobile Landing Platform (MLP)	<ul style="list-style-type: none"> T&E WIPT (Feb 10, Jun 10, Aug 10, Nov 10) EOA (Sep) 	<ul style="list-style-type: none"> MS B (TBD) 	
Multifunctional Information Distribution System Joint Tactical Radio System (MIDS JTRS)	<ul style="list-style-type: none"> IIPs (2), OIPT, Hot Wash on SE/Research concerns and teleconferences for DT&E flight test events and DAB Preparation (approximately 8) (Nov-Dec 09) T&E WIPTs – Flight test report and calls including contractor lead engineers and Navy test squad feedback, etc. (approximately 8) 	<ul style="list-style-type: none"> TEMP – Core Terminal TEMP – Annex K for F/A-18 E/F Platform 	<ul style="list-style-type: none"> DAES (Nov, Jul) OIPs/Hot Wash for Program MS C DAB IPR DAB (split LRIP test articles) AOTR for Integration to F/A-18 Platform OTRR (Navy) to enter IOT&E
Multi-Mission Maritime Aircraft (P-8A Poseidon)	<ul style="list-style-type: none"> T&E WIPT (Feb 10, May 10, Jul 10) TEMP IPT (Mar 10) T&E Planning Assessment (Jul 10) First Flight Readiness Review (Mar 10, May 10) 	<ul style="list-style-type: none"> TEMP (Aug 10) 	<ul style="list-style-type: none"> OIPT (Jul 10) DAB MS C (Aug 10)
NAVSTAR Global Positioning System (GPS)		<ul style="list-style-type: none"> Enterprise TEMP OSD (Nov 09) 	<ul style="list-style-type: none"> DAB (Dec 10) OIPT (Jan 10, Oct 10 (3)) IIP (Jul 10, Aug 10, Sep 10 (2)) ITT (Feb 10, May 10, Jun 10, Sep 10)

Program	Program Engagement – OSD Oversight	TEMPs	DT&E Input to OSD Reviews
			10) <ul style="list-style-type: none"> • T&E Working Group (Sep 10) • Weekly OTP Meeting • Weekly GPS Flex Power Meeting
Next Generation Enterprise Network (NGEN) Increment 1	<ul style="list-style-type: none"> • Acquisition WIPTs (3) • T&E WIPTs (3) 	<ul style="list-style-type: none"> • (2-3 Draft TEMP versions given informal comments; proceeding in parallel to CPD and Baseline Performance Assessment under Marine Corps leadership) 	<ul style="list-style-type: none"> • IIPT (2) • OIPT (2) • Milestone Decision Authority DAB to enter 5000 process as Navy-led MAIS
Next Generation Nuclear Aircraft Carrier (CVN 78)		<ul style="list-style-type: none"> • TEMP (Jul 07), update in progress ETC late 2011 	
Phased Array Tracking to Intercept of Target/ Medium Extended Air Defense System (PATRIOT/MEADS)	<ul style="list-style-type: none"> • TEMP Working Group (Nov 10) 		<ul style="list-style-type: none"> • DAES (Jun 10)
Reaper Unmanned Aircraft System (MQ-9 UAS Reaper)	<ul style="list-style-type: none"> • DAES (Sep 10, Nov 10) • T&E WIPT (Nov 09, Feb 10) • IIPT (Oct 09, Jan 10) • Stakeholder Meeting (Jun 10) • Systems Preparation (Sep 10) • Site Visit (Dec 10) 	<ul style="list-style-type: none"> • TEMP (Aug 07) 	<ul style="list-style-type: none"> • OIPT (Oct 09, Feb 10, Oct 10) • DAB IPR (Mar 10)
Remote Minehunting System (RMS)	<ul style="list-style-type: none"> • Nunn-McCurdy (Jun 10) 	<ul style="list-style-type: none"> • TEMP (Aug 08) 	
Ship to Shore Connector (SSC)	<ul style="list-style-type: none"> • T&E WIPT (Jan 10, Jul 10, Dec 10) • T&E Craft Meeting (Jun 10) • Acquisition Strategy WIPT (Jun 10) • EOA (Nov 10) 		

Program	Program Engagement – OSD Oversight	TEMPs	DT&E Input to OSD Reviews
Small Diameter Bomb Increment II (SDB II)	<ul style="list-style-type: none"> • MS C Exit Criteria (Jul 10) • CDR (Dec 10) • Program Review (Jul 10) • Test Overview (Nov 10) 	<ul style="list-style-type: none"> • TEMP (May 10) 	<ul style="list-style-type: none"> • OIPT (Jul 10) • DAB MS B (Jul 10)
Space-Based Infrared System–High Component (SBIRS High)	<ul style="list-style-type: none"> • DAES (Jun 10, Nov 10) 	<ul style="list-style-type: none"> • TEMP (May 07) • Draft TEMP Update to support E-5 Certification 	<ul style="list-style-type: none"> • OIPT (Jun 10)
Standard Missile-6 (SM-6)	<ul style="list-style-type: none"> • At-Sea DT (May 10) • DAES (Mar 10, Jun 10, Sep 10, Dec 10) • T&E WIPTs (Jul 10, Sep 10) 	<ul style="list-style-type: none"> • TEMP (Jun 09) 	<ul style="list-style-type: none"> • OIPT (Apr 10) • DAB (LRIP) (Jun 10)
Stryker: STRYKER Nuclear, Biological, and Chemical Reconnaissance Vehicle (NBCRV), Mobile Gun System (MGS), and Double-V Hull (DVH)	<ul style="list-style-type: none"> • DVH CDR (Jul 10) • DVH Quick-Look Assessment (Jul 10) • DVH T&E IPT (Jun 10, Aug 10, Nov 10) • NBCRV AOTR (Sep 10) • NBCRV Test Readiness Review (TRR) (Sep 10) • NBCRV T&E IPT (Sep 10, Nov 10, Dec 10) • Stryker PMR (Jun 10, Nov 10) • MGS T&E IPT (Sep 10, Nov 10, Dec 10) • MGS DT Assessment (Oct 10) 	<ul style="list-style-type: none"> • NBCRV Post-MS C FRP TEMP (Jul) 	<ul style="list-style-type: none"> • DVH ADM (Apr 10, Jul 10) • DVH OIPT (Jun10)
VIRGINIA Class Submarine (SSN 774)	<ul style="list-style-type: none"> • MS III (FRP) • T&E WIPT (Aug 10) 	<ul style="list-style-type: none"> • MS III (Jun 09) 	<ul style="list-style-type: none"> • OIPT (Jun 10) • FRP DAB (Sep 10)
Warfighter Information Network–Tactical (WIN-T) Increment 2	<ul style="list-style-type: none"> • T&E WIPTs • WIN-T Increment 2 ATEC Emerging Results (Aug 10) • Risk Reduction Event Test Series Analysis Meetings • Failure Mode Closure/ Government Witness Tests 	<ul style="list-style-type: none"> • MS C (Jul 09) 	<ul style="list-style-type: none"> • IIPT • Increments 2 and 3 OIPT (Jun 10) • IIPT (Jul 10) • OIPT (Aug 10) • Increment 2 MS C DAB (Feb 10)
Wideband Global SATCOM (WGS)	<ul style="list-style-type: none"> • Nunn-McCurdy (Mar-Jul 10) 	<ul style="list-style-type: none"> • MS C/FRP (Mar 03) 	<ul style="list-style-type: none"> • Nunn-McCurdy (Mar-Jul 10) • Nunn-McCurdy DAB (Jul 10) • OIPT (Feb 10, Jun 10) • Nunn-McCurdy DAB Preps (Jul

Program	Program Engagement – OSD Oversight	TEMPs	DT&E Input to OSD Reviews
			10) <ul style="list-style-type: none"> • Nunn-McCurdy Principals Meeting (Apr 10 (2)) • Nunn-McCurdy IPT (Apr 10 (4)) • ITT (Nov 10)

CLOSING REMARKS

Although we recognize that there is still much to do, the DASD(DT&E) and DASD(SE) are encouraged by the progress shown in this year's assessments and MDAP reports. This FY10 report identifies plans for growing the capabilities across the Department in DT&E and SE to support our programs in the near term.

With the FY11 report, we plan to evaluate the Services assessment, established as an annual requirement from FY11 through FY14 by the NDAA of 2011. We expect to continue our aggressive efforts to ensure that workforce capacity and capability needs across the Department are met.

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ABBREVIATIONS AND ACRONYMS

ACAT	Acquisition Category
ADM	Acquisition Decision Memorandum
AFI	Air Force Instruction
AFIT	Air Force Institute of Technology
AFMC	Air Force Materiel Command
AoA	Analysis of Alternatives
AOTR	Assessment of Operational Test Readiness
ASA(ALT)	Assistant Secretary of the Army for Acquisition, Logistics, and Technology
ASD(R&E)	Assistant Secretary of Defense for Research and Engineering
ATEC	Army Test and Evaluation Command
BRAC	base realignment and closure
BTA	Business Transformation Agency
CDR	Critical Design Review
COE	common operating environment
CTP	critical technical parameter
DAB	Defense Acquisition Board
DAES	Defense Acquisition Executive Summary
DAG	Defense Acquisition Guidebook
DASD(DT&E)	Deputy Assistant Secretary of Defense for Developmental Test and Evaluation
DASD(SE)	Deputy Assistant Secretary of Defense for Systems Engineering
DAU	Defense Acquisition University
DAWIA	Defense Acquisition Workforce Improvement Act
DISA	Defense Information Systems Agency
DoD	Department of Defense
DoDI	Department of Defense Instruction
DON	Department of the Navy
DOT&E	Director of Operational Test and Evaluation
DP	development planning
DT	developmental test
DT&E	developmental test and evaluation
DTM	Directive-Type Memorandum
DVH	double-V hull
EOA	Early Operational Assessment
ESB	Executive Steering Board
FFRDC	Federally Funded Research and Development Center
FRP	Full-Rate Production
FY	fiscal year
HCI	Human Capital Initiatives
HSI	human systems integration

ABBREVIATIONS AND ACRONYMS

IA	information assurance
IBD	Integrated Base Defense
IIPT	Initial Integrated Product Team
IOT&E	Initial Operational Test and Evaluation
IPR	In-Progress Review
IPT	Integrated Product Team
IT	information technology
ITAB	Information Technology Advisory Board
ITT	Integrated Test Team
KDP	Key Decision Point
KLP	Key Leadership Position
KPP	key performance parameter
LRIP	Low-Rate Initial Production
MAIS	Major Automated Information System
MDA	Missile Defense Agency
MDAP	Major Defense Acquisition Program
MDD	Materiel Development Decision
MS	Milestone
NAVAIR	Naval Air Systems Command
NDAA	National Defense Authorization Act
NPS	Naval Postgraduate School
OIPT	Overarching Integrated Product Team
OSD	Office of the Secretary of Defense
OT&E	Operational Test and Evaluation
OTRR	Operational Test Readiness Review
PDR	Preliminary Design Review
PEO	Program Executive Office
PL	Public Law
PM	program manager
PMO	Program Management Office
PMR	Program Management Review
PPBE	Planning, Programming, Budgeting, and Execution
PQM	Production, Quality, and Manufacturing
PRR	Production Readiness Review
PSE	Program Systems Engineer
PSR	Program Support Review
RAM	reliability, availability, and maintainability
RTO	Responsible Test Organization
S&E	science and engineering
SE	systems engineering
SEAC	Scientist and Engineer Advisory Council

ABBREVIATIONS AND ACRONYMS

SEP	Systems Engineering Plan
SESG	Systems Engineering Stakeholders Group
SETR	Systems Engineering Technical Review
SFR	System Functional Review
SoS	system of systems
SoSE	system-of-systems engineering
SPAWAR	Space and Naval Warfare Systems Command
SPRDE	Systems Planning, Research, Development, and Engineering
SRR	System Requirements Review
S&T	science and technology
STEM	science, technology, engineering, and mathematics
SYSCOM	systems command
T&E	test and evaluation
TEMP	Test and Evaluation Master Plan
TES	Test and Evaluation Strategy
TRR	Test Readiness Review
UARC	University Affiliated Research Center
UAS	unmanned aircraft system
USD(AT&L)	Under Secretary of Defense for Acquisition, Technology, and Logistics
WIPT	Working Integrated Product Team

**Department of Defense Developmental Test and Evaluation
and Systems Engineering FY10 Annual Report**

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