OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2006

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 3	**0603750D8Z - Advanced Concept Technology Demonstration (ACTD)**

	Cost ($ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
	Total Program Element (PE) Cost	207.818	170.275	158.334	164.696	177.936	182.380	177.252
P523	Advanced Concept Technology Demonstration (ACTD)	207.818	170.275	158.334	164.696	177.936	182.380	177.252

A. Mission Description and Budget Item Justification: The Department of Defense (DoD) initiated the Advanced Concept Technology Demonstration (ACTD) program in 1995 with the purpose of demonstrating new, mature technologies in an operational environment and the goal of getting new technology into the hands of the warfighter as quickly as possible. Early successes included the Predator and Global Hawk unmanned aerial vehicles (UAVs). As of year end FY05, DoD has started 144 ACTDs, a total of 64 ACTDs were in process, and 19 had been returned to the technology base or terminated. The program continues to demonstrate success in meeting urgent warfighter needs with 65 ACTDs contributing products that are/ were employed in Operation Iraqi Freedom (OIF) and/or Operation Enduring Freedom (OEF). Some of these ACTDs are completing their operational demonstrations in a wartime environment. A non-exhaustive list of ACTDs deploying products to either OIF or OEF includes: Language and Speech Exploitation Resources (LASER), Expendable Unmanned Aerial Vehicle (XUAV), and the Joint Explosive Ordnance Disposal (JEOD) projects. The streamlined approach to ACTDs brings together technologists and military operators, who together insert advanced technologies into live demonstrations, evaluating their military utility in the field, while tailoring operational concepts and tactics, techniques, and procedures (TTPs) for warfighter employment.

In FY 2006, the Deputy Undersecretary of Defense for Advanced Systems and Concepts (DUSD(AS&C)) initiated a new business process, building on the successful ACTD program, to support the Department's transformational reform of addressing future threats from a capabilities focus versus the classical threat based viewpoint. The revised ACTD approach is called the Joint Capability Technology Demonstration (JCTD) program, and is based on proven, positive aspects of the ACTD program. The JCTD model specifically addresses congressional concerns and recommendations made by the General Accountability Office (GAO) regarding rapid development and transitioning of CoCom relevant capabilities to the joint warfighter in a more cost effective, timely and efficient model. Aligning closely with the thrust of with the Joint Staff's Joint Integration and Development System (JCIDS), JCTDs take a more balanced project candidate identification approach, shifting the overall program's focus to identifying specific warfighter capabilities needs up front (requirements pull), and then finding technology or concepts to address these needs, while maintaining the historical ACTD approach, where new technology is introduced to the warfighter to solve existing operational shortfalls (technology push). FY 2006 was the first year of a three to five year transition period from the current ACTD to the improved JCTD program. At the end of this transition period, JCTDs will replace ACTDs, providing an even faster process that rapidly provides demonstrated solutions to joint warfighter needs, and unique transformational capabilities through the application of new operational concepts or technology from the Science and Technology (S&T) domain, with resources aimed at carrying successful projects through the difficult transition stage ("S&T valley of death"). In FY 2006, the ten ACTD/JCTD new start projects consisted of six ACTDs and four JCTDs. To better support the transition of unique or niche operational capabilities, the JCTD business model includes the Defense Acquisition Executive (DAE) pilot program, designed to take a limited number of "joint peculiar" JCTDs past Milestone B, through System Development and Demonstration (SDD), into procurement, followed by initial sustainment---a "cradle to grave" approach. The DAE pilot program will provide overall programmatic oversight of JCTDs that are deemed uniquely joint/combined (i.e., capability directly supports more than one Military Service) and/or transformational.

The appropriation, Program Element (PE) and Budget Activity (BA) structure for the new JCTD process includes the following:

- JCTD PE 0603648D8Z (RDT&E/DW BA-3)
- JCTD Transition Funding PE 0604648D8Z (RDT&E/DW BA-4)
- Defense Acquisition Executive (DAE) PE 0605648D8Z (RDT&E/DW BA-5)

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• JCTD Procurement (funded in Procurement Defense Wide, OSD Major Equipment: PE 0902198D8Z).

In FY 2006, DUSD(AS&C) shifted an initial allocation of resources ($40 million) from the ACTD PE 0603750D8Z into these program element (PE)s. During the three to five year transition period, additional resources will be shifted into the various JCTD PEs from the ACTD PE, ultimately establishing a funding stream to support approximately ten new JCTDs each year. It is envisioned that the BA-3 JCTD PE will eventually replace the current ACTD BA-3 PE; however, during the transition period, the JCTD and ACTD projects will use the combined resources of both the JCTD and ACTD PEs to ensure continuity of ongoing ACTDs and program flexibility for the new JCTDs. JCTDs may be funded from both the ACTD and JCTD PEs during this transition period. During this period, the overall program will sometimes be referred to as the JCTD/ACTD program, to address the transitional nature of the process. JCTDs are initiated in Budget Activity three (BA-3) and are pre-acquisition demonstrations, characterized by Technology Readiness Levels 4, 5 or 6. Although not fully developed for production, these newly initiated JCTDs can provide a path for transition of Science and Technology to acquisition and are low-to-moderate risk vehicles for pursuing those objectives. The Defense Wide RDT&E funding managed DUSD(AS&C) will support demonstration of military utility and deployment of interim capability including an "extended user evaluations," providing the Combatant Commanders, Services, Agencies, and operators with adequate time to address transition issues of supportability, maintainability and training identified by the JCTD/ACTD. As described, the JCTD Program will pioneer a transformational new model for Department of Defense acquisition with the addition of funding in BA4, BA5 and Procurement to provide a path for those capabilities that are so transformational that they require a purposeful transition to acquisition to address some of the transition concerns identified by the ACTD program.

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	212.915	163.649	163.744
Current BES/President's Budget (FY 2007)	207.818	170.275	158.334
Total Adjustments	-5.097	6.626	-5.410
Congressional Program Reductions		-4.800	
Congressional Rescissions	-4.747	-2.774	
Congressional Increases	5.100	14.200	
Reprogrammings	-0.815		
SBIR/STTR Transfer	-4.635		
Other			-5.410

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
Joint Capability Technology Demonstration (JCTD) PE	0.000	34.443	35.553	35.590	35.624	35.613	35.576	Continuing	Continuing

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APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 3	**0603750D8Z - Advanced Concept Technology Demonstration (ACTD)**

0603648D8Z									
Joint Capability Technology Demonstration (JCTD) Transition PE 0604648D8Z	0.000	6.889	3.047	3.050	3.053	3.052	3.049	Continuing	Continuing
Defense Acquisition Executive (JCTD Pilot Program) PE 0605648D8Z	0.000	0.985	6.015	6.016	6.017	6.017	6.016	Continuing	Continuing
Procurement (JCTD Pilot), Major Equipment-OSD Def Wide PE 0902198D8Z	0.000	1.000	2.000	2.000	2.000	2.000	2.000	Continuing	Continuing

Comment: The new JCTD Program provides a "cradle to grave" path for transformational joint capabilities. The initial funding lines are outlined in the table below. Refer to the specific Budget Exhibit for more details on each funding line.

D. Acquisition Strategy The strategy for ACTDs has always been to focus on developing a transition path into a program of record or to establish a new program for those projects that show significant military utility. Under the new JCTD program, only the ACTD/JCTDs that demonstrate the highest military utility will be considered for the transition funding in the JCTD BA4 Transition PE and the DAE BA5 PE. Promising ACTDs may receive transition funding during the transition period to the JCTD program.

- Fifty percent of the products from at least 80% of all completing JCTDs will transition to acquisition programs of record, a GSA schedule, CoCom sustainment or, in the case of software-based products, into operationally-sustained systems (such as the Global Command and Control System (GCCS).
- JCTD/ACTDs completing ACD&P will be at TRL 6 or 7 and a logical progression of program phases to include development and funding will be established via a documented transition plan.

E. Performance Metrics:

FY	Strategic Goals Supported	Existing Baseline	Planned Performance Improvement / Requirement Goal	Actual Performance Improvement	Planned Performance Metric / Methods of Measurement	Actual Performance Metric / Methods of Measurement
07	Selection focus					
	Ability to spiral technologies					
	Independent assessment of the technology					
	Adequately resourced projects					
	Complete a final					

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	demonstration					
	Number of successful capabilities transitioned					

Comment: The majority of funding from this Program Element is forwarded to the Services/Defense Agencies that execute the individual ACTD projects. DUSD(AS&C) maintains and provides overall programmatic oversight for the ACTD program, to include the individual ACTD projects. The JCTD/ACTD performance metrics center on how fast relevant joint and/or transformational technologies can be demonstrated and provided to the joint warfighter. These metrics are driven by the overall business process which includes six parts: (1) selection focus; (2) ability to spin-off spiral technologies; (3) time necessary to complete a final demonstration; (4) adequately resourced projects with appropriate oversight; (5) capability to complete an independent assessment of the technology; and (6) the number of successful capabilities that are actually transitioned to the warfighter. The table below defines these metrics and helps compare/contrast the current ACTD program with the new JCTD business process model.

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RDT&E/ Defense Wide BA# 3	**0603750D8Z - Advanced Concept Technology Demonstration (ACTD)**	**P523**

Cost ($ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
P523	Advanced Concept Technology Demonstration (ACTD)	207.818	170.275	158.334	164.696	177.936	182.380	177.252

A. Mission Description and Project Justification: The Advanced Concept Technology Demonstration (ACTD) program began in 1995 with the purpose of demonstrating new, mature technologies in an operational environment and a goal of getting new technologies into the hands of the warfighter as quickly as possible. A key ingredient to the relevant and rapid insertion of technology is the ability for an ACTD to be initiated faster than the traditional two year DoD Planning, Programming, Budgeting, and Execution (PPBE) process. Each year the President's Budget submission provides resources for the next slate of ACTDs which are just beginning their selection process. This allows a rapid/accelerated technology insertion process which helps maintain relevancy to the warfighters, compared to a "standard" PPBE process which requires a minimum of two years to initiate new technologies to begin development for a demonstration several years later. The goal is to speed up the acquisition process by operationally demonstrating capabilities, looking for an eighty percent solution so an acquisition decision can be made quicker---a "try before you buy" approach. ACTDs are selected by the Combatant Commanders (CoComs) and the Services. Oversight is provided by the Deputy Under Secretary of Defense for Advanced Systems and Concepts (DUSD(AS&C)). Each year, DUSD(AS&C) forwards a new slate of ACTD to the Joint Staff for mission need validation (capability shortfall validation under JCIDS). Upon JROC validation, the Department informs congress of the new ACTDs, and projects are usually initiated within a few weeks of selection (depending on budget enactment). This selection and validation process can occur in as little as nine months, but is usually based on an annual review process. Each ACTD is included in the Joint Warfighting Science and Technology Plan (JWSTP) as a Defense Technology Objective (DTO) to help leverage the technology being demonstrated and avoid duplication within the Department.

In FY 2006, the Deputy Undersecretary of Defense for Advanced Systems and Concepts (DUSD(AS&C)) initiated a new business process, building on the successful ACTD program, to support the Department's transformational reform of addressing future threats from a capabilities focus versus the classical threat based viewpoint. The revised ACTD approach is called the Joint Capability Technology Demonstration (JCTD) program, and is based on proven, positive aspects of the ACTD program. The JCTD model specifically addresses congressional concerns and recommendations made by the General Accountability Office (GAO) regarding rapid development and transitioning of CoCom relevant capabilities to the joint warfighter in a more cost effective, timely and efficient model. Aligning closely with the thrust of with the Joint Staff's Joint Integration and Development System (JCIDS), JCTDs take a more balanced project candidate identification approach, shifting the overall program's focus to identifying specific warfighter capabilities needs up front (requirements pull), and then finding technology or concepts to address these needs, while maintaining the historical ACTD approach, where new technology is introduced to the warfighter to solve existing operational shortfalls (technology push). FY 2006 was the first year of a three to five year transition period from the current ACTD to the improved JCTD program. At the end of this transition period, JCTDs will replace ACTDs, providing an even faster process that rapidly provides demonstrated solutions to joint warfighter needs, and unique transformational capabilities through the application of new operational concepts or technology from the Science and Technology (S&T) domain, with resources aimed at carrying successful projects through the difficult transition stage ("S&T valley of death"). In FY 2006, the ten ACTD/JCTD new start projects consisted of six ACTDs and four JCTDs. To better support the transition of unique or niche operational capabilities, the JCTD business model includes the Defense Acquisition Executive (DAE) pilot program, designed to take a limited number of "joint peculiar" JCTDs past Milestone B, through System Development and Demonstration (SDD), into procurement, followed by initial sustainment---a "cradle to grave" approach. The DAE pilot program will provide overall programmatic oversight of JCTDs that are deemed uniquely joint/combined (i.e., capability directly supports more than one Military Service) and/or transformational.

In FY 2006, DUSD(AS&C) shifted an initial allocation of resources ($40.000 million) from the ACTD PE 0603750D8Z into the JCTD specific program element (PE)s. During the three

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	PROJECT **P523**

to five year transition period, additional resources will be shifted into the various JCTD PEs from the ACTD PE, ultimately establishing a funding stream to support approximately ten new JCTDs each year. It is envisioned that the BA-3 JCTD PE will eventually replace the current ACTD BA-3 PE; however, during the transition period, the JCTD and ACTD projects will use the combined resources of both the JCTD and ACTD PEs to ensure continuity of ongoing ACTDs and program flexibility for the new JCTDs. JCTDs may be funded from both the ACTD and JCTD PEs during this transition period. During this period, the overall program will sometimes be referred to as the JCTD/ACTD program, to address the transitional nature of the process. JCTDs are initiated in Budget Activity three (BA-3) and are pre-acquisition demonstrations, characterized by Technology Readiness Levels 4, 5 or 6. Although not fully developed for production, these newly initiated JCTDs can provide a path for transition of Science and Technology to acquisition and are low-to-moderate risk vehicles for pursuing those objectives. The Defense Wide RDT&E funding managed DUSD(AS&C) will support demonstration of military utility and deployment of interim capability including an "extended user evaluations," providing the Combatant Commanders, Services, Agencies, and operators with adequate time to address transition issues of supportability, maintainability and training identified by the JCTD/ACTD. As described, the JCTD Program will pioneer a transformational new model for Department of Defense acquisition with the addition of funding in BA4, BA5 and Procurement to provide a path for those capabilities that are so transformational that they require a purposeful transition to acquisition to address some of the transition concerns identified by the ACTD program.

AS&C will introduce a new business process as DoD shifts from a threat based to a capability based focus. The ACTD program will be replaced by the JCTD program in a 3-5 year transition period beginning in FY 2006. Emphasis will be placed on serving the unique requirements of CoComs, with coalition and transformational aspects highlighted. A strong commitment to early and aggressive transition management will aim to sustain the capabilities demonstrated. Coalition partnerships and Joint Staff JCIDS integration will characterize support efforts. JROC validation of FY 2006 projects has been accomplished. Numerous demonstrations will be conducted for ongoing ACTDs. FY 2007 candidates will be reviewed in February 2006. Funding will continue for active ACTDs initiated from 1997 to 2005 that have completed or transitioned. Congressional increases totaled $14.200 million. The Department estimates starting ten new JCTD/ACTDs in both FY 2006/2007.

B. Accomplishments/Planned Program:

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Rosetta STONE	1.000	0.000	0.000

Rosetta STONE (Single integrated picture Topology-driven Optical Nonlinear Engine—SIP-STONE) is a promising joint enabling technology. The Department will develop this enabling technology capable of integrating multi-source sensor data/track inputs from all available sources, correlating the data and fusing it into a single integrated picture. The technology combines the Rosetta gateway technology from the LINK 16 ACTD (1999) that enables multi-datalink translation and forwarding of data with the STONE optical correlator to provide near real-time fusion, sensor registration and correlation of information sources. The overall objective is to reduce engagement decision time, improve target location estimates, and provide enhanced combat identification (CID) from disparate sensors. USJFCOM is the operational manager of the SIP-STONE enabling technology.

- FY 2005 - Operational demonstration of Rosetta STONE full capability at demonstration during Limited Technology Experiment I aboard CVN-72 USS Abraham Lincoln during the 16-18 September 2005 Live-Fly exercise.
- FY 2006 - Transition to Navy.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Secure Hardware Data Encryption Device (SecureD)	2.000	1.000	0.000

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Since 2003 Congress has provided additional resources for the Secure Hardware Data Encryption Device (SecureD) project. The Department will develop an enabling capability to insert encryption methods to protect information at rest by interrupting the data bus to hard disk drive path within the computer, improving operational security in the event of lost or overrun computer assets.

• FY 2005 - Completed Federal Information Processing Standards (FIPS 140-2 Level 3) evaluation and certification process. Nearing completion of Common Criteria certification process through independent NIST/NIAP laboratory testing. National Security Agency is conducting assurance analysis of product. Commercial production processes are in place to provide limited number of products for DoD implementation. Miniaturization process and production process for laptop form factor is complete. SecureD products provided for reality based operational scenarios. Completed design work for a certifiable cryptographic key management system (KMS) that will work in conjunction with SecureD.

• FY 2006 - (If funded) will complete development and certification of SecureD KMS. Continue and expand reality based operational scenarios with DoD and other federal government agencies. Expand interface capability of SecureD to include Serial ATA capability of next generation equipments. Provide proximity keying capability to simplify operational implementation. Develop an acquisition strategy for reduced cost organizational deployment.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Remote Unattended Sensing System (RUSS)	1.050	0.000	0.000

Development, design and technology integration of RUSS into the Bio Ops Plan. RUSS will provide a modular platform for a variety of sensors that are able to detect biological warfare activity over long periods of time in a variety of sites, including remote or hostile/denied locations. RUSS will provide remote connectivity to these sensors over a variety of military and commercial networks and radio links. RUSS will support force and area protection requirements for CoComs and civil authorities. RUSS will accept a wide variety of present and future sensors and communications devices.

• FY 2005 - Continue FY 2004 activities. Develop, test, and demonstrate RUSS hardware and software in conjunction with scheduled NVESD CUA ACTD exercises. Demonstrate flexible connectivity with COTS sensors and a wireless network. Integrate results with existing tagging, tracking, and locating (TTL) initiatives.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
JP-8 Pilot Program (see note on funding)	0.000	3.600	0.000

Note 1: * $4.500 million funded in FY 2005 RDT&E , Army Appropriation, page 251, line 14 under Combat Vehicle and Automotive Technology Note 2: *$3.600 million for FY 2006 RDT&E, Defense-wide, under 0633750D8Z Adv. Concept Tech Demos as shown in HAC Report 109-119, June 10, 2005 and $18.000 million for FY 2006 RDT&E, Defense-wide, under 0633750D8Z Adv. Concept Tech Demos as shown in SASC Report 109-69, May 17, 2005. This project is to investigate the feasibility and merits of a capability to produce in-theatre, from local natural gas, a single synthetic fuel that is usable in ground vehicles, aircraft, and ships. The products of this effort will be test reports and evaluations, feasibility study reports, engineering design studies, and concept of operations. The three key areas of this effort will be: 1) definition of the necessary chemical formulation, optimize the hull design for the barge mounted plant, military usefulness of a modular size plant.

• FY 2005 - Continue Military Utility Assessment for modular synthetic fuels plants having a capability of providing fuel, power and water to forward-based forces. Continue development of a formulation for synthetic JP-8 / JP-5.

• FY 2006 - Pre-certification research and testing of freely interchangeable synthetic JP-8/JP-5, particularly testing of the near-term solution based on formulations of synthetic JP-8/JP-5 blended with conventional JP-8/JP-5. Pre-certification evaluations of blend formulations in some DoD ground equipment.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Anti-Terrorist Explosive Ordnance Disposal Real Time Mission Support System	0.000	1.000	0.000

This project is being evaluated for consideration as a potential enabling technology for various ACTD/JCTDs. If an acceptable ACTD/JCTD project(s) cannot be identified, DoD will request the congressional committees approve the redirection of the funds to an appropriate program element under the "prior approval" process established for congressional interest line-items.

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Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Homeland Security Command/Control Demo	0.000	1.000	0.000

For A Joint Program Involving Louisiana National Guard The South La Economic Council Nicholls State University And Louisiana State Police. Program To Be Conducted With Nicholls State University Facilities.) ATL Congressional liasion currently researching.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Crossed Field Radiation Technology	0.000	1.000	0.000

This project is being evaluated for consideration as a potential enabling technology for various ACTD/JCTDs. If an acceptable ACTD/JCTD project(s) cannot be identified, DoD will request the congressional committees approve the redirection of the funds to an appropriate program element under the "prior approval" process established for congressional interest line-items.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Low Cost Autononomous Attack System	1.000	0.000	0.000

Technical error, transferred to the Air Force for execution.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Spike Missile Development and Production	0.000	1.500	0.000

This project is being evaluated for consideration as a potential enabling technology for various ACTD/JCTDs. If an acceptable ACTD/JCTD project(s) cannot be identified, DoD will request the congressional committees approve the redirection of the funds to an appropriate program element under the "prior approval" process established for congressional interest line-items.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Platform Test bed for Advanced Sensors (PTAS)	1.000	3.000	3.000

The JCTD/ACTD program has a critical need for a medium-high altitude airborne platform test bed to support worldwide projects and demonstrations of various technologies ranging from scientific/experimental to operational/intelligence missions. NASA currently operates the sole remaining operational long-wing WB-57 aircraft. These aircraft have been determined useful to support the JCTD/ACTD program as a demonstration platform of new technologies. The JCTD/ACTD program will provide resources to NASA via the USAF using an Interagency Agreement. DUSD (AS&C) will help establish mission requirements & priorities, defining payload configurations, and the demonstration/testing schedule. NASA will provide maintenance support for the aircraft and engineering support for payload integration. The JCTD program estimates 200 flight hours will be required annually beginning in FY 2006. Support also includes use of hangar and office space for experiment planning/data processing.

- FY 2005 - Program initiation, commence flight hour program for demonstrations and testing.
- FY 2006 - Approximately 200 planned flight hours for technology demonstrations and testing.
- FY 2007 - Approximately 200 planned flight hours for technology demonstrations and testing.

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Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
CINC 21	0.400	0.000	0.000

Develop, demonstrate, assess and transition the concept of operations, hardware and software necessary to provide a theater Combatant Commanders with a command and control (C2) environment that addresses improved situational awareness and decision making tools across multiple simultaneous crisis operations and theater engagement activities. The User Sponsor is PACOM.

• FY 2005 Accomplishments - The ACTD completed in FY 2004, however, a small portion of FY 2005 was issued to maintain an operating environment that supports the Extended User Assessment. The funds ensured CINC 21/CRASOC was integrated with and is compatible with emerging technology and the Concept of Operations.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Coalition Aerial Surveillance and Reconnaissance (CAESAR)	0.600	0.000	0.000

Provided near-real-time, exploited ground surveillance data to multiple echelons of command between critical NATO allies. Developed a concept of operations and tactics, techniques and procedures for coalition employment of ground moving target indicators (GMTI) and synthetic aperture radar capability. U.S. Training and Doctrine Command System Manager / Joint STARS was the operational sponsor.

• FY 2005 Accomplishments - Conducted final integrated simulation exercise and utility assessment at the NATO Communications, Command and Control Agency, to test implementation of STANAG 4607 by the seven CAESAR participating nations (Canada, France, Germany, Italy, Norway, the United Kingdom, and the United States). Published final military utility assessment report. Transitioned products to NATO STANAGs and U.S. concepts of operation, and tactics, techniques, and procedures, as overseen by the Air Force Command and Control, Intelligence, Surveillance, and Reconnaissance Center. Concluded interim capability support phase to complete the ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Active Network Intrusion Defense (ANID)	1.200	0.000	0.000

Improve DoD's ability to protect, monitor, analyze, detect, and respond to unauthorized activity within DoD information systems and computer networks. ANID will improve response time and provide autonomic response capabilities to network intrusions, as well as improving collaboration between agencies to demonstrate a capability for responding in real-time to network intrusions by making changes to network devices like routers, firewalls, intrusion sensors, etc. The user sponsor is U.S. Strategic Command.

• FY 2005 Accomplishments - Installed ANID test suite at Naval Postgraduate School for Military Utility Assessment (MUA) readiness evaluation. Coordinated change in MUA venue with user sponsor to USSOUTHCOM. Negotiated sustainment responsibilities between Defense Information Systems Agency (DISA) and USSOUTHCOM. Conducted MUA, and transitioned residuals for sustainment by DISA at the USSOUTHCOM MUA sites for Extended User Evaluation. Completed the ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Adaptive Battlespace Awareness (ABA)	1.700	0.000	0.000

Demonstrate the potential of the Global Command and Control System (GCCS) Common Operating Picture (COP) to provide relevant information to support Combatant Commanders. ABA enhancements to the COP are configuring information and COP views to meet specific, time-sensitive mission requirements. The user sponsor is U.S. European Command.

• FY 2005 Accomplishments - Demonstrated and assessed additional logistics-based common operational picture spiral for EUCOM and CENTCOM, as well as incorporated extended user evaluations of residuals. Additional spiral will provide COP display of logistics in-transit visibility in support of OIF. Finalize concept of operations. Execute plan for transitioning ABA into GCCS-I3. Complete final MUA report. Completed the ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007

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Advanced Tactical Laser (ATL)	3.500	1.200	0.000

Integrate a moderate power laser, uncoiled optics, and existing fire-control systems onboard a C-130 aircraft. The user sponsor is U.S. Special Operations Command.

• FY 2005 Accomplishments - Began testing the ATL ACTD subsystems and continued the MUA. Commenced component integration and testing (i.e. beam director fabrication complete and system delivered, turret extension/retraction system complete and delivered, weapons system station delivered and partially assembled, optical bench populated and ready for installation, and laser optical bench delivered). C-130 test aircraft has been modified and certified for ACTD testing. Ground testing of the surveillance and beam control systems and begin integrating them onto the C-130 aircraft begun. Continued work on assembly, integration, and test of the high-power flight test laser module. Complete modifications of the integration and test facilities at Kirtland AFB, NM.

• FY 2006 Plans - Begin flight test of the ATL ACTD system and continue the MUA. Initial flight with surrogate laser scheduled for April/May time frame. Complete build-up, integration and ground test of the high-power flight test laser module and integrate the entire ATL ACTD system on the C-130 host aircraft. Complete ground verification tests of the entire integrated ATL system. Commence integrated system flight testing.

• FY 2007 Plans - USSOCOM will complete the MUA and commence interim capability support (if warrented), using component resources.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Advanced Technology Ordnance Surveillance (ATOS)	0.700	0.000	0.000

Demonstrate a system that will provide ordnance managers (and therefore the warfighter) near real-time total asset visibility (i.e. war reserve storage, battlefield distribution, and the environmental piece of in-transit) of their ordnance stockpile while also providing data for predictions of future condition and performance. The user sponsor is U.S. European Command.

• FY 2005 Accomplishments - Integrated flat file output of ATOS system for input into Ordnance Information System (OIS). OIS Retail availability scheduled for October 2005. Implemented/verified valid corrections for all recommended changes from the Military Utility Assessment (MUA). Finalized and presented MUA Outbrief to OSD and user sponsor. Completed the finalization of a joint CONOPS, joint transition plan, and joint specifications. Work with Naval Postgraduate School on independent cost benefit analysis (CBA). Pursued MIL-SPEC or STANAG for ATOS specifications. Continued installation planning for pilot implementation sites. Install ATOS system at select sites as determined by resource sponsor. Worked Service POM issues and continued to pursue Services buy-in for RFID/MEM POM lines utilizing the ATOS specifications as a minimum baseline. ACTD completed.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Coalition Combat Identification (CCID)	2.900	1.800	0.000

Demonstrates and transitions CCID solutions that significantly reduce fratricide and enhance combat effectiveness of allied and coalition forces operating in both traditional and ad-hoc coalitions. Joint Forces Command (JFCOM), in conjunction with Allied Transformation Command, is working with the coalition partners to conduct the final ACTD demonstration in the United Kingdom, September 2005. JFCOM is the User Sponsor.

• FY 2005 Accomplishments - Technically tested the RBCI Air SINCGARS (ASIP) Improved Radio and Digital Knee-Board interface integrated on to an Apache Aircraft and RBCI ASIP on to UAV. Technically demonstrated RBCI interface with Fixed Wing CAS aircraft. Technically tested different analogue and digital RF Tags in preparation for 2005 Operational Demonstration. Continued development of CONOPS, TTPs and training package. Conducted the final ACTD operational demonstration day missions and Joint Military Utility Assessment of the NATO BTID, RBCI and RF Tags. Continued development of transition strategy.

• FY 2006 Plans - Complete final ACTD operational demonstration and Joint Military Utility Assessment of the NATO BTID, RBCI and RF Tags. Implement execution of the transition plan including Extended User Evaluation. Finalize CONOPs, TTPs and training package. Complete the CCID ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Coalition Theater Logistics (CTL)	0.300	0.000	0.000

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Integrate deployment planning tools among coalition forces. The user sponsor is U.S. Pacific Command.

• FY 2005 Accomplishments - Complete migration of capability to CENTRIXS Network and conduct operational testing with Australian Defense Force, USPACOM, and USTRANSCOM. Completed the ACTD.

• FY 2006 Plans - Complete transition of CTL applications on CENTRIXS Network.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Hunter Standoff Killer Team (HSKT)	4.100	1.500	0.000

Integrate and demonstrate joint precision targeting of time sensitive targets at standoff ranges and reduced sensor-to-shooter timelines using manned/unmanned aircraft teams and cognitive decision-aiding technologies, and transition into Programs of Record (POR). The User Sponsor of HSKT ACTD is PACOM. The ACTD's top level metrics include increased identification range for manned rotorcraft systems and standoff range for weapons engagement, reductions in mission planning, mission execution times and battle damage assessment timelines, and increased lethality and survivability.

• FY 2005 Accomplishments - Completed final software builds for Maneuver Commander's Associate (MCA) and Warfighter's Associate (WA), providing capability for AH-64 and Army Airborne Command and Control Systems (A2C2S) helicopters to control UAV with 3 sensor Multi-mission Optical Stabilized Package (MOSP). Completed ground and flight testing of Hunter UAV with Tactical Common Data Link (TCDL) and 3 Sensor MOSP. Completed all hardware in the loop integration, ground and flight tests of the MCA A2C2S and WA Longbow Apache systems. Integrated Link 16 precision targeting upgraded message sets (J3.5C3) into the F/A-18, and conducted A2C2S MCA, UAV, and F/A-18 Joint Stand-off Weapon (JSOW) demonstration. Completed Link 16 A2C2S system testing with F-15. Completed both manned / unmanned warfighter training simulation and ground and flight tests between MCA A2C2S, AH-64 WA and Hunter UAV (3S MOSP Configuration). Continued development of CONOPs / TTPs, training package. Continued implementation of transition strategy and plan.

• FY 2006 Plans - Complete system flight demonstration and evaluations involving UAV, AH-64D WA, A2C2S MCA and F/A-18. Complete manned / unmanned teaming warfighter training and conduct operational demonstrations. Complete Extended User Evaluation (EUE) of residual package. Complete Operational Demonstrations and Joint Military Utility Assessment (JMUA). Continue coordination with joint and service organizations to refine / complete the Transformation Change Package focusing on Doctrine, Organization, Training, Materiel, Leadership, Personnel and Facilities (DOTMLPF) recommendations. Finalize CONOPS / TTPs and Training package. Complete the HSKT ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Network-Centric Collaborative Targeting (NCCT)	1.900	0.600	0.000

Network operational intelligence, surveillance, and reconnaissance sensors to significantly improve the capability to detect, identify, and geo-locate time-critical targets. The user sponsor is U.S. Central Command.

• FY 2005 Accomplishments - Resolved action items from the IMUA. Selected interim communications capability. Initiated transition of USAF specific elements of program. Live-Fly Demonstration to include US Navy participation and UK NIMROD using interim (transition) network communications system originally estimated for Third Quarter FY 2005 is now First Quarter FY 2006 (exercise scheduling issue).

• FY 2006 Plans - Complete final Military Utility Assessment (MUA) in Dec 05. Report out final results. Conclude interim capability support phase and complete the ACTD.

• FY 2007 Plans - ACTD completed.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Personnel Recovery Extraction Survivability Aided by Smart Sensors (PRESS)	0.200	0.000	0.000

Demonstrate and transition near real-time, automated, precision evader location and tracking systems, enhanced survivability and situational awareness technologies. Develop Concept of Operations (CONOPs) and Joint Tactics, Techniques and Procedures (JTTPs). Joint Forces Command JFCOM is the User Sponsor.

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• FY 2005 Accomplishments - Conducted Silent Hammer Exercise demonstrating PRESS ACTD Global Personnel Recovery System (GPRS) ability to provide near real time tracking and communication for isolated personnel and ground Special Operations Forces. Continued development of GPRS Single Card Solution (SCS). Assessed version 1.0 prototype of GPRS SCS functionality and space relay capability. Continued transition activities and initiated acquisition of PRESS ACTD GPRS for follow-on development, procurement and fielding pending successful JMUA. Continued development of CONOPs, TTPs, training package and Doctrine, Organization, Training, Materiel, Leadership, Personnel and Facilities (DOTMLPF) recommendations.

• FY 2006 Plans - Conduct a Joint Military Utility Assessment of the GPRS Network Interface Card integrated into a survival radio in an operational demonstration. Complete the PRESS ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Theater Integrated Planning Subsystem (TIPS)	0.300	0.300	0.000

Automate and network the current manual processes to produce decision documents to assist in weapons of mass destruction targeting for the theater Combatant Commanders. The user sponsor is U.S. Strategic Command.

• FY 2005 Accomplishments - Completed Final Report (Assessment dated September 2004), Final ACTD demo conducted April 2005. Incorporated TIPS (as an extant system) for inclusion into the USSTRATCOM Integrated Strategic Planning and Analysis System (ISPAN) modernization effort, beginning FY 2005. Completed "dynamic publish" capability (referred to as Strike Planning Project), which is a Java 2 Enterprise Edition (J2EE), NCES (net-centric) capability for customers to create the Global Strike Support Documents (GSSDs) 'on the fly'—dramatically reduced publish time of GSSD (June 2005) Also allows users to: Create Theater-specific objectives; Select weapon combinations from pre-defined lists; Delete targets from tree, selectively; Incorporated Course of Action (COA) build and decision matrix tool.

• FY 2006 - Complete Web services interface as part of the ISPAN modernization effort, Allows users to "pull" specific target data for use in various applications. Complete development of TIPS application as a Web-based application. Complete residual support phase and end the TIPS ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Active Denial System (ADS)	3.500	3.700	0.000

Demonstrates a breakthrough, non-lethal technology that uses millimeter wave electronic energy to stop, deter, and turn back an advancing adversary from a relatively long range. The user sponsor is U.S. Joint Forces Command.

• FY 2005 Accomplishments - Human effects testing completed. Two military utility assessments (MUA's) completed for the USAF and US Army. Independent assessment by continues. Continued work to optimize system/operator interfaces, tactics, techniques and procedures. Review of legal, treaty, human effects, and exposure limits complete. CONOPS approved by JROC. Initial planning for possible deployment complete.

• FY 2006 Plans - Residual delivered to transition manager for extended user evaluation. Conclude interim capability support phase. Complete extended user evaluation and assessment. Complete the ADS ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Agent Defeat Warhead (ADW)	4.100	0.000	0.000

Demonstrate a high temperature, thermal radiation, incendiary, kinetic energy penetrator warhead to destroy biological and chemical manufacturing and storage facilities. Provide a robust means to neutralize chemical/biological agents while minimizing collateral damage. Efforts are on-going to secure DTRA and service support to develop a robust agent defeat capability for DoD. Lack of counter-WMD mission assignment to a force provider is impeding progress and collaboration on this ACTD and issues are being discussed in QDR 2005 workgroups. Secured assistance of ATSN/CBRNE in achieving this important capability. The user sponsor is U.S. Central Command.

• FY 2005 Accomplishments - Conduct and complete full scale lethality testing with the Defense Threat Reduction Agency (DTRA) and the Air Force Operational Test & Evaluation Center

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(AFOTEC). Results to be briefed at Fall 2005 Oversight Review Group to decide way ahead for the ACTD and pursue full partnership with DTRA and the military services to develop a weaponized agent defeat capability.

• FY 2006 Plans - Develop prototype weapons for operational assessment and demonstration. Conduct flight testing against biological and chemical targets with stimulant agent. Complete fabrication of the residual round and commence interim capability support phase. Conduct demonstrations. Complete the ACTD and transition to SD&D phase by a force provider assigned the mission of supplying this capability to the warfighting combatant commands.

• FY 2007 Plans - Transition with US Navy and Air Force for robust agent defeat capability.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Agile Transportation (AT21)	0.900	0.000	0.000

Demonstrate capability to optimize and schedule all transportation requirements (personnel and equipment) against available lift assets for movement to, from, and within the various theaters of operation; afford continuous visibility into asset management processes; flexibility to address changing and partially defined requirements. Improves quality of service for Joint force and component customers and enables US Transportation Command (USTRANSCOM) to efficiently and effectively manage the assets, infrastructure and resources to support the warfighting commander in a parallel and continuous battlespace. The user sponsor is U.S. Transportation Command.

• FY 2005 Accomplishments - Conducted initial Military Utility Assessment (MUA) at USTRANSCOM demonstrating collaborative capability. MUA participants included USTRANSCOM, U.S. Central Command (USCENTCOM) in Tampa, and USCENTCOM DDOC (CDDOC) in Kuwait. Installed and fielded a residual capability of collaborative tool. USTRANSCOM initiated acquisition of process control and optimization/scheduling for operational use.

• FY 2006 Plans - Complete technical hardening of the collaboration software and user training as first steps in the transition effort. Conclude transition activities and interim capability of TRANSVIZ / Web Services Read and Writeback from/to Global Command and Control System to CoComs.

• FY 2007 Plans - Deploy TransViz to all CoComs. Demonstrate deliberate planning capability. Conduct final Military Utility Assessment. Transition deliberate planning capability to programs of record. Complete ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Boundary Step (BS)	0.600	0.000	0.000

Demonstrated tools and techniques for destruction of certain weapons of mass destruction production facilities. The user sponsor is U.S. Special Operations Command. ACTD is complete.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Contamination Avoidance at Seaports of Debarkation (CASPOD)	1.200	1.200	0.000

Demonstrate contamination avoidance at seaports of debarkation. The user sponsor is U.S. Central Command.

• FY 2005 Accomplishments - Transitioned technology and lessons learned. Procured equipment involved 13 different items ranging from "cherry pickers" to chemical paper. Residual training was conducted in USCENTCOM AOR and CONOPS and TTP's are presently being used in theater, which, as a result, is better prepared for Chemical/Biological attack.

• FY 2006 Plans - Conclude the interim capability support phase. Complete the CASPOD ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Coalition Information Assurance Common Operational Picture (CIA COP)	0.600	0.000	0.000

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Demonstrate detailed information assurance and situational awareness of the information system security status of all mission critical systems on a near- or real-time basis in support of Combatant Command and coalition missions. Permit the commander and staff to rapidly assess mission related impacts caused by Information Technology (IT) infrastructure degradation or attack.

• FY 2005 - Terminated technology development activities to pursue requirements satisfaction through commercial tools integration. Extensive market survey and user sponsor coordination to refine Coalition IT Performance Monitoring requirements, IT Risk Monitoring, Geographical Display and Coalition Collaboration proved commercial tools capabilities were not yet mature enough to deliver the breadth of capability required by the ACTD. Provided significant user requirement exposure to commercial vendors which will lead to more operationally useful and cost effective capabilities. With concurrence of user sponsor, terminated the ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Expendable Unmanned Aerial Vehicle (XUAV)	0.600	0.000	0.000

Demonstrate covert delivery of off-board sensors, tactical surveillance, battle damage assessments and weapons of mass destruction monitoring without risking personnel. The user sponsor is U.S. Special Operations Command.

• FY 2005 Accomplishments - Resolved MUA after-action items resulting in product improvements for the ALERT baseline system (WSADS) and shortened SDD for the HAWKEYE glider-based payload delivery system. Completed the ACTD.

• FY 2006 Plans - Complete the ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Homeland Security Command and Control (HLS C2)	4.300	2.500	0.000

Refine and transition technologies and operational concepts that support the Homeland Security and Homeland Defense missions assigned to the Department of Defense. The user sponsor is U.S. Northern Command.

• FY 2005 Accomplishments - Continue development of concept of operations in conjunction with US Northern Command in order to optimize currently fielded HOLS and ASOCC capabilities. Expand functionality to participating civil agencies and municipalities including the Department of Homeland Security, US Marshal Service, and Bureau of Alcohol, Tobacco and Firearms. Demonstrate utility and develop concepts of operations to employ current capabilities in conjunction with first responder command and control tools to protect military related critical infrastructure facilities within the continental United States.

• FY 2006 Plans - Continue initial operations support to NORTHCOM, PACOM, other COCOMS and selected non-DoD users. Update CONOPS and training based on user feedback, Develop and implement detailed transition plans to programs of record including Net-Centric Enterprise Services, GCCS, and JC2 for AT/FP activities not covered by these programs, work with JROC process to establish requirements and out-year resources.

• FY 2007 Plans - Complete transition activities, conclude interim capability support phase and end the ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Hyperspectral Collection and Analysis (HYCAS)	0.900	0.400	0.000

Demonstrates the utility of a deployable hyperspectral system allowing the end user to utilize intelligence derived from spectral data in a tactical environment while providing the Warfighter with an end-to-end hyperspectral capability. Demonstrates the ability of hyperspectral (HSI) to address critical needs via a calibrated HSI sensor. The user sponsor is U.S. Central Command.

• FY 2005 Accomplishments - Completed integration of the AF-COMPASS sensor onboard MQ-1 Predator. Integrated processing, exploitation and dissemination system in Predator Ground Control Station. Performed the final Joint Military Utility Assessment with AF-COMPASS integrated onto Predator, utilizing a high-altitude hyperspectral sensor on a Proteus aircraft (SPIRITT ATD). Began transition of tactical hyperspectral sensor system to Aeronautical Systems Center.

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• FY 2006 Plans - Continue transition of tactical hyperspectral sensor system to Aeronautical Systems Center. Complete the HYCAS ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Joint Distance Support and Response (JDSR)	2.700	2.500	0.000

Demonstrates and transitions joint, common, interoperable, tele-maintenance environment using a collaborative knowledge center and tool suite, with reach-back capability. JDSR ACTD focuses on timely employment of information, both automated and live, to the different service maintainers. Some of the top-level metrics include operational bandwidth in a common collaborative environment, access to multiple subject matter experts, technical information at point of maintenance, interoperable tool suites and maintainer productivity. Planned transition will be to Distance Support (DS), Joint Aviation Technical Data Integration (JATDI), Integrated Maintenance Data System (IMDS), Third Echelon Test Set (TETS) and Technical Data Distribution (TEDD) programs. The User Sponsor is USJFCOM.

• FY 2005 Accomplishments - Continued implementation of the transition strategy including conduct of Extended User Evaluation (EUE) of residual package and follow-on development, acquisition and fielding. Completed the integration of JDSR ACTD with Joint Explosive Ordnance Demonstration (JEOD) ACTD. Continued EUE of residual packages including JDSR / JEOD ACTDs interoperability. Continued development of CONOPs, TTPs, training package and DOTML-PF recommendations. Upgraded common business process with modeling and simulation as needed for establishing joint common maintenance processes based on preliminary EUE results. Continued transition of JDSR products to Program of Records. Initiated fielding of JDSR products.

• FY 2006 Plans - Complete EUE. Finalize CONOPs, TTPs, training package and DOTML-PF recommendations. Continue transition of JDSR products to the POR. Complete the JDSR ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Joint Explosive Ordnance Disposal (JEOD)	0.600	0.600	0.000

Demonstrate a new integrated capability for joint and coalition explosive ordinance disposal forces to meet the evolving, asymmetrical, and sophisticated chemical, biological, radiological, nuclear, and high yield explosive terrorist threats. The user sponsor is U.S. Pacific Command. Metrics include existence of new CONOPS; degree to which in-theater operatives can achieve operational reach-back connectivity to a JEOD MSC ; extent to which connectivity can be achieved to Subject Matter Experts (SME) and web sites; and operational feasibility of CONOPS, TTP, and integrated equipment.

• FY 2005 Accomplishments - Transitioned Joint Digital Information Gather System (JDIGS) to Navy support. Decision Support System capabilities technically integrated into the Horizontal Fusion portfolio of systems and users. Completed final ACTD Operational Demonstration and Military Utility Assessment. Complete Capabilities Development Document. Coordinate deployment with MNC-I.

• FY 2006 Plans - Field initial operational capability. Commence interim capability support phase. Complete network system security accreditation. Transition tools into EOD advanced IED training. Complete final ACTD reports.

• FY 2007 Plans - Complete interim capability support phase and complete the ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Language and Speech Exploitation Resources (LASER)	0.700	0.000	0.000

Demonstrate technologies, concepts, and architecture paths providing language translation capabilities with improved interoperability, accuracy, deployability and timeliness of translation for speech and document exploitation. Assessments include users within the sponsoring Pacific Command, as well as warfighters in other combatant commands and INSCOM with immediate and critical language translation needs in the Global War On Terrorism. Products from LASER have been deployed for operational use in OEF and OIF. The user sponsor is U.S. Pacific Command.

• FY 2005 Accomplishments - Conducted limited utility assessments on more language translation tools and a final capstone military utility assessment report. Provided machine language translation tool residuals in combatant command areas other than the sponsor's area of operations.Continued fielding interim products for demonstration and extended user evaluations in coalition and intelligence operations. Finalize concepts of operations and tactics, techniques and procedures for user adoption. Facilitated establishment of a machine language translation program and centralized management office. Begin implementation of transition plan and joint transition program.

• FY 2006 Plans - Conduct extended user evaluations during the residual phase. Continue modification to CONOPs and procedures for those language translation tools found to have utility.

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Complete LASER ACTD product transitions, interim capability support phase and end the ACTD. Complete the LASER ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Micro Air Vehicle (MAV)	2.900	1.200	0.000

Provide small, ground combat units with situational awareness of enemy activity using an affordable, responsive, easy-to-operate, backpackable reconnaissance and surveillance system as an organic asset at the platoon level. The final demonstration is planned for Fiscal Year 2006. The Micro Air Vehicle (MAV) will be transitioned in Fiscal Year 2007 by the Program Manager for Tactical Unmanned Air Vehicles. DARPA is the executing agency. U.S. Pacific Command is the user sponsor.

• FY 2005 Accomplishments - Conducted laboratory evaluations, trainer training, and test flights of the Phase I development of the air vehicle with a commercial-off-the-shelf gasoline engine. Developed system tactics, techniques and procedures. Designed and developed a small, heavy fuel engine.

• FY 2006 Plans - Conduct field experiments of the Phase 1 MAV system. Continue development of small, heavy fuel engine. Integrate heavy fuel engine and feedback from Phase 1 field evaluations into the Phase 2 MAV system development and production. Produce and test 25 heavy-fuel MAV systems. Assess military utility. Conclude the MAV ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Pathfinder	0.700	0.800	0.000

Pathfinder is integrating a modular system consisting of unmanned sensors and unmanned aerial and ground platforms, display components, and high-bandwidth wireless networks to provide system connectivity to provide real-time reconnaissance and surveillance data for early entry SOF operations. The user sponsor is U.S. Special Operations Command. Metrics include the degree to which small reconnaissance teams can be assisted in emplacement of sensors and deployment of unmanned platforms for collecting information and relaying to inbound assault forces. Effectiveness of ad hoc networking, offset surveillance, fire support coordination, UAV-directed close air support will be assessed.

• FY 2005 Accomplishments - Conducted final military utility assessment of the Pathfinder system. Supported system deployment and utilization with 75th Ranger Regiment for multilateral joint training exercise, both in the fixed-wing and rotary-wing phases. Began the Extended User Evaluation (EUE) period of the ACTD. Finalized and delivered the Pathfinder residual package to the experimental force (EXFOR). Supporting transition efforts to improve Tacticomp handheld computer and integrate into Ranger Regiment equipment (non-Pathfinder funded). Demonstrated multiple emerging Small Unmanned Aerial Vehicle (SUAV) technology efforts, including a reduced modular ground control unit with size and weight reduction over the standard unit, integration of next generation GPS module, and improved thermal imager integration. Support transition of laser target designation capability via unmanned ground vehicle to a Program of Record. Additional transition work completed for the Pathfinder Raven SUAV (independent of Pathfinder ACTD funding) included the contracting of 117 systems to support the Global War on Terror (GWOT), conduced several training classes which certified dozens of Special Operations Forces to operate the system in theater, and the completion of a Level IV approval for the Raven SUAV communications package from the Joint Spectrum Manager (this allows worldwide usage of the Pathfinder Raven SUAV).

• FY 2006 Plans - Continue to provide training and materiel support (maintenance and repair) for the Pathfinder EUE. It is anticipated that the system will require many repairs and updates to remain compatible with legacy equipment. Complete transition activities and bring the Pathfinder ACTD to completion.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Space-Based Moving Target Indicator (SBMTI)	1.200	1.099	0.000

Demonstrate space-based moving target indicator capabilities using existing platform assets. The user sponsor is U.S. Strategic Command.• Classified content only.

• FY 2005 Accomplishments - Conducted initial demonstrations and interim MUA.

• FY 2006 Plans - Complete MUA and final demonstration. Complete the SBMTI ACTD.

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Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Signals Intelligence (SIGINT) Processing	0.600	0.000	0.000

Provide a SIGINT processing mode to more precisely identify signals of interest and determine its military utility. The user sponsor is U.S. Pacific Command.

- Classified content only.
- FY 2005 Accomplishments - Conducted demonstrations and interim MUA. Initial data is very promising. On track with ACTD goals/objectives.
- FY 2007 Plans - Complete the ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
SPARTAN	4.200	3.700	5.200

A modular, multi-mission, unmanned surface vehicle (USV) used to deploy sensors and weapons as low-cost force multipliers with integrated expeditionary sensor and weapon systems for use against asymmetric threats. The expanded range provides a layered defense, early warning/intercept capability for incoming threats, thereby improving protection of surface combatants, noncombatants, and other national and strategic assets. The user sponsor is U.S. Pacific Command. SPARTAN has three basic operational capabilities objectives: 1. Conduct critical missions Antisubmarine Warfare (ASW); Mine Warfare (MIW); Intelligence, Surveillance, and Reconnaissance/Force Protection/precision Engagement (ISR/FP/PE): 2. Prepare the waterspace for Amphibious and Sealift Ops: 3. Provide port-protection when launched/operated from shore. The SPARTAN Critical Operational Issue (COI) is "To what extent do SPARTAN warfighting modules demonstrate a capability as a force leveler and force multiplier against surface and subsurface threats?" SPARTAN has three overarching Measures of Effectiveness (MOEs): (1) Does the system provide capabilities/functionality needed to address the requirements? Does it accomplish the warfare areas objectives? (2) Does the system demonstrate a capability as a force leveler and force multiplier against surface and subsurface threats? (3) Can the system be effectively integrated within the force structure? Is it supportable? Is it affordable?

- FY 2005 Accomplishments - Completed development of the Spiral 2 ISR/FP/PE module. Demonstrated the US Navy's first live fire ISR/FP capability from a USV at Aberdeen Proving Ground (APG) in April 2005 and in Singapore AOR in June 2005. Demonstrated Spiral 1 MIW module in technical test in May 2005. Additional testing will be completed in August and September, 2005. The PE module's Kongsberg stabilized weapon mount (provided in kind by the Army) failed to adequately stabilize and track targets. The Army has determined that the mount issues cannot be corrected without substantial investment. Since the Army will not permit the integration of the Javelin on to another mount, the PE capability will not be demonstrated. Complete development of ASW module with France. Begin interim capability support phase planning.
- FY 2006 Plans - Complete the final technical demonstration and conduct final MUA, which has been delayed due to technical issues (above) and to align with planned Navy testing in FY 2006. Begin Residual and Transition Phase. Support Extended User Evaluations (EUEs). Support Navy program offices in the transition of SPARTAN to a Program of Record (POR) within the Littoral Combat Ship (LCS) Program and for backfit to existing surface ships.
- FY 2007 Plans - Complete transition activities and the interim capability support phase. Complete the ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Thermobarics (TB)	4.700	2.500	0.000

Demonstrate an energetic, thermobaric payload to defeat enemy tunnel facilities and weapons with two-to-three times the lethality of conventional high explosive payloads. The user sponsor is U.S. Pacific Command.

- FY 2005 Accomplishments: Conducted weapon qualification tests (i.e. sled track, insensitive munitions and captive-carry tests); Produced test assets and conducted operational demonstrations; Conducted a planning exercise with USFK/USPACOM staff for the operational demonstrations; Completed final concept of operations (CONOPs) in conjunction with USFK/PACOM staff; Initiated manufacturing study to reduce cost/improve production efficiency for Bomb Live Unit (BLU)-121/B warhead; Conducted a Military Utility Assessment; Began an alternative target study for the BLU-121/B warhead evaluating the utility of the warhead for other target types.

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• FY 2006 Plans: Provide a transition support plan to transition the weapon into an acquisition program for the services; Deliver residual warhead assets to theater; Provide sustaining support and training for Thermobaric residual weapons; Complete the alternative target study for the Thermobaric weapon; Analyze the suitability of alternative guidance kits for use with the BLU-121/B warhead; Conduct demonstration with alternate guidance kit with BLU-121/B warhead.

• FY 2007 Plans: Provide sustaining support and training for residual weapons; Conduct demonstration with BLU-121/B warhead and alternate guidance kit.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Adaptive Joint C4ISR Node (AJCN)	5.700	0.800	0.844

Develops, integrates, demonstrates and transitions a multi-mission radio frequency system that provides seamless interoperable communications, simultaneously with signal intelligence (SIGINT), electronic warfare (EW), and information operations (IO) capabilities. Some of the top level metrics include number of simultaneous missions and reconfigurable levels of security, mission reconfigurable timelines, and number of scalable architectures and compliant radio transmissions. JFCOM is the User Sponsor.

• FY 2005 Accomplishments - Completed integration and testing of payloads and demonstrated functionalities in the laboratory. Held a VIP day with principles from Air Force, Army, OSD, and Navy to demonstrate payload functionality. Installed payloads and antennas on the Paul Revere aircraft and two Hunter unmanned aerial vehicle aircraft. Conducted flight tests to verify operation of AJCN ACTD payload and network. Conducted a final operational demonstration and performed JMUA in conjunction with Extended Awareness III exercise at Ft. Huachuca. Initiated transition strategy and began preparation for EUE.

• FY 2006 Plans - Refine CONOPs/TTPs and prepare JMUA report based on JMUA results. Conduct EUE exercises. Initiate finalization of CONOPS / TTPs, training package and recommendations for Doctrine, Organization, Training, Materiel, Leadership, Personnel and Facilities (DOTMLPF). Transition AJCN ACTD products to programs of record / programs.

• FY 2007 Plans - Complete EUE of AJCN ACTD residual package. Finalize CONOPS / TTPs, training package and recommendations for Doctrine, Organization, Training, Materiel, Leadership, Personnel and Facilities (DOTMLPF). Transition AJCN ACTD products to programs of record / programs. Complete AJCN ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Counter Bomb/ Counter Bomber (CB2)	5.800	6.200	2.600

Provide new capabilities for Warfighters to detect, identify, and mitigate terrorist improvised explosive device threats to military installations. Objectives include improving force protection of deployed and CONUS-based forces. CB2 was a late FY 2003 new start in reaction to the escalating terrorist threat prior to Operation Iraqi Freedom (OIF). The operational managers are U.S. European Command (EUCOM) and U.S. Southern Command (SOUTHCOM). Technology evaluations and lessons learned from CB2 have been spun-off to OIF. All technology assessments and demonstration results are coordinated and shared with the Joint Improvised Explosive Device Integrated Product Team (Joint IED IPT).

• FY 2005 Accomplishments - Continue to assess and integrate counter bomb/bomber detection tools including intelligence analytical capabilities in support of demonstrations at forward deployed bases within both EUCOM and SOUTHCOM. Continue technology search and transitions of new capabilities to operationally deployed forces in coordination with other, designated DoD organizations and task forces. Developing plans for extended user evaluation and transition of four systems identified as result of SOUTHCOM LMUA One. Conducting detailed planning with EUCOM and USN and USMC personnel at NS Rota for Spiral 2 demo. Developed architecture and fabricating an integrated threat detection and mitigation capability including centralized C3/COP for use in the Rota demo. Initiated preliminary planning with SOUTHCOM for Spiral 3 demo at Soto Cano, Honduras.

• FY 2006 Plans - Conduct Spiral 3 demo at Soto Cano, Honduras. Plan and conduct Spiral 4 demo at a EUCOM forward operating location. Initiate planning activities for extended user evaluation and transition activities resulting from Rota Spiral 2 demo. Prepare MUA reports for Spirals 2 and 3. Continue transition activities.

• FY 2007 Plans - Complete Spiral 4 LMUA report, and the Extended User Evaluation (EUE) for specific capabilities identified for transition during the EUCOM and SOUTHCOM operational demonstrations. Transition activities will continue for deployment of systems at the fixed bases and forward operating locations. Initial systems will be acquired and deployed. Installation and operator training will be provided. Maintenance activities will be established. Tactics, techniques, and procedures will be finalized based on local threat conditions and deployment scenarios.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2006

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
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Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Deployable Cargo Screening (DCS)	0.000	1.400	0.000

Provide a deployable capability to detect explosive threats in pallet loads of cargo moving in the defense transportation system. The operational sponsor is U.S. Transportation Command. The Air Mobility Command provides operational manager and acts as customer representative. Transition will be managed through Warner-Robins Air Logistics Center.

• FY 2005 Accomplishments - Performed interim military utility assessment of the prototype commercial device for detecting explosives. Accelerated fielding of interim system for assessment and current operational imperatives Concepts of Operations, tactics, techniques and procedures drafted for use in operational assessment environment. Performed baseline survey to determine presence of any existing persistent residue of explosives in the trans-shipment environment.

• FY 2006 Plans - Complete the final demonstration and military utility assessment report. Transition lessons learned during extended user evaluation of demonstration systems to objective cargo screening system procurements and fielding. Complete the extended user evaluation and the ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Foliage Penetration Synthetic Aperture Radar (FOPEN)(FOPEN/SAR)	1.200	1.200	0.000

Provide real-time detection and cueing of stationary targets obscured by foliage and under camouflage using tactical sensors. Document technical requirements to better describe the characteristics and technology needed to develop a fully operational sensor system. The user sponsor is U.S. Southern Command.

• FY 2005 - Re-started ACTD. Took delivery of the DARPA produced Wide-area All Terrain Change Indication and Tomography (WATCH-IT) software, necessary to improve processing of radar data for operational applications. Successfully deployed baseline capability to theater with excellent results. Initiated system improvements (data link integration and improved on board processing).

• FY 2006 Plans - Continue technical improvements to include provision to remotely operate the radar (elimination of one operator position on aircraft), improve the database management system and refine CONOPs. Deploy back to theater in second/third quarter FY 2006 for Military Utility Assessment.

• FY 2007 Plans - Provide for 1 operational deployment to theater. Provide refined technical characteristics of an operational FOPEN radar system. Return the FOPEN modified RC-12 aircraft to technical applications. Complete the ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Gridlock	2.366	0.000	0.000

Provide Unified and Joint Task Force Commanders the capability to quickly and automatically tie the time-sensitive advantage of tactical battlefield sensors to geospatial coordinate in support of time-sensitive targeting of precision guided munitions. The user sponsor is U.S. Central Command.

• FY 2005 Accomplishments - Achieve accuracy and timeliness goals in Global Hawk and U-2 field exercises. Complete transition to support Predator and Global Hawk operations. Continue development of Gridlock capabilities for a host of sensors according to a planned schedule. Provide interim capability to Coalition Air Operations Center (CAOC) and Joint Operations Centers (JOC) at selected Combatant Commander sites. Complete the final demonstration and the ACTD.

• FY 2006 Plans - Transition to Military Services and US Combatant Commands. Conduct DoD Oversight Group to determine feasibility of adjusting Predator UAV architecture to allow geo-registration of motion imagery and conduct Analysis of Alternatives (AoA) to determine the degree of accuracy needed by the various GPS weapons, targeting platforms, and scenarios for determining requirements for future battlefield sensors used in joint targeting.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Joint Blue Force Situational Awareness (JBFSA)	0.900	0.500	0.000

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APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDT&E/ Defense Wide BA# 3	**0603750D8Z - Advanced Concept Technology Demonstration (ACTD)**	**P523**

Develops, demonstrates, and transitions seamless integration of joint blue force situational awareness tracking device information for display on the Global Command and Control (GCCS) family of supported systems. Some of the top level capabilities / metrics supporting the Joint Military Utility Assessment (JMUA) include common operational picture track correlation, dissemination, filtering and manipulation, and interoperability with multiple devices and multiple displays. STRATCOM is the User Sponsor.

• FY 2005 Accomplishments - Initiated execution of transition through the Extended User Evaluation (EUE) of the residual package in the U.S. Forces Korea (USFK) theater. Initiated operationalization of the architecture in cooperation with JFCOM and PEO C4I and Space (Navy) and CENTCOM. Completed transition of Mission Management Center-Test bed (MMCT) capabilities to the operational Mission Management Center (MMC). Initiated transition of JBFSA ACTD products to targeted programs of record / programs for follow-on development, acquisition and fielding (i.e. GCCS-J PM). Continued development and refinement of Concept of Operations (CONOPs), Tactic, Techniques and procedures (TTPs) and training package based on EUE.

• FY 2006 Plans - Complete EUE. Finalize CONOPs, TTPs and training package based on EUE. Continue to operationalize the architecture with the support of JFCOM. Complete the JBFSA ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Midnight Stand	1.400	0.000	0.000

Classified content only.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Night Vision Cave and Urban Assault (NVCUA)	6.700	1.800	0.900

Provides suite of lightweight, soldier-borne sensor technologies to enable decisive overmatch for dismounted assault in subterranean and urban environments. Products consist of Approach Sensors for long-range surveillance and identification; Cave Assault Kit and Urban Assault Kit for maneuver and target detection; and new Concepts of Operation (CONOPs) / Tactics, Techniques and Procedures (TTPs) to exploit sensor capabilities. Key Metrics: Target Identification at ranges equal to Detection ranges (Approach Sensors); Human Target Detection at Range of 250m (Cave/Urban Assault Kit). The user sponsor is U.S. Special Operations Command (USSOCOM). ACTD residuals transition to U.S. Army Special Operations Command (USASOC). Products demonstrating military utility will transition to USSOCOM Acquisition Programs of Record. Final Demo occurs FY2005. ACTD complete FY2008.

• FY 2005 Accomplishments - Completed development of Enhanced Cave Assault Kit and Urban Assault Kit. Prepared exercise and evaluation plans for Operational Demonstration II. Refined CONOPs, TTPs and training packages for Demo II based on lessons learned from Demo I. Conducted Operational Demonstration II (Urban). Performed Military Utility Assessment and Measures of Performance (MOPs) and Measures of Effectiveness analysis. Continued preparations for transition to designated acquisition programs.

• FY 2006 Plans - Procure additional residual systems. Field residual systems to USASOC operational units to provide interim capability. Provide residual support. Begin transition to acquisition programs of records.

• FY 2007 Plans - Continue interim capability/ residual support. Complete transition to programs of record.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
OVERWATCH	5.200	4.600	0.000

Provides an operational sensor targeting system capable of detecting, classifying and locating weapons fire in real-time. This capability provides ground forces the ability to immediately direct precision fire support for military police operations in land and urban warfare, peacekeeping and peace enforcement missions. The user sponsor is U.S. Pacific Command. Metrics include: mission operational effectiveness against specific mission criteria to assess the potential of Overwatch capability to provide an apparent contribution to the survivability, effectiveness, and situational understanding of supported forces; percent of firing signatures detected; percent of firing signatures located; overall percent of successful detections resulting in accurate messages; and false target rate and percent of messages garbled or not received.

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• FY 2005 Accomplishments - Developed and integrated an on-the-move capability to locate hostile fire on a HMMWV. Conducted major military utility assessment focused on military police operations, to include convoy protection, securing designated sectors, and area surveillance. One Overwatch system deployed to conduct operational evaluation of capability in support of OIF theater base operations. System netted into the Joint Defense Operation Cell.

• FY 2006 Plans - Develop a remotely operated Overwatch system mounted on a tactical ground vehicle and perform Limited User Tests. Conduct 2 Military Utility Assessments. Transition of the OVERWATCH capability will move to Program Manager, the Night Vision/Reconnaissance, Surveillance, and Target Acquisition.

• FY 2007 Plans - Conduct Extended User Evaluations (EUE). Complete transition activities and the interim capability support phase. Complete the ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Theater Support Vessel (TSV)	8.800	0.000	0.000

Provide theater commanders a high-speed, intra-theater sealift capability to support all theater engagement requirements within his area of responsibility including operational movement, repositioning and sustainment of combat forces. The user sponsor is U.S. Central Command.

• FY 2005 Accomplishments - On TSV-1X, demonstrated RF/IR/LWR self-protection capabilities linked to an active countermeasure system (e.g. the Multi-Ammunition Soft-kill System (MASS)). Demonstrated the capability of employing a remote gun system to defeat surface threats (e.g. small boats). Due to maintenance problems with two of the four engines in the vessel the upgrade the C4I suite of the TSV-1X and the ability to demonstrate its capability to communicate in a joint environment and provide capability for EMPR will be delayed. Expect the Battle Command Center Limited User Assessment to be complete in early FY 2006. HSV-1X was ADCON'd and OPCON'd to SOCOM in FY 2005 having been modified so the vessel can meet SOCOM's unique requirements.

• FY 2006 Plans - Finalize the MUA to demonstrate the vessel's capability to communicate in a joint environment and provide the capability for EMPR. The ACTD team will provide assessment reports, lessons learned, and MUA results NLT Feb 06. Transition program to the Joint High Speed Vessel (JHSV) Program for acquisition.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Urban Recon (UR)	2.000	0.000	0.300

Provide advanced airborne and terrestrial 3-D reconnaissance capability to SOCOM (Operational Manager) using LIDAR sensor with rapid processing software and decision aid software. The user sponsor is U.S. Special Operations Command. Metrics include: Extent to which the Urban Recon ACTD sensors and software provide the high-resolution, 3-D data needed to support urban warfare operations; extent to which the equipment and software provided are easy to use and supportable by military personnel; and extent to which the Urban Recon TTPs can be effectively executed in meeting urban reconnaissance objectives.

• FY 2005 Accomplishments - Completed the objective laser systems development supporting vehicle-deployed, soldier-deployed, and UAV-deployed configurations. Finalized the CONOPS for each objective system configuration. Completed Limited Objective Experiment (LOE) #3 at Ft. Lewis, WA. LOE #3 demonstrated mission planning and mission rehearsal of vehicle-mounted, soldier-borne, and UAV-mounted LIDAR sensors, using established CONOPS and TTPs. Completed Limited Objective Experiment (LOE) #4 at Fallon, NV. LOE #4 was a user defined demonstration and assessment of Airborne LIDAR data for mission planning and mission rehearsal scenarios. Completed development of CONOPS, TTPs and training package. Drafted and finalized a Capability Development Document for LIDAR Sensors. Developed transition strategy supporting follow-on development, acquisition and fielding based on successful MUA. Use Urban Recon as a JCTD pilot program for transition.

• FY 2006 Plans - Acquire two additional systems (1 airborne and 1 terrestrial system). Create technical field support and logistics support element such that all Urban Recon systems can be adequately sustained, maintained, and supported across a broad range of GWOT operations; and support system maintenance and spare requirements. Assess and implement product improvements to bring laser systems closer to objective state. Provide continued system training and refinement of CONOPS, TTPs, and training packages.

• FY 2007 Plans - Provide technical field support and logistics support element such that all Urban Recon systems can be adequately sustained, maintained, and supported across a broad range of GWOT operations; and support system maintenance and spare requirements. Provide continued system training and refinement of CONOPS, TTPs, and training packages.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007

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Advanced Tactical Targeting Technology (AT3)	5.800	4.900	0.000

Demonstrates net-centric "sensors forward" RWR (Radar Warning Receiver) capability, performance goals for the ACTD are for significantly more rapid and accurate geo-location than single platform geo-location, develop acquisition strategies and structure programs to transition technology to other platforms. AT3 networks multiple aircraft for rapid and accurate geo-location, builds upon the successful AFRL (Air Force Research Lab) AT3 Advanced Technology Demonstration, completed in 2003.

- FY 2005 Accomplishments - Definitive ACTD contract with Prime (Raytheon); Completed Hardware Critical Design Review - Feb 05; Completed Software Critical Design Review - Jul 05.
- FY 2006 Plans - Complete ALR-69A AT3 Software Development to include, Situational Awareness Data Link, and Host Aircraft Simulator.
- FY 2007 Plans - Complete Integration/Tower Test, AT3 (Advanced Tactical Targeting) System Integration, and Multi-Ship Tower Test (Non-Fly) Phase I.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Agile Rapid Global Combat Support (ARGCS)	4.700	4.900	2.100

The ARGCS ACTD will use existing technologies to demonstrate a family of testers for electronic components capable of providing support across weapon systems, Services, and levels of maintenance. This will reduce costs and the proliferation of testers while improving the availability and performance of support equipment. In addition, ARGCS will demonstrate a knowledge based system will be used to develop a worldwide expert support system. This will further reduce costs and the time to repair. These changes will result in increased availability and improved performance to weapons systems. The user sponsor is U.S. Pacific Command.

•FY 2005 - Complete detailed design, and initiate fabrication and integration of system hardware/software. Perform component level design verification testing of system architecture and communication interfaces in controlled environment and at beta site(s). Initiate development of Concept of Operations and Independent Assessment Plan that will be used to verify military utility of ARGCS. Initiated the development of a Capabilities Development Document (CDD) that will be used to transition ARGCS technologies and products to the Services.

•FY 2006 - Complete fabrication and integration of 2 systems to support JMUA, complete knowledge database collection, perform system testing and correct any pre-deployment testing shortfalls. Complete development of Concept of Operations and Independent Assessment Plan that will be used to verify military utility of ARGCS. Complete CDD and work with Services to support funding through POM process needed to transition ARGCS technologies and products.

•FY 2007: Initiate demonstrations of ARGCS testers and complete JMUA; initiate modifications as required by Combatants; enter Extended User Evaluation (EUE).

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Coalition Shared Intelligence Network Environment (COSINE)	0.000	0.200	0.200

Implement a flexible secure coalition command, control and intelligence system for sharing and collaboration information to support counter terrorist and combined/joint task force operations. COSINE is sponsored by North Atlantic Treaty Organization Allied Command Operations and Supreme Headquarters Allied Powers, Europe.

- FY 2005 Accomplishments - Analyzed alternative dynamic content-based security systems to replace the original Content Based Information Security system project that was canceled. Conducted laboratory trials of capability and operational concepts. Tested and assessed concept of operations in a broad multinational user environment.
- FY 2006 Plans - Conduct capstone demonstration and military utility assessment. Finalize CONOPS for DoD and coalition operations. Finalize policy modifications and execute transition plan.
- FY 2007 Plans - Oversee extended user evaluation period for the residual capability and concept of operations during the residual period. Modify technologies and procedures as evidenced in extended user evaluation period. Oversee implementation of interconnections of NATO and member nation systems using the COSINE capabilities. Complete the ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Coalition Reception Staging & Onward Movement (CORSOM)	0.300	0.100	0.100

Demonstrates a set of technologies, provides modeling and simulation support, and establishes procedures to provide Joint Force Commanders with an enhanced Reception, Staging and Onward-Movement

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(RSOM) Planning and Execution Monitoring capability for coalition deployment operations. Four-year project under sponsorship of NATO Strategic Commands and Supreme Headquarters Allied Powers, Europe, with completion of development and demonstration by end of CY 2005, transition to NATO and U.S. logistics systems by FY 2007. The primary metrics to be demonstrated in the ACTD Military Utility Assessment are (1) percent decrease in delays of convoy movements caused by congestion, and as a result decreases in number of units that do not meet Required Delivery Dates, (2) percent decreasc in numbers of movement control personnel needed to manage RSOI efficiently, (3) average time to offload strategic movement assets, move assets through marshalling areas, and on to staging areas, (4) comparison of total cost of RSOI when using CORSOM deliverables compared to current costs, (5) identification of reductions in logistics response times, i.e., reduced sustainability requirements, and reductions in losses in supply chain.

• FY 2005 Accomplishments - Finalized prototypes and Coalition RSOM Tactics, Techniques and Procedures (TTPs). Initial military Utility Assessment conducted in April 05 successfully demonstrated planning functionality of software. Additional, unscheduled field trial was successfully conducted in May 05, taking advantage of HQ Allied Rapid Reaction Corps (ARRC) deployment exercise. The planning functionality and elements of the execution software were demonstrated successfully in a field environment.

• FY 2006 Plans - Final operational demonstration of CORSOM Tool for RSOM planning and execution monitoring to users is scheduled for December 2005 building on the scenario and technical success of the ARRC deployment exercise. Scenario is International Security Assistance Force (ISAF) related to obtain value added prior to ISAF expansion. Begin transition to inclusion of CORSOM in the NATO Logistics Functional Area Services of the Bi-Strategic Command Automated Information System, as well as integration in the U.S. Global Combat Support System (GCSS).

• FY 2007 Plans - Complete transition to NATO Logistics Functional Area Services and integration into GCSS and demonstrate capability. CORSOM ACTD scheduled completion date is December 2007.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Future Tactical Truck System (FTTS)	7.000	1.200	0.700

Demonstrates the operational potential, technical feasibility and maturity of advanced vehicle technologies through integrated demonstrations of subsystems, systems, and system of systems. The user sponsor is U.S. Pacific Command.

• FY 2005 Accomplishments - Continued development of the CONOPS and TTPs. Conducted Technology Rodeo. Conducted In-Process Reviews, a Preliminary Design Review (PDR) and a Critical Design Review (CDR) during the M&S Phase. Awarded contract for the MSV Hardware Build Phase. Continued development of the MUAP.

• FY 2006 Plans - Finalize the CONOPS, TTPs and MUAP. Award contracts for the UV Hardware Build Phase. Complete hardware build and deliver MSV and UV vehicles. Conduct Safety Assessment and operator training for the MSV and UV. Conduct the Military Utility Assessment (MUA). Conduct the TWV Rodeo in parallel with the MUA. Initiate transition strategy and prepare for extended user evaluation.

• FY 2007 Plans - Begin transition to truck acquisition programs. Complete the ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Joint Unmanned Systems Common Control (JUSC2)	5.300	0.600	0.434

Provides a reconfigurable and scaleable common control architecture that provides capability to concurrently manage large numbers of unmanned systems of all types, and applies joint interoperability interfaces for joint service and coalition interoperability of unmanned systems. User sponsor is U.S. Joint Forces Command. Metrics include: (1) JUSC2 architecture must be able to concurrently control (manage) all unmanned systems deployed with Littoral Combat Ship (LCS) mission packages. This includes two Firescout UAVs, two RMS USVs, two Spartan USVs, three BPAUV UUVs, and three REMUS UAVs. (2) JUSC2 architecture must provide capability for NATO STANAG 4586 Level 4/5 control handoff of Army Shadow 200 UAV between Army and Navy control stations. (3) JUSC2 architecture must be able to hand-off control of Navy Spartan USV to other services' JAUS-compliant USV control stations to demonstrate joint interoperability.

• FY 2005 Accomplishments - Completed system integration of common UUV interface segment. Developed metrics for warfighter utility evaluations. Initiated integration of common USV interface segment to Spartan USV. Completed Spiral 1 interface segment to Firescout/TCS UAV. Conducted laboratory test and initial at-sea tests of UUV interface segment . Delivered early software product version to LCS Program Office in August 2004 and installed updated software onboard HSV-2 Swift in September 2004. Navy adopted JUSC2 architecture as baseline architecture for integration of

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unmanned systems into all Naval platforms (surface and submarines).

• FY 2006 Plans - Complete USV, UAV, and UGV interface segments. Conduct limited at-sea test of UUV capability in Dec 05. Conduct Army-Navy interoperability test with UAVs & UGVs and Army-USMC interoperability with UAVs. Deliver software Build 3 to LCS Program Office as formal residual/transition product from JUSC2 to Navy. Deliver STANAG 4586 compliant "One System" common UAV ground control station to Army UAV project office as formal residual/transition product from JUSC2 to Army.

• FY 2007 Plans - Complete final warfighting utility assessment with full at-sea test of LCS Flight 0 residual, completing ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Joint Precision Airdrop System (JPADS)	5.100	3.200	1.400

Develops, demonstrates a fast, flexible, direct projection-based distribution system to sustain rapidly deployed forces at any global destination - strategically, operationally, and tactically. The user sponsor is U.S. Joint Forces Command.

• FY 2005 Accomplishments - Completed user prioritization decision on decelerator systems Jul05. 10Klb SCREAMER system was selected to move forward for duration of JPADS ACTD. Completed system integration of JPADS-Mission Planner (JPADS-MP) with Screamer system and demonstrated wireless updates of missions on ground and in flight. Continue technical testing of all systems. Conducted early user training in Sept05. Prepared for Joint Military Utility Assessments (JMUA) Scenario #1 in Dec05. Demonstrated a high altitude (24,500 ft. Mean Sea Level (MSL) capacity) airdrop from 18,000ftMSL of a 10Klb fully rigged weight payload during numerous test weeks from commercial, Marine Corps, and USAF Air Mobility Command C-130 aircraft (C-17 planned for Second Quarter FY 2006). Demonstrated fully autonomous flights and offset distances of over 5miles (goal 5-25 miles offset). Demonstrated wireless updates of weather and ability to deliver separate and distinct payloads (up to 10,000 lbs total, full rigged weight) to multiple locations with scaled SCREAMER systems.

• FY 2006 Plans - Prepare and conduct Joint Military Utility Assessments (JMUA) #1 in Dec05. Prepare and conduct JMUA scenario #2 (May05). Prepare for the final JMUA #3 (Oct06). Transition JPADS ACTD technologies to Army and Air Force Transition Managers (PM Force Sustainment Systems (PM FSS) and Air Mobility Command (AMC)) for System Development and Demonstration (SDD). Integrate JPADS-MP into US Marine Corp C-130K aircraft, test and train with 2K Sherpa system (purchased by USMC under UNS) and assist in rapid fielding of this capability to the AOR by third quarter FY 2006. Integrate JPADS-MP with a personnel (high altitude high opening (HAHO)) heads up display navigation system and rapidly field this capability to the AOR by third quarter FY 2006.

• FY 2007 Plans - Complete JMUA #3 (Oct06). Distribute JMUA final reports and residual JPADS systems to JMUA users. Execute the residual support contracts to support systems. Continue to support and monitor residual system performance and user feedback. Continue to have JPADS Transition Managers (PM Force Sustainment Systems (PM FSS) and Air Mobility Command (AMC)) prepare for Milestone B and planned System Development and Demonstration (SDD) programs. Prepare for FY08 residual phase and support contracts. Prepare to complete the JPADS ACTD in FY08.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
MAGNUM	2.900	1.800	0.000

Classified content only.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Man-Portable Threat Warning System (MANPACK)	7.000	4.300	0.000

Develops a small, lightweight, modular threat warning and tactical SIGINT collection system that is rapidly scaleable based on operational requirements. The individual body worn system will provide a display of threat and friendly force data, automated data analysis to permit hands-free operation, and reach back capabilities through the Team Transportable node to access other operational or intelligence information available in the Regional Combatant Commander's Area of Operation. The ACTD uses emerging COTS capabilities in development, to include Small Business Innovative Research (SBIR) efforts. The user sponsor is U.S. Special Operations Command.

• FY 2005 Accomplishments - Completed four Limited Objective Experiments (LOE) and Demo I. Identified early transition opportunities and continued user training.

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• FY 2006 Plans - Take delivery of Demo II systems. Conduct four LOEs and Demo II (final). Complete Joint Military Utility Assessment (JMUA). Complete the ACTD and transition products having military utility to the Joint Threat Warning System (JTWS). ACTD residuals will be transferred to the JTWS Program of Record to provide interim operational capabilities. Complete the MANPACK ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Multi-Sensor Aerospace/Ground Joint ISR Interoperability Coalition (MAJIIC)	3.200	2.100	2.200

Develop, test and transition a set of standards, eXtensible Markup Language (XML) formats, and information services to promote intelligence, surveillance and reconnaissance (ISR) interoperability between U.S. and Coalition ground stations and systems. Demonstrate near-real-time interoperability of data from electro-optical, infrared, motion video, moving target indicators, synthetic aperture radar, and other sensors. Enhance collaborative targeting operations, improve ISR data accessibility and sense making to support U.S. Joint ISR operations. Transition is planned for FY 2008 by the U.S. Army Training and Doctrine Command (TRADOC) System Manager to the Service Distributed Command Ground Station (DCGS) programs, to satisfy their requirements for coalition ISR interoperability and Network Centric Enterprise Services compatibility. U.S. Joint Forces Command is the operational sponsor and the USAF, AFC2ISRC Langley AFB is lead service.

• FY 2005 Accomplishments - Participated in the Horizontal Fusion operational transition/deployment in support of 18th Airborne Corps with servers at DGS-X Langley AFB, VA. Amended the Coalition Surveillance and Reconnaissance (CSR) Memorandum of Understanding (MOU) to include the Netherlands and Spain. Developed project arrangement and technical arrangement to define participation by the MAJIIC coalition nations: Canada, France, Germany, Italy, the Netherlands, Norway, Spain, the United Kingdom and the United States, and the NATO Consultation, Command and Control Agency (NC3A). Conducted ISRIS laboratory testing and CONOPS validation experimentation to include Coalition nations. Initiated the MAJIIC Project multinational working groups. Expanded ISR Information Service (ISRIS) support to additional platform and sensors.

• FY 2006 Plans - Demonstrate ISRIS capability in U.S. and Coalition environments. Support Coalition test and integration testing with connectivity from DGS-X and NATO C3 Agency. Conduct interim Military Utility Assessment (MUA). Expand ISRIS support to additional platform and sensors. Continue MAJIIC Project multinational working group participation. Participate in first coalition live-fly exercise to demonstrate and test interoperability standards.

• FY 2007 Plans - Participate in the annual MAJIIC coalition exercise with possible NATO Allied Command transformation with NATO Air Group IV ISR capability. Validate CONOPs and conduct MUA. Transition capability into the DCGS Integration Backbone spiral baseline.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Psychological Operations Global Reach (PSYOP)	7.800	4.900	2.600

Provide extended range over which the PSYOP message can be delivered. Develop capabilities to disseminate products multi-dimensionally across extended ranges into denied areas, including over-the-air and new internet based methods. Advance the capabilities of automated planning processes through collaborative technologies, integrated into special operations forces (SOF) planning systems. The operational sponsor is U.S. Special Operations Command.

• FY 2005 Accomplishments - Performed initial military utility assessment (IMUA) for UAV payloads. Delivered Spiral 1 of the mission planning system. Began development/integration of advanced broadcast/relay platforms and scatterable dissemination media. Assessed satellite TV capability (direct broadcast) as a less lucrative technique than others. Initiated additional dissemination schemes for commercial signals (FM from tethered balloon), cellphone Short Message Service (SMS), and internet/telephony systems.

• FY 2006 Plans - Perform initial MUA for A-160 (UAV) carried payloads. Perform IMUA for Spiral 2 of the mission planning system. Perform IMUA on Spiral 2 of scatterable media products. Develop UAV broadcast payload for Predator type UAV. Develop UAV payloads on the high altitude airship or other similar high altitude platform.

• FY 2007 Plans - Demonstrate advanced broadcast/rebroadcast payloads on Predator type UAV platforms. Make Transition Decision for A-160 AM/FM/TV transmission suite. Continue mission planning system development.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007

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Theater Effects-Based Operations (TEBO)	8.400	1.500	5.200

The TEBO ACTD will provide Combatant Commanders with enhanced capabilities to analyze, plan, execute, and assess Effects-Based Operations (EBO) at the strategic and operational levels by integrating computer-aided decision support tools, Concept of Operations (CONOPS), and Tactics, Techniques and Procedures (TTPs) into the command's Mission Architectures. The user sponsor is U.S. Pacific Command.

• FY 2005 Accomplishments - Conducted Operational Demonstration 2 (RSOI and UFL-05), integrated ONA capabilities into the CFC architecture, developed and demonstrated EBO execution enabling capabilities, delivered all Spiral I capabilities, developed a data import/export capability for ONA and SOSA analysts, integrated the EBO Practitioners Guide Tool (EPG) into the TEBO Knowledge Base (TKB) application.

• FY 2006 Plans - Integrate COA planning capabilities into CFC architecture; enhance and integrate ONA capabilities into CFC/Combatant Command architectures; integrate EBO execution enabling capabilities into CFC architecture; integrate DA capabilities into CFC architecture.

• FY 2007 Plans - Enhance and integrate COA planning capabilities and EBO execution enabling capabilities into CFC/RCC architectures ; enhance and transition ONA capabilities into program(s) of record; enhance and integrate DA capabilities into CFC architectures.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Actionable Situational Awareness Pull (ASAP)	3.000	1.800	0.700

Develop, integrate, demonstrate and transition software that provides a "Smart Pull" capability to the tactical, operational and / or strategic user on the Global Information Grid (GIG) for accessing critical situation awareness information resident on distributed databases. Utilizing the Net-Centric Enterprise Services (NCES) architecture a "Smart Pull" service will be operationally demonstrated and transitioned into NCES and other Programs of Record (POR). The ACTD's top level metrics include increased percentage of useable data available to the user, increased performance through decreased latency of data, percentage of increase in data obtained via "pull" vice "push" procedures, and increased interoperability with coalition forces by use of XML Common Message Format Standards. The User Sponsor of ASAP ACTD is PACOM.

• FY 2005 Accomplishments - Generated Concept of Operations (CONOPS), tactics, techniques and procedures (TTPs) to implement a "Smart Pull" capability by the warfighter, and identified associated requirements. Implemented an Other Transaction Agreement (OTA), which brought diverse government / industry team together to work solution. Developed initial design and architecture. Developed basic pull website for IBS data.

• FY 2006 Plans - Continue development and demonstration software builds around the "Smart pull" capability. Conduct Operational Demonstrations and Interim Joint Military Utility Assessment (IJMUA). Add intelligent software agent technology to software builds to help tailor the "Smart pull" capability and an interface to the Command and Control Information Exchange Data Model (C2IEDM) database used by coalition forces. Continue training of operational users prior to conducting operational demonstration and JMUA. Initiate transition of ASAP ACTD products to NCES architecture, User Defined Operational Picture (UDOP), and Integrated Broadcast Service (IBS) programs. Continue development of CONOPs and TTPs.

• FY 2007 Plans - Complete Operational Demonstrations and JMUA. Initiate Extended User Evaluation of ASAP ACTD residual package. Initiate finalization of CONOPs / TTPs, training package and recommendations for Doctrine, Organization, Training, Materiel, Leadership, Personnel and Facilities (DOTMLPF). Transition ASAP ACTD products to programs of record / programs pending results of JMUA.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Coalition Secure Management and Operations System (COSMOS)	6.061	5.200	5.400

The COSMOS ACTD will do a pilot implementation of the Multilateral Interoperability Programme (MIP) specifications (specifically the Command and Control Information Exchange Data Model (C2IEDM) and the Information Exchange Mechanism (IEM)) in the Combined Enterprise Regional Information Exchange System (CENTRIXS) coalition network environment. The goal is rapid, secure protected sharing of critical C2 information to and among coalition partners on a single and secure integrated coalition network. The ultimate goal is reduced confusion, uncertainty and delay in combat and crisis operations. The net result will be the bridging of Coalition sourced information with US Global Information Grid (GIG) Network Centric Enterprise Services (NCES) for two-way information exchange, when

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approved cross domain solutions are available.

• FY 2005 Accomplishments - Coordinated operational requirements and initial technical arrangements with user sponsors (USPACOM ad USEUCOM) and international partners (United Kingdom, Australia and Canada.) Established operational and security requirements baseline, and technical work with NSA. Began negotiation with Services and CoComs for demonstration exemplars and venues. Provided technical improvements to JFCOM coalition chat capability initiative with Naval Postgraduate School research results.

• FY 2006 Plans - Incorporate MIP-compliant C2 application exemplars and Community of Interest (COI) interfaces, introduce "role- and policy-based protected information sharing" tools through further development of COSMOS related capabilities for protected information sharing using structured information. Participate in USEUCOM Coalition Warfighter Interoperability Demonstration venue to leverage already planned MIP system level and operational level test events as well as coalition partner presence, as well as Combined Endeavor '06, USPACOM Pacific Endeavor'06.

• FY 2007 Plans - Incorporate final Service and coalition partners MIP-compliant C2 application exemplars and Communities of Interest (COI) interfaces, complete development of COSMOS related capabilities, and conduct Military Utility Assessment (MUA). Prepare residual sustainment and transition to identified programs of record supporting multinational information sharing missions.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
CBRN Unmanned Ground Reconnaissance (CUGR)	3.600	3.600	1.800

The CUGR ACTD will provide manned nuclear, biological and chemical (NBC) reconnaissance units with two new technology applications to be demonstrated in the Joint Service Light NBC Reconnaissance System's (JSLNBCRS) High Mobility Multipurpose Wheeled Vehicle (HMMWV) variant. The first provides near real time, vehicle speed immaterial, chemical agent surface contamination detection and identification. The second provides a small, remote controlled, sensor-equipped robot to be the recon crew's "point man" in high risk contamination reconnaissance. DTRA provides overarching program management. The Technical Manager is the U.S. Army Research, Development and Engineering Command's Edgewood Chemical and Biological Center. The Joint Program Executive Office for CBD assigned the Joint Product Manager for NBC Reconnaissance as the Transition Manager. The U.S. Pacific Command is the ACTD sponsor with Operational Manager responsibility with the U.S. Army Pacific who is providing the 95th Chemical Company as the ACTD demonstration unit.

• FY 2005 Accomplishments - Developed ACTD Management, Transition and Test Plans. Initiated development of Concepts of Operations (CONOPS), Tactics, Techniques, and Procedures (TTPs) and Training Support Packages (TSP). Initiate JCSD prototyping, systems engineering, technical testing and integration. Initiated modifications to JSLNBCRS shelter design, fabricate and integrate on HMMWVs. Initiated CUGV systems engineering and technical testing. Completed platform modeling and human factors evaluation, and integration of CBRN sensors. Conducted Market Survey, identification, selection and purchase of CBRN detection suite components and UGV platforms. Developed communication specifications for the CUGV.

• FY 2006 Plans - Continue CONOPS, TTPs, TSPs, and Test Plans development. Complete JCSD/JSLNBCRS design integration, system technical manual and user training plan. Conduct early user assessment on dismounted CUGV. Initiate system design and integration of mounted CUGV capability. Complete CUGV engineering design tests and system design, technical manual and user training plan. Conduct JCSD/JSLNBCRS and dismounted CUGV technical and operational demonstrations. Receive JCSD/ JSLNBCRS independent military utility assessment (MUA).

• FY 2007 Plans - Provide two JCSD equipped CBRN Reconnaissance platforms and 2 CUGVs for residual phase support to the 95th Chemical Company (CMLCO) and initiate Extended User Evaluation. Complete mounted CUGV system design and integration on the third JSLNBCRS. Conduct mounted CUGV early user assessment. Complete CUGV test methodology development as well as the technical manual and user training plan. Conduct mounted CUGV technical and operational demonstrations. Receive integrated system independent MUA. The CUGR ACTD will transition an advanced sensor suite to manned NBC reconnaissance platforms providing near-real-time surface chemical detection and identification and demonstrate the utility of unmanned platforms for CBRN reconnaissance. These enhancements will provide the Joint Combined Force Commander with continuous and critical CBRN situational awareness while mitigating the risk to maneuvering and supporting forces.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Gunship Standoff Precision Munition (Danger Close CAS - Viper Strike)	0.000	6.200	6.500

Standoff Precision Guided Munitions (SOPGM) Advanced Concept Technology Demonstration (ACTD). The objective of the SOPGM ACTD is to evaluate the military utility of adding precision guided munitions capability to the AC-130 gunship armament suite. The assessment will be based on ground and flight demonstrations of a SOPGM weapon system employed from an AC-130 against representative gunship targets. The ACTD will be executed in two phases. The funds requested in this document fully fund Phase I. The first phase will provide an Initial Proof-of-Concept (IPOC) of the SOPGM weapon

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system and an interim Military Utility Assessment (MUA). The SOPGM IPOC weapon system will include a variant of the Viper Strike munition demonstrated on the Hunter Unmanned Aerial Vehicle, a battle management system (BMS) being developed as part of the ACTD, and physical, functional, and communications interfaces to integrate the munition and BMS on an AC-130 to safely and effectively employ the munition. The Viper Strike munition will be modified to incorporate GPS aiding of its inertial navigation system to maintain accuracy over longer flight times. The BMS development will leverage technology developed for the Navy's Naval Fire Control system to provide operators with engagement zones and fire control for employing the munition in top attack scenarios. The IPOC SOPGM weapon system will be demonstrated through ground and flight test on an AC-130 to demonstrate the potential military utility of providing the gunship with a precision guided munition capability. Based upon the results of Phase 1, there is a priced contract option to proceed to Phase 2. Funds for Phase 2, if pursued, will be requested in a future budget cycle. The description that follows is included to illustrate the next step in development that will be taken if Phase 1 demonstrates significant military utility. In Phase 2, the SOPGM weapon system capability will be expanded to facilitate Tactical Proof-of-Concept (TPOC) demonstrations to generate a more comprehensive MUA and provide a baseline design for transition into development of a combat capable system. During Phase 2, if it is pursued, the SOPGM weapon system capability will be modified to add capability for shallow attack, engagement of moving targets, and longer standoff ranges up to the limits of existing Viper Strike glide performance. Phase 2 will culminate with assembly and delivery to Air Force Special Operations Command, of 20 TPOC configured Viper Strike munitions, 2 TPOC capable BMSs, residual aircraft integration components, and associated training and technical data to facilitate a potential extended user evaluation.

• FY 2005 Accomplishments - Began design and development of the SOPGM Initial Proof-of-Concept (IPOC) weapon system. Developed a baseline concept to carry and launch the SOPGM from a pylon station of the AC-130. Initiated safety and seek eagle assessments to determine modifications required to adapt the Viper Strike for carriage and release from manned aircraft. Drafted Integrated Assessment Plan to guide the SOPGM demonstrations and began development of concept-of-operations.

• FY 2006 Plans - Complete development and ground integration and test of the SOPGM IPOC weapon system, including the Viper Strike munition, battle management system (BMS), and the physical, functional, and communication interfaces to integrate the munition and BMS on an AC-130. Build up instrumented Viper Strike mass simulation models, conduct separation tests, and obtain flight clearances for proceeding into the IPOC demonstrations. Complete development of the Integrated Assessment Plan for the IPOC demonstrations and begin IPOC flight demonstrations.

• FY 2007 Plans - Complete IPOC flight demonstrations and compile an Interim Military Utility Assessment (MUA). This will complete Phase 1 of the ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Epidemic Outbreak Surveillance (EOS)	9.500	7.400	9.100

Epidemic Outbreak Surveillance (EOS) ACTD is a FY 2005 ACTD that demonstrates and transitions solutions that are transformational dual use for operational and clinical medicine as well as biodefense. EOS will incorporate as series of technologies to rapidly detect and identify a wide range of respiratory pathogens that are frequently and easily confuse in clinical encounters. It is intended to overcome two diagnostic challenges: 1) discrimination between diverse pathogens that present similar (i.e. fever & flu-like) symptoms; and 2) screening rapidly, accurately and simultaneously across multiple (20 - 30+) candidate pathogens (including dark horses and zebras). EOS will leverage sophisticated, advanced molecular biology procedures, bio-informatics, micro array and/or RT-PCR - based technologies integrating into medical command channels to provide all leadership levels key information needed to make time-critical decisions. Ultimately this situational awareness provides a high likelihood that correct diagnostic decisions will be made, potentially even prior to the onset of symptoms in some scenarios. In detect-to-warn and detect-to-treat applications, the EOS diagnostic supports sustainment of warfighter capabilities in biologically active domains by promoting earlier and targeted diagnosis, intervention, minimizing casualty losses, and reducing mission degradation. DUSD/AS&C, USJFCOM, AF/SG and JPEO/CBD are the principals for Development, Assessment/CONOPS and Transition of the required system.

• FY 2005 Accomplishments - Began planning and hardware procurement. Initiate monitoring of basic military trainees at Lackland AFB, TX for outbreaks of candidate pathogens using level 5 research platforms. Conducted user training. Began development of CONOPS and TTPS. Began planning to conduct technical demonstrations. Setup an introduction of requirements for Level III prototype platform for small clinic venues (level III).

• FY 2006 Plans - Continue monitoring military trainees for outbreaks. Refine protocols and collect data for certification of EOS as a diagnostic tool. Continue refinement of CONOPS and TTPs.

• FY 2007 Plans - Continue previous activities and expand demonstrations to Joint arenas to include Carrier Battle Groups, Metro DC (NCR) Metro. Conduct Joint Military Utility Demonstrations.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Joint Enhanced Explosive Resistant Coating (JEERC)	0.000	2.600	1.600

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Explosive Resistant Coating (ERC) is a elastomer polymer material demonstrated to have significant capability to mitigate and reduce damage from explosive blasts. The Joint Enhanced Explosive Resistant Coating (JEERC) ACTD will evaluate the utility of ERC in a wide range of Force Protection scenarios. The ACTD will seek to understand ERC's blast mitigation phenomenology to facilitate better utilization of ERC on a wider range of applications. Areas to be examined are the employment of ERC on vehicles, buildings and ships. The U.S. Central Command is the sponsor and the Navy is the technical manager. International agreements are being contemplated with reps from the UK and Australia for potential coalition partnering. These have not yet been finalized.

• FY 2005 Accomplishments - Emphasis in FY-05 was vehicle applications with initial evaluation of ERC on structures and ships. Initiated studies on ERC fire, smoke and toxicity issues. Add-on ERC design modifications were developed for the Marine (Corps) HMMWV Armor Kit (MAK) which enhance underbody blast performance and armor piercing ballistic performance of side armor. Field installation, durability and mobility assessment of HMMVWs with ERC modified MAK was conducted successfully.

• FY 2006 Plans - Complete development of vehicle firewall ballistic protection for added defense against Improvised Explosive Devices (IED). Conduct vehicle live fire tests for final performance validation. Continue development of application techniques for vehicles with a greater emphasis on structures and ships.

• FY 2007 Plans - Focus on application of ERC on ships to include new construction vessels (Littoral Combat Ship, DDX and MPF(E)).

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Joint Coordinated Real-Time Engagement (JCRE)	2.500	2.800	2.600

The JCRE ACTD will develop the CONOPS and the GIG-enabled software that enables Joint Real-Time Operations and Engagement across multi-Combatant Command (COCOM) Theaters and Echelons. The JCRE ACTD will support Joint and Combined Operations by providing Net-Centric Command and Control Tools that greatly enhance the Planning and Execution across multi-Combatant Commands. These tools will be provided as web services, so they can easily be extended to supporting Combined Operations as directed by the Operational Sponsor. The JCRE capability will be achieved by extending and integrating the following technologies: Joint Force Global Situational Awareness (SA) Tools; Multi-COCOM Course of Action (COA) Development Tools; Joint Force Engagement Packages; and Joint Force Synchronization Tools. These JCRE technology components will be implemented using a Service Oriented Architecture (SOA) and distributed orchestration of services. These JCRE technologies, tested on the Global Information Grid (GIG), will help validate whether the evolving GIG IP architecture and enterprise services can support the time sensitive performance requirements for global operations. The JCRE will conduct one major demonstration in each year through 2007, beginning with a laboratory demonstration in 2005 and progressing to a field exercise in 2007.

• FY 2005 Accomplishments - Demonstration #1. (Nov 2005) Demonstration of Joint Force Global Synchronization Tools and Multi-COCOM COA Development Tools in a laboratory demonstration environment with collaboration between STRATCOM and SOCOM and one or more JFCC.

• FY 2006 Plans - Demonstration #2. (Fall 2006) Demonstration of Joint Force Global Situational Awareness Tools, Multi-COCOM COA Development Tools, and Joint Force Engagement Packages in a Command Post exercise.

• FY 2007 Plans - Demonstration #3. (Fall 2007) Demonstration of Joint Force Global Situational Awareness Tools, Multi-COCOM COA Development Tools, Joint Force Engagement Packages, and Joint Force Synchronization Tools in a field exercise. A Joint MUA will be performed in conjunction with the final demonstration. Demonstration goals may be changed based on Operational Manager's direction.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Joint Force Projection (JFP)	0.960	4.600	4.000

Provides the joint warfighter with a suite of functional tools and applications to support joint deployment planning and execution to rapidly provide required force capabilities. Provides a timely, coherent and comprehensive capability to plan, model, analyze, and execute the joint deployment process from an end-to-end perspective.

• FY 2005 Accomplishments - Developed execution plan, ontologies, and CONOPS for conducting Capabilities Based Planning. Conducted experimentation on concept and developed architectural baseline for future development. Established necessary relationships with community for experimentation and development of a capabilities-based joint force projection architecture.

• FY 2006 Plans - Develop, test, and demonstrate a semantic-language based workflow portal to link together Force Projection activities from initial planning and requirements for capabilities generation, through sourcing, movement, and delivery to the Joint Force Commander. Gain access to authoritative data sources, develop data structures to link capabilities to forces and forces to capabilities,

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and then provide tracking throughout the deployment process. Focus on integration of existing tools through application of advanced web-technologies. Develop initial concept of operations (CONOPS). Primary metric: 100% Net-centric access to core deployment planning and execution systems; Develop, test, and demonstrate model-based decision support tools to give the Joint Force Commander the ability to be able to conduct rapid, dynamic course of action analysis and predictive assessment of the deployment flow on current operations. Develop, test, and demonstrate a common, joint toolset for Joint Reception, Staging, Onward Movement, and Integration activities to coordinate the flow of forces and sustainment into a theater during execution. Primary metric: Ability to create, manage, and track capability-based force packages and link them to an operational plan (100%).

• FY 2007 Plans - Finalize demonstration activities and delivery of capability into programs of record, primarily Global Combat Control System (GCCS). Primary metric: Crisis Action Planning and Execution (after release of deployment order) Support development and maintenance cycle for Operations Order (OPORD) and associated products. Cycle time reduction from 2 weeks to < 96 hours. Complete JFP ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Medical Situational Awareness in Theater (MSAT)	4.000	3.700	1.300

Provide combatant Commanders and Joint Task Force (JTF) commanders timely, complete, actionable health information for operational decision-making. This capability provided by a fusion of medical data, personnel location information and health threat intelligence for situational awareness in theater. The improved timeliness and actionable nature of the medical situational awareness information allows theater commanders to reduce both disease and non-battle injuries, as well as combat casualties, while improving combat effectiveness and responsiveness to emergencies. MSAT user sponsor is the U.S. Pacific Command with the Executive Agent being the Office of the Secretary of Defense, Health Affairs, Director of Deployment Health Support.

• FY 2005 Accomplishments - Defined joint user functional requirements to be addressed by the selected technological capabilities. Refined architecture and identified new and sufficiently mature technologies for insertion or integration into the MSAT initial spiral. Developed a spiral model to incrementally grow the architecture while eliminating non-viable alternatives and decreasing risk. Final preparation for initial field trial.

• FY 2006 Plans - Conduct field trials of interim spiral capabilities and operational concepts. Demonstrate and assess concept of operations and the tactics, techniques and procedures in a joint exercise.

• FY 2007 Plans - Conduct field trails and integration of spiral upgrades with a full assessment of capabilities, operational concepts and procedures in a capstone demonstration during a joint exercise.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Rapid Airborne Reporting & Exploitation (RARE)	0.900	1.200	0.400

Permits the production of critical, time sensitive Thermal IR MASINT from the SYERS-2 airborne sensor to meet theater commanders needs for certain types of target detection, identification and characterization.

• FY 2005 Accomplishments - Began coordination of Implementation Directive, of Beta capability for OIF and OEF ahead of ACTD planned timeline, and near real time processing of the full collection capability instead of the 10% in the ACTD.

• FY 2006 Plans - Conduct initial flight demonstrations and interim MUA. Complete MUA and final demonstration.

• FY 2007 Plans - Commence transition of capability support into DODISS certified workbench.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Sea Talon	4.000	2.500	1.300

Is a new concept for using over-the-horizon off-board systems to detect and track submarine threats in the littorals and for conducting persistent situational awareness in denied littoral approaches to land-

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based operational areas. Improves the Under Sea Warfare (USW) effectiveness in littoral areas by combining sonar technologies with unmanned undersea vehicles. Will improve the survivability of host platforms by operating at long standoff distances. Metrics include: evaluation of the system against a relevant threat in an environment characterized by water depth, sound velocity profile, clutter and interfering traffic, and sea state; operations demonstrated in passive, and active biostatic acoustic modes; measurement of parameters such as: Probability of detection (Pd), Probability of false alarm (Pfa), Area Search Rate (ASR), Stand-off range, Persistence, Time to detect, Time to classify, Time to Deploy (Td), Time to recover (Tr), Situational awareness of countermeasures or spoofing, System vulnerability, Ability to navigate in obstructed waters. Manning requirements or savings will also be evaluated.

• FY 2005 Accomplishments - Conducted systems engineering design and executed a proof-of-concept demonstration with 2 target submarines. Initiated concept of operations effort. Initiated interface effort with LCS platform.

• FY 2006 Plans - Initiate long lead acquisition for system components and sensors. Continue concept of operations planning, continue engineering design and test.

• FY 2007 Plans - Complete engineering design and testing. Receipt of system sensors. Plan the ACTD demonstration and the Military Utility Assessment (MUA).

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Sea Eagle	1.019	2.100	1.000

Demonstrates and transitions technologies to provide persistent, clandestine, and unattended monitoring of maritime areas in a Special Operations Forces (SOF) deliverable "system of systems". These funds will be used to support technical down-select, systems integration, and demonstrations of sensors and communication technologies. The funds will support: 1. Johns Hopkins University Applied Physics Lab (JHU APL) and Naval Surface Warfare Center Panama City (NSWC PC) as the technical integrators for Sea Eagle; 2. Operational Manager support and demonstration costs; and 3. procurement and integration of components for the demonstrations. USSOCOM is the COCOM/User Sponsor; OPNAV N75 is the Lead Service.

• FY 2005 Accomplishments - Approved as an FY 2005 ACTD in January 2005. Selected the land based electro/optical (EO), infrared (IR), seismic, and acoustic sensors. Selected land mesh network protocol and established communication links between network nodes. Began integration of sensor components and the land network. Procured gateway communication device to transmit sensor network information to a Mission Support Center (MSC) for information dissemination on a classified network. Designed and began development of a clandestine maritime platform as a multi-media gateway to breach the sea-air interface. Conducted initial technical evaluation of underwater sensor technologies.

• FY 2006 Plans - Demonstrate the land based network, sensors, clandestine maritime platform and gateway communications in January 2006. Transition capabilities with immediate military utility. Develop CONOPS and Tactics, Techniques, and Procedures (TTPs). Select underwater acoustic, magnetic, and other sensor technology. Incorporate underwater communications into a clandestine, close access, mesh network. Integrate underwater sensors with the underwater network. Communicate through the clandestine maritime device to land-based systems and the MSC. Investigate improved land based sensors and communications protocols.

• FY 2007 Plans - Demonstrate the undersea network and sensors. Demonstrated improved land network capabilities with enhanced networking capability, data rate, and persistence. Transition capabilities with immediate military utility. Refine CONOPS and TTPs. Integrate Naval SOF assets (SDV, ASDS, SAHRV) with the Sea Eagle network.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
SOF Long Endurance Demonstrator (SLED)	3.000	6.200	5.200

Demonstrates an unmanned vertical take off and landing vehicle (the A160 Hummingbird VTOL UAV) capable of flying long range (2000+NM/24+ hours) and employing a wide variety of adaptable payloads, supporting combating terrorism (CT), counter proliferation (CP), special reconnaissance (SR), direct action (DA), psychological operations (PSYOP), and other mission areas.

• FY 2005 Accomplishments - Integrated LIDAR and PSYOP payloads. Developed SIL (Simulated Integration Lab) to speed integration process of other payloads. Began Hellfire missile system integration. Log resupply payload development.

• FY 2006 Plans - Demonstration of LIDAR payload. Demonstration of PSYOP broadcast payload. Continue Hellfire payload integration. Log resupply payload integration and demonstration. Integrate SAR/GMTI, SIGINT, Comm Relay, and Emergency Personnel Recovery capabilities.

• FY 2007 Plans - Complete CONOPs development. Demonstrate Hellfire on A-160. Demonstrate SAR/GMTI, SIGINT, Comm Relay and Emergency Personnel Recovery capabilities. Develop

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slide on/slide off payload capability. Perform final MUA. Begin Extended User Evaluation.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Tactical Satellite (TacSat)-2 (Road-Runner)	2.000	2.800	0.000

Demonstrates use of responsive, flexible and affordable tactical satellites to retain a space capabilities advantage in high threat environments and the concepts for dynamic theater tasking, high-rate theater downlinks and horizontal integration of space derived information via SIPRNET.

- FY 2005 Accomplishments - Built and integrated. Launch (slipped to TBD 06?), and perform on orbit check out and begin operations.
- FY 2006 Plans - Complete MUA and final demonstration.
- FY 2007 Plans - Transition capability to operating command (Air Force Space Command) in support of US STRATCOM.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Weapon Data Link Network (WDLN)	5.000	4.900	0.000

The Military Services and Combatant Commanders have numerous standoff weapons programs entering SD&D Phase. Requirements are being identified for a weapon data link capability to enable inflight dynamic re-tasking of the weapons to improve time sensitive targeting and provide a counter-moving target capability. The joint warfighter lacks a currently defined weapons grid with specified standards for information exchange requirements and message sets to facilitate joint interoperability. The WDLN ACTD will define the requirement standards for future weapon data links to enable a fully integrated joint weapons grid where the combatant commanders can fully exploit the capabilities of inherent weapon data links. The residuals of this ACTD will be a defined standard that weapons programs will build to enable the combatant commander to take advantage of a fully integrated weapons grid.

- FY 2005 Accomplishments - Develop network architecture and select a Mil-Std message format that will capitalize on existing joint network standards to provide the earliest benefit to the warfighter, but will not preclude usage of other waveforms or growth to future waveforms. The communication equipment suite would emulate the characteristics of the weapon communicating commands to the weapon control systems and reporting weapon system status and position data to a C2 node after weapon release to insure the weapon can connect successfully to the network and perform its mission.
- FY 2006 Plans - Demonstration of the viability and usability of the network architecture developed during the ACTD effort. The planned approach for the demonstration of the network architecture is to construct a communication equipment suite that will accommodate network enabling hardware and ACTD architecture. Fly a King Air-class aircraft platform carrying a communication suite for the demonstration. The communication equipment suite will be flown and exercised in a simulated vehicle within Line Of Sight (LOS) and Beyond Line Of Sight (BLOS) network configurations that include a surrogate Combined Air Operations Center (CAOC) and other C2 platforms (possibly a surrogate Forward Air Controller (FAC) using Tactical Air Control Party (TACP) hardware). Conduct the final ACTD operational demonstration and Joint Military Utility Assessment of the Weapon Data Link Network (WDLN) ACTD. Begin implementation of transition strategy.
- FY 2007 Plans - Continue execution of the transition plan. Finalize CONOPs, TTPs and training package. The architecture products, standards established, and lessons learned will flow into current and future networking requirements for weapon programs including JASSM, SDB Increment 2, WCMD-ER, JSOW-C, and EW programs such as MALD-J. Complete the WDLN ACTD.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
FY 2006 ACTDs/JCTDs	0.000	0.000	0.000

There is approximately $40.000 million for FY 2006 new starts in the ACTD and JCTD PEs. At the time of this writing the below are the most likely candidates without a signed JROCM. Therefore, there are no dollar values assigned.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007

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Counter Intelligence - Human Intelligence Architecture Modernization Program, Intelligence Operations Now (CHAMPION)	0.000	0.000	6.500

Provide Combatant Commanders with an integrated, dynamic, collaborative Human Domain C4I environment under the Distributed Common Ground Station architecture; and enable real-time Human Domain reporting as components of situational awareness and common operating picture. Fuse existing and emerging systems and technologies into unified portal for timely, actionable intelligence information. This integrated system architecture will then support tactical operations of CI/HUMINT and special operations forces asset management, collection and reporting. CHAMPION user sponsor is the U.S. Central Command with U.S. Special Operations Command as the supporting command user sponsor; the Lead Service being the U.S. Army in cooperation with National Geospatial-Intelligence Agency.

• FY 2006 Plans - Defined joint user functional requirements to be addressed by the selected technological capabilities. Define architecture and identified new and sufficiently mature technologies for insertion or integration into the CHAMPION initial spiral. Developed a spiral model to incrementally grow the architecture while eliminating non-viable alternatives and decreasing risk. Final preparation for initial field trial.

• FY 2007 Plans - Conduct field trials of interim spiral capabilities and operational concepts. Demonstrate and assess concept of operations and the tactics, techniques and procedures in a joint exercise.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Comprehensive Maritime Awareness (CMA)	0.000	0.000	6.500

The CMA JCTD will demonstrate improved Maritime Awareness. There are two major objectives. The first is to assess the value of information exchange to improved MDA. The second will be to assess the value of net-centric information management for improved MDA awareness, applicable across US Government Departments, Combatant Commands and Coalitions (Singapore). This JCTD will field capabilities that will improve the ability to identify and prioritize world-wide maritime threats in a timely manner without inducing information overload on maritime security forces. Information sharing and collaboration will be emphasized to increase overall effectiveness. Metrics will be based on actual improvements to MDA; improvements in the efficient and effective use and application of maritime forces; suitability of CMA technologies for employment; and alignment with DoD Net-Centric initiatives and directives.

• FY 2006 Plans - Baseline, demonstrate and evaluate the information exchange capability with the Republic of Singapore.

• FY 2007 Plans - Baseline and demonstrate CMA technologies at PACOM, NORTHCOM and EUCOM. Interim Military User Assessments will be conducted.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Event Management Framework (EMF)	0.000	2.000	2.800

The EMF ACTD will provide a ground breaking capability that allows vertical and horizontal sharing of heretofore stove-piped information among organizations within and outside of DoD. In handling a terrorist event or incident, a horizontal information focus among Federal agencies is necessary during the interdiction phase of an incident. During response and recovery phases, a vertical information sharing focus among Federal, state, and local agencies is needed. A coherent interoperable information sharing mechanism is needed to: (1) Discover and share information resources throughout the incident based coalition domain; (2) Recognize the changing value of temporal information; and (3) Analyze and synchronize the large amounts of data relative to an event. All CoComs, as well as their non-DoD partners, have made large investments in command and control (C2) and collaboration coordination tools. But, to date, effective integration of those investments has been sub-optimal. The event management framework consists of policies, operational concepts and technologies to ensure decision makers can build a situational picture of an event with all relevant facts. Specifically this ACTD will provide: Constant 24/7 information search based on user criteria; Protection of the infrastructure of information to satisfy security needs; Incident and information correlation to "connect the dots"; Visualization of analytic results to aid decision makers in event assessment; EMF database and engine servers; Capability to share information and analytical results across CoComs, Coalitions, Services, and its interagency partners; Reduced time required for event based decision-making; EMF policies; operational concepts; and tactics, techniques and procedures.

• FY 2006 Plans - Develop draft EMF policy, user requirements and business rules to allow rapid information access. Execute MOAs for data sharing among regional and interagency partners. Develop Spiral 1 capabilities -- information access and awareness prototype, integrated information pointers (GUIs and business rules), customized portal, and cryptographic devices. Develop preliminary DOTMLPF required documents. Conduct interagency demonstration.

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• FY 2007 Plans - Develop portal interfaces. Develop Spiral 2 capabilities - incident and event reasoning prototype, ontology and data models. Refine CONOPs and TTPs. Plan Joint Military Utility Assessment (JMUA). Conduct interagency demonstration.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Extended Space Sensors Architecture (ESSA)	0.000	1.800	3.100

Classified content only.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Joint Enable Theater Access - Sea Ports of Debarkation (JETA-SPOD)	0.000	0.000	3.700

Provides enhanced capability to the Joint Force Commanders who currently cannot rapidly deliver materiel through austere sea ports of debarkation by providing a modular causeway system that is compact, tough and rapidly deployable. Further, the existing steel causeway systems cannot be deployed across shallow littoral locations. JETA is an independent and inflatable system that meets this challenge.

• FY 2006 Plans - Implementation Directive developed, staffed, and approved. Initiate and finalize Concept of Operations (CONOPS) and Tactics, Techniques & Procedures (TTPs). Initiate and finalize the Military Utility Assessment Plan (MUAP). Conduct a force structure review and cost benefit analysis to determine viability of replacing existing modular causeways in the Army, and possibly augmenting the engineer bridging assets in both the Army and the Marine Corps. Conduct an In-Process Review, a Preliminary Design Review (PDR) and a Critical Design Review (CDR) during the Hardware Build Phase.

• FY 2007 Plans - Complete the building of JETA. Conduct Safety Assessment for the JETA. Conduct the Military Utility Assessment (MUA). Initiate transition strategy and prepare for extended user evaluation.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Joint Modular Intermodal Distribution System (JMIDS)	0.000	0.000	9.100

Provides enhanced modularity, intermodality and visibility thereby decreasing handling and shipping time through the Defense Transportation System (DTS).

• FY 2006 Plans - Implementation Directive developed, staffed, and approved. Initiate and finalize Concept of Operations (CONOPS) and Tactics, Techniques & Procedures (TTPs). Initiate and finalize the Military Utility Assessment Plan (MUAP). Conduct distribution analysis for the JMIDS components. Conduct an In-Process Review, a Preliminary Design Review (PDR) and a Critical Design Review (CDR) during the Hardware Build Phase. Evaluate and select Automatic Identification Technologies (AIT).

• FY 2007 Plans - Complete build of JMICs and JMIPs. Acquire the selected AIT components. Integrate AIT components into the JMIC and JMIP. Conduct Safety Assessment for the JMIC and JMIP. Conduct the Military Utility Assessment (MUA). Initiate transition strategy and prepare for extended user evaluation.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
LARGE DATA	0.000	0.000	6.500

The Large Data Joint Capability Technology Demonstration (JCTD) will demonstrate the military utility of a highly scalable, rapid, and secure integrated capability to retrieve, store and share massive amounts of information effectively between global users. It will provide increased situational awareness by displaying large, fused sets of geospatially-referenced data in a Joint Warfighting context using intuitive navigation techniques. Secure access by all users to vast numbers of large data sized data sets when they need it. Specifically, it will provide: Synchronized databases across all major operational storage nodes, i.e. cache coherency; Timely delivery and sharing of data - instant real time access and collaboration; Intuitive way for users to navigate large data sets (petabytes to exabytes); Ability to easily visualize huge amounts of data that is being generated; Capability to perform "trackback" or change analysis on an unprecedented scale.

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• FY 2006 Plans - Develop a large data fast file system, high performance search engine & distributed cache coherent database. Design and demonstrate the Large Data prototype. Begin network certification, Develop CONOPS. Conduct demonstration.

• FY 2007 Plans - Develop holistic target characterization prototypes and deploy to Beta sites for evaluation. Perform multi-node testing on classified and unclassified networks. Refine CONOPs and TTPs. Plan JMUA. Conduct demonstration.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Multi-service Advanced Sensors to Counter Obscured Targets (MASCOT)	0.000	4.000	6.900

The primary objective of the Multi-service Advanced Sensors to Counter Obscured Targets (MASCOT) ACTD is to implement an intelligence-enabled, counter-CC&D framework that provides actionable intelligence by simultaneously leveraging legacy and emerging tactical, theater, and national intelligence capabilities in timelines relevant to the tactical kill chain. MASCOT will specifically introduce Measurement and Signatures Intelligence (MASINT) sensor capabilities with appropriate network-centric (NWC) processing, fusion, dissemination, and data visualization services into an end-to-end multi-sensor architecture that can be employed at the unit and theater levels to counter CC&D targets. This will include development of optimized methodologies for sensor-to-sensor communications to enable tipping and cueing and customizing fusion processing systems to make maximum use of the data to solve this difficult problem. The ACTD will be executed with the goal of transitioning baseline and spiral products of interoperable and reconfigurable ISR capabilities to intelligence and SOF forces for countering CC&D.

• FY 2006 Plans - MWC architecture Definition; begin Phase 1-3 development.

• FY 2007 Plans - Complete Phase 1 JMUA; spiral to Phase 2/3 products; mature fusion capability.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Node Management and Deployable Depot (NoMaDD)	0.000	2.000	3.400

Delays in getting needed supplies to the warfighter; loss of visability of items in the distribution pipeline; the inability to provide realistic delivery dates and to effectively adjust the flows of commodities for delivery at the right place at the right time all continue to be issues that impact the effectiveness of our forces. NoMaDD will address these problems by increasing visibility of item of supply in the distribution pipeline and providing logistic managers, at all levels, the knowledge needed to make the right decision.. In addition, a Deployable Depot will be demonstrated that will provide a rapid deployable capability, supported by a trained staff and information technologies, to effectively process and manage the physical flow of materiel into and through the theater. Together these capabilities will provide the logistic responsiveness needed to provide our warfighters the support they need in any theater of operation.

• FY 2006 - Develop and demonstrate initial spiral of Node Management tools to monitor strategic-to-tactical movement of Class I supplies (food). Initiate development of additional Node Management spirals for other classes of supply. Finalize design and begin to purchase Commercial-Off-The-Shelf (COTS) material management equipment for the Deployable Depot. Initiate the development of Concepts of Operations and an Independent Assessment Plan.

• FY 2007 - Continue development of NoMaDD technology and systems. Demonstrate mature Node Management tools. Deploy field-suitable communications and depot operating software in an existing forward-deployed depot. Test the Deployable Depot at an existing depot. Complete development of Concepts of Operations and an Independent Assessment Plan. Establish transition plan for Deployable Depot and initiate transition of Node Management capabilities developed through NoMaDD into the Army's Battle Command Sustainment Support System (BCS3).

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
Small UAV (SUAV)	0.000	1.500	3.400

Address Joint operational concerns noted during on-going operations through the integration of new technology across the entire class of Small UAVs. Technology focus areas are: Command, Control and Communications (C3); Payload Integration; Targeting; Platform Related Issues (power, propulsion, etc.); and Simulation and Training. Develop new TTPs across the Services for small unit real-time reconnaissance and surveillance capabilities. Develop integrated training programs with emphasis on simulation. Field new capability in as it is evaluated, but no less than once per year of the ACTD.

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• FY 2006 Plans - Initiate ACTD. Begin work on spectrally compliant data link and C3 structure. Assess other technology areas based on warfighter input. Begin CONOP development. Perform two limited assessments and one Interim Military Utility Assessment to support fielding of capabilities.

• FY 2007 Plans - Continue technology definition and cut in. Begin TTP development. Continue CONOP refinement. Perform two limited assessments and one Interim Military Utility Assessment to support fielding of capabilities.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
CoCom Direct Support, Pre-Transition, and Classified programs	15.830	17.476	17.576

Direct support costs for the ACTD program averages between $14-$18 million annually. ACTD Direct Program Support is comprised of four programs broken-out separately from the specific ACTDs projects. The direct funding line is used to provide support for the entire ACTD program (versus individual ACTDs). These four programs include (1) Unified Combatant Commander; (2) ACTD Pre-Transition Support; (3) Interagency Classified Projects, and (4) Joint enabling technologies that are either directed by congress or initiated by DUSD (AS&C).

•1) Unified Combatant Commander (UCC) Direct Support: The UCC's play an essential role in the selection, validation, demonstration, and transition of ACTDs. Many ACTDs have funding allocated for the UCCs from within their specific program funding lines. Additionally, in previous years DUSD (AS&C) would attempt to provide direct ACTD support from OSD if resources became available. This direct support allows for a timely allocation of resources to the UCCs, based on the number of ACTD projects being sponsored and the intensity of effort required. The Department also envisions that the UCCs will play a greater role in the development, support and coordination of JCTD/ACTDs that are coalition oriented (within their specific AOR). UCC direct program funding is estimated between $4.000 million and $5.000 million per year.

•2) ACTD Pre-Transition Support: The ACTD program has been highly successful in rapidly developing and demonstrating new technologies and complementary concepts of operations for the warfighter. In order to successfully transition more ACTDs to the warfighter, the SECDEF established the goal of increasing the number of ACTDs evolving into formal acquisition programs. In order to enhance this transition effort and to respond to GAO recommendations in earlier years, the ACTD program continues to support a pre-transition line in the ACTD budget submission. Funding for pre-transition initiatives will be in the approximately $3.000 million per year.

•3) Special Capabilities Office (SCO)/Interagency Classified Support for ACTDs: ACTDs also support a limited number of classified efforts which are coordinated with other agencies and detailed in separate DoD budget exhibits. Funding for this direct program support is estimated between $9.000 million and $10.000 million each year.

•4) Joint Enabling Technologies: Over the past several years congressional committees have highlighted the potential of mature, joint technologies and provided resources to the ACTD program to investigate the military utility of these technologies. DUSD (AS&C) also becomes aware of promising technologies which may have transformational application to ACTDs. The need for these technologies may be realized until an ACTD is mid-way through its development or after a final demonstration. In most cases, these enabling technologies have broader application across several functional capabilities addressed by various ACTDs. Five enabling technologies were funded in FY 2005. Funding for the Enableling technologies is listed above and not included here.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
FY 2007 ACTD New Starts	0.000	0.000	20.180

Funding for FY 2007 ACTD new starts that will result from the ACTD selection process in February 2006.

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
FY 2005 SIBR/STTR/Rescissions	-9.968	0.000	0.000

Reductions for FFRDC, CAAS, Section 8131, 8122 and SIBR/STTR.

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C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
Joint Capability Technology Demonstration (JCTD): PE 0603648D8Z, BA3	0.000	34.443	35.553	35.590	35.624	35.613	35.576	0.000	212.399
JCTD Transition: PE 0604648D8Z, BA4	0.000	6.889	3.047	3.050	3.053	3.052	3.049	0.000	22.140
Defense Acquisition Executive: PE 0605648D8Z, BA5	0.000	0.985	6.015	6.016	6.017	6.017	6.016	0.000	31.066
OSD Major Equipment (JCTD): PE 0902198D8Z, BA P-1	0.000	1.000	2.000	2.000	2.000	2.000	2.000	0.000	11.000

Comment: The new JCTD Program provides a "cradle to grave" path for transformational joint capabilities. The initial funding lines are outlined in the table below. Refer to the specific Budget Exhibit for more details on each funding line.

D. Acquisition Strategy Only the ACTD/JCTDs that demonstrate the highest military utility will be considered for the transition funding in the JCTD BA4 Transition PE and the DAE BA5 PE. Promising ACTDs may recieve transition funding during the transition period to the JCTD program.

- Fifty percent of the products from at least 80% of all completing JCTDs will transition to acquisition programs of record, a GSA schedule, CoCom sustainment or, in the case of software-based products, into operationally-sustained systems (such as the Global Command and Control System (GCCS).
- JCTD/ACTDs completing ACD&P will be at TRL 6 or 7 and a logical progression of program phases to include development and funding will be established via a documented transition plan.

E. Major Performers Not Applicable.