

# OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2008**

APPROPRIATION/ BUDGET ACTIVITY  
**RDTE, Defense Wide BA 04**

PE NUMBER AND TITLE  
**0603923D8Z - Coalition Warfare**

COST (\$ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P923 Coalition Warfare	5.844	9.960	14.030	14.135	14.459	14.715	14.972

**A. Mission Description and Budget Item Justification:** The Coalition Warfare (CW) initiative is the only Office of the Secretary of Defense (OSD) program dedicated to initiating cooperative research and development (R&D) projects with allies and coalition partners. The goal of the effort is to assist the Combatant Commands, Services, and Agencies with integrating coalition-enabling solutions into existing and planned U.S. programs. This adds value to the Department's security cooperation strategy through collaborative development of warfighter capabilities to enhance operations of U.S. and coalition forces.

Fighting the war on terrorism and coping with the new and emerging threats have put coalition warfare issues on the radar screens of policy makers and senior leaders throughout the U.S. Government. Coalitions are and will be the standard means for addressing international crises, lending political legitimacy and providing resources that mitigate U.S. financial, materiel, and personnel burdens. Interoperability gaps between and among coalition partners have compromised operational effectiveness and jeopardized force protection (e.g., fratricidal incidents). CW strives to bridge these gaps, for example, by providing the necessary financial support to internationalize the Coalition Combat Identification Advanced Concept Technology Demonstrations and promote interoperability and integration of Mode 5 Identification, Friend, or Foe systems for U.S., NATO and allied platforms.

Cooperative efforts with likely coalition partners are needed to close interoperability gaps include battlespace awareness, C4ISR, joint fires, intelligence fusion and data sharing, combat identification, logistics, weapon systems, and information sharing capabilities. Moreover, these small investments early in the R&D process yield large dividends and allow for sustainable coalition enabled U.S. systems. The OSD CW initiative encourages Combatant Commands, Services, Defense Agencies and OSD to involve friendly countries in development projects to meet coalition requirements that would otherwise not be realized. Partner nations participate to the extent permitted by security considerations (classified data and critical technology), when such partnering is advantageous to the U.S. Government and necessary in terms of security cooperation and regional threat scenarios.

The CW approach to cooperative R&D projects is consistent with OSD-articulated, preferred methodologies: spiral development and evolutionary acquisition (i.e., getting solution-oriented, threshold-capabilities into the hands of the coalition warfighter quickly). Projects benefiting from CW funding fall into one of two categories: those for which the CW funds no more than 50% of the U.S. portion, with foreign contributions making up the difference; and those involving CW funding of coalition-oriented features of U.S.-only projects. Priority is given, in both categories, to initiatives offering potential solutions to interoperability issues that can be leveraged across multiple Combatant Commands.

The Combatant Commands, Services, Defense Agencies, and OSD nominate candidate projects on a yearly cycle. These projects are funded for one to two years. OSD selects projects based on their compatibility with established CW criteria: meeting the needs and requirements specified by the Joint Staff and the Combatant Commanders, equitable contributions from international partners, potential for transitions and leverage across the regional and functional Combatant Commands, addressing potential risks related to security and controlled technology, responsiveness to USD (AT&L) priorities for international armaments cooperation (e.g., maritime domain awareness, combat identification, joint and coalition experimentation and coalition logistics).

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<u><b>B. Program Change Summary</b></u>	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	5.845	14.047	14.053
Current BES/President's Budget (FY 2009)	5.844	9.960	14.030
Total Adjustments	-0.001	-4.087	-0.023
Congressional Program Reductions		-4.000	
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer	-0.164		
Other	0.163	-0.087	-0.023

Change Summary Explanation: In FY 2007, GWOT supplemental funding (\$0.163 million) has been displayed although it is actually for PE 0305125D8Z.

**C. Other Program Funding Summary** Not applicable for this item.

**D. Acquisition Strategy** The Combatant Commands, Services, Defense Agencies, and the Office of the Secretary of Defense (OSD) nominate candidate projects on a yearly cycle. These projects are funded for one to two years. OSD selects projects based on their compatibility with established Coalition Warfare Program (CW) criteria, which are based on DoD priorities (e.g. CONPLAN 7500, the QDR Roadmap for Building Partner Capacity, Combatant Commanders' Integrated Priority Lists (IPLs) and Joint staff's Most Pressing Military Issues): meeting the needs and requirements specified by the Joint Staff and the Combatant Commanders, equitable contributions from international partners, potential for transitions and leverage across the regional and functional Combatant Commands, addressing potential risks related to security and controlled technology, responsiveness to USD (AT&L) priorities for international armaments cooperation (e.g., maritime domain awareness, combat identification, joint and coalition experimentation and coalition logistics).

FY08 new starts support the DoD needs to support the following commands: TRANSCOM, SOUTHCOM, SOCOM, JFCOM, and PACOM. New start projects include interoperable secure radio waveforms, tactile situation awareness, tracking of coalition medical evacuees, miniaturized chemical agent detector, distributed simulation for urban environments, among others.

**E. Performance Metrics:**

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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
08	Select projects for COCOM coalition priorities	Priorities for coalition, COCOM shortfalls	Continued partnership with COCOMs and Services.	Improved coordination between DoD organizations.	100%	
07	Select projects for COCOM coalition priorities	Priorities for coalition, BPC goals	Increased engagement to support strategic goals.	Partnerships with COCOMs and key allies stronger	100%	90%
07	Assess performance of tasks as defined.	As defined by project.	Increased reporting requirements.	Increased visibility at the OSD level.	100%	100%
06	Delivery of final reports at end of project.	As defined by project.	Increased reporting requirements.	Final reports due Oct. 07	100%	100%

Comment:

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<b>APPROPRIATION/ BUDGET ACTIVITY</b> <b>RDTE, Defense Wide BA 04</b>		<b>PE NUMBER AND TITLE</b> <b>0603923D8Z - Coalition Warfare</b>					<b>PROJECT</b> <b>P923</b>	
COST (\$ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	
P923 Coalition Warfare	5.844	9.960	14.030	14.135	14.459	14.715	14.972	

**A. Mission Description and Budget Item Justification:** The goal of the Coalition Warfare Program (CW) is to assist the Combatant Commands, Services, and Agencies with integrating coalition-enabling solutions into existing and planned U.S. programs. This adds value to the Department's security cooperation strategy through collaborative development of warfighter capabilities to enhance operations of U.S. and coalition forces.

Fighting the war on terrorism and coping with the new and emerging threats have put coalition warfare issues on the radar screens of policy makers and senior leaders throughout the U.S. Government. Coalitions are and will be the standard means for addressing international crises, lending political legitimacy and providing resources that mitigate U.S. financial, materiel, and personnel burdens. Interoperability gaps between and among coalition partners have compromised operational effectiveness and jeopardized force protection (e.g., fratricidal incidents). CW strives to bridge these gaps, for example, by providing the necessary financial support to internationalize the Coalition Combat Identification Advanced Concept Technology Demonstrations and promote interoperability and integration of Mode 5 Identification, Friend, or Foe systems for U.S., NATO and allied platforms.

Cooperative efforts with likely coalition partners are needed to close interoperability gaps include battlespace awareness, C4ISR, joint fires, intelligence fusion and data sharing, combat identification, logistics, weapon systems, and information sharing capabilities. Moreover, these small investments early in the R&D process yield large dividends and allow for sustainable coalition enabled U.S. systems. The OSD CW initiative encourages Combatant Commands, Services, Defense Agencies and OSD to involve friendly countries in development projects to meet coalition requirements that would otherwise not be realized. Partner nations participate to the extent permitted by security considerations (classified data and critical technology), when such partnering is advantageous to the U.S. Government and necessary in terms of security cooperation and regional threat scenarios.

**B. Accomplishments/Planned Program:**

<b><u>Accomplishments/Planned Program Title:</u></b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
FY 2007 Accomplishments			

2006 projects have completed their work and performed demonstrations.

This includes very successful demonstrations of maritime security capabilities in Europe, the Caribbean and Singapore. Other highlights include successful interoperability tests on coalition communication capabilities with both Pacific partner nations and European partners; trials and demonstrations of geo-spatial information systems for disaster relief/humanitarian assistance in the SOUTHCOM AOR; workshops to develop an understanding of network centric warfare systems' impact to the operational leader in coalition environments; and engagement of over 25 nations and NATO to commonly develop CONOPS and interoperability measures for in-transit visibility networks.

FY07 projects are mid-way through their performance cycles, and are working well against their individual project plans.

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APPROPRIATION/ BUDGET ACTIVITY <b>RDTE, Defense Wide BA 04</b>	PE NUMBER AND TITLE <b>0603923D8Z - Coalition Warfare</b>		PROJECT <b>P923</b>	
<b><u>Accomplishments/Planned Program Title:</u></b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	
FY 2008 Plans				
Completion of FY07-08 projects, and start of FY08-09 projects. FY08 new start projects will support TRANSCOM, SOUTHCOM, SOCOM, EUCOM and PACOM needs for U.S. combined with coalition partners. The nomination and selection process for FY09-10 new start projects will take place to prepare for FY09.				
New start projects are selected based on the DoD priorities (e.g. CONPLANS, Security Cooperation Guidance, USD(AT&L) International Goals, COCOM Theater Security Cooperation Goals and Joint Staff's Most Pressing Military Issues) that drive coalition capability requirements.				
<b><u>Accomplishments/Planned Program Title:</u></b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	
Small Boat Modeling and Validation	0.400			
Validate the small boat threat models used across multiple Combatant Commands and acquisition programs for US Department of Defense (DOD) and Department of Homeland Security (DHS) agencies.				
<b><u>Accomplishments/Planned Program Title:</u></b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	
Coalition Airspace Management and Deconfliction	0.275			
Define and develop a software package to provide a machine-to-machine interface between the Joint AirSpace Management And Deconfliction (JASMAD) Advanced Technology Demonstration (ATD) program and airspace planning systems within the UK Air Command and Control System (ACCS) to create a network-centric interoperable suite of collaborative airspace management tools for a US/UK coalition.				
<b><u>Accomplishments/Planned Program Title:</u></b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	
Geolocation and Identification Enhancement	0.500			
Geolocation and Identification Enhancements (GLIDE) will improve coalition capabilities to perform target location and identification by developing methods and interfaces to share Specific Emitter Identification (SEI) algorithms and data between coalition partners.				
<b><u>Accomplishments/Planned Program Title:</u></b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	
Battle Simulation Models	0.316			
Development of models and simulations for all services that is suitable for use in joint and combined exercises between Republic of Korea and U.S. forces.				
<b><u>Accomplishments/Planned Program Title:</u></b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	
Maritime Coalition Interoperability - Coalition Distributed Engineering Plant	0.695			
Demonstrate existing standardization, rationalization and interoperability for combined operations and systems development. This will be accomplished by (1) establishing a compatible infrastructure connecting existing land-based Combat Systems sites employing hardware-in-the-loop combat systems with wide area networks, and (2) conducting distributed engineering and test exercises and				

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events.				
<b><u>Accomplishments/Planned Program Title:</u></b>		<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>	<b><u>FY 2009</u></b>
Global Coalition In-Transit Visibility Network		0.415		
Development of an interoperable network of multinational, coalition in-transit visibility (ITV) systems enabled by various Automated Identification Technologies (A.I.T.). The project will connect nations' previously disparate and closed ITV systems to one another, and will exponentially increase the operational capability of each regional Combatant Commander to track assets for sustainment of the warfighter. Once created, the network can be utilized across the entire spectrum of conflict, from humanitarian assistance to high-intensity combat.				
<b><u>Accomplishments/Planned Program Title:</u></b>		<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>	<b><u>FY 2009</u></b>
Maritime Information Exchange		0.230		
Develop and integrate rule sets and certification for Secret and Below Interoperability (SABI) security guards to successfully share information between the US and Singapore as well as developing and integrating rule sets for an unclassified COP on the Asia-Pacific Area Network (APAN).				
<b><u>Accomplishments/Planned Program Title:</u></b>		<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>	<b><u>FY 2009</u></b>
Multinational C4 National Planning System		0.485	0.485	
Develop the Multinational Command, Control, Communications, and Computers (C4) Network Planning System (MCNPS) to provide a tool to develop, assess, and document network architectures for use by coalition task forces (CTFs).				
<b><u>Accomplishments/Planned Program Title:</u></b>		<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>	<b><u>FY 2009</u></b>
EUCOM J2 Project		0.300	0.300	
(CLASSIFIED)				
<b><u>Accomplishments/Planned Program Title:</u></b>		<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>	<b><u>FY 2009</u></b>
Mode 5 Identification Friend or Foe		0.534	0.560	
Develop standards and conduct interoperability trials of the Mode 5 IFF combat identification system and integration trials of the Mode 5 IFF combat recognition system on joint US service platforms & European AWACS aircraft.				
<b><u>Accomplishments/Planned Program Title:</u></b>		<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>	<b><u>FY 2009</u></b>
Preplanned Response and Emergency Action (PRACT)		0.235	0.365	
Increase regional stability in the US Southern Commands (SOUTHCOM) Area of Responsibility through the provisioning of a collaborative planning and coordinated response capability (technology and business practices) that enables accurate assessments, situational awareness, dynamic planning, and synchronized response to international disasters.				

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<u><b>Accomplishments/Planned Program Title:</b></u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	
Everything over Internet Protocol	0.200	0.300		
Develop Coalition Communications Interoperability with the Defense Information Systems Network (DISN) services, for Deployed Warfighters, utilizing Everything over IP(EoIP) over Transponded Satellites technology.				
<u><b>Accomplishments/Planned Program Title:</b></u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	
Undersea FORCEnet Coalition Interoperability	0.182	0.272		
Special Operations and Naval Forces require an Undersea FORCEnet (Unet) architecture for command, control, communications (C3) and positioning of undersea distributed netted systems (UDNS), fixed and mobile, manned and unmanned, including gateways to submarines and space. Coalition assets and connectivity enhance capability, coverage and relevance of this Unet architecture.				
<u><b>Accomplishments/Planned Program Title:</b></u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	
Passive, Remote and Open Situation Awareness System	0.230	0.450		
Develop a network centric enterprise services architecture for effective use of netted multi-static RF sensors and UAV-based C4ISR systems; including signal processing and target geo-location techniques, remote joint fires, anti-terrorist force protection capability, and human systems integration using a coalition Operational scenario to ensure tactics, techniques and procedures evolve with technologies to enable decision superiority and deliver measurable effects on the battlefield.				
<u><b>Accomplishments/Planned Program Title:</b></u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	
Miniature Chemical Warfare Detection Agent		0.250	0.250	
Develop a miniature automated chemical agent detector based on the current M256A1 chemistry. The new detector will provide additional enhancements such as automation, miniaturization, increased user friendliness, decreased detector response time, ability to communicate agent detection to user via audible, visual and/or physical (vibration) method, and the ability to be reused following decontamination. This detector could be used remotely and in limited or no light missions and would greatly improve the protective posture of both the main force and special operation forces.				
<u><b>Accomplishments/Planned Program Title:</b></u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	
US Joint Tactical Radio Systems (JTRS) and UK Bowman Radio C2 Interoperability		0.700	0.700	
Port JTRS Bowman Waveform onto a JTRS platform and demonstrate interoperability between JTRS and Bowman radios. This second phase of the US/UK Bowman project consists of four primary objectives: Mission management task will focus on delivering BOWMAN VHF mission information to the JTRS loader through a representative scenario. Porting JBW and PII to JTRS hardware. Investigation of enhanced interoperability opportunities through HF and UHF waveform development. A JBW demonstration to pass situational awareness information in both directions between peer C2 systems.				
<u><b>Accomplishments/Planned Program Title:</b></u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	
Coalition Access to TRANSCOM Regulating C2 Evacuation System (TRAC2ES)		0.375		

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Upgrade the existing TRANSCOM Regulating And Command/Control Evacuation System (TRAC2ES) to allow coalition forces access to required functionality while protecting the sensitive information in the TRAC2ES database from unauthorized disclosure.				
<b><u>Accomplishments/Planned Program Title:</u></b>			<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>
Tactile Situation Awareness System				0.390
Deliver a technology that will reduce the workload of pilots; increase the situational awareness, and reduce the incidence of brownout mishaps in the desert environment.				
<b><u>Accomplishments/Planned Program Title:</u></b>			<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>
Distributed Simulation for Coalition Warfare Training				0.070
Integrate a prototype US Army virtual simulation with US and Coalition Air Force simulators to create a common distributed simulation environment that would support training for a wide range of Joint Interagency, Inter-governmental, and Multi-national operations, including Coalition Warfare.				
<b><u>Accomplishments/Planned Program Title:</u></b>			<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>
Integrated Surveillance, Targeting and Reconnaissance Sensor & Sea Eagle ACTD Sensor Network Deployment Planning Tool				0.350
Provide visual and sensor coverage through the use of networked buoys in order to increase maritime situational awareness. 1. Integrate the UK ISTARs sensor system into an existing US developed pop-up buoy platform that is part of the Sea Eagle sensor network system. 2. Develop a Sensor Network Deployment Planning Tool (SNDPT) by combining undersea communications nodes and sensor nodes for modeling undersea signatures with the functionality of existing GIS technologies. 3. Allow interoperability for CoCom's forces operating in the littorals.				
<b><u>Accomplishments/Planned Program Title:</u></b>			<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>
Stabilized Weapons System Installation				0.490
Design and test a specially mounted stand-off weapon to be used on SOF low-profile boats, in order to preserve low-signature and provide increased offensive and defensive fires capacity.				
<b><u>Accomplishments/Planned Program Title:</u></b>			<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>
Stake Holder Asset-Based Planning Environment				0.450
Develop requirements for a joint, interagency, and multi-national response; identify existing and emerging best in class methods and technologies that can support this whole of government and multi-national response; and then deliver those capabilities to the user communities.				
<b><u>Accomplishments/Planned Program Title:</u></b>			<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>
Advanced Dynamic Magnetometer for Static and Moving Applications				0.530
Develop a compact and inexpensive micro-fluxgate magnetometer for use in multiple COCOMs.				
<b><u>Accomplishments/Planned Program Title:</u></b>			<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>

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Virtual Regional Maritime Traffic Center		0.140	0.350
Develop the capability to: detect, track, identify, and display information on surface vessels; identify cooperative traffic; correlate, fuse, monitor, and analyze vessel tracks to enable timely and actionable decisions; collaborate and share MDA information such as vessel ID, manifest, and cargo, with desired users; enable participation in cross-language information sharing among all participants; and eventually, enable Partner Nations to acquire, own, operate, and maintain the capability without US DoD support.			
<b><u>Accomplishments/Planned Program Title:</u></b>		<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>
US-Singapore Unmanned Vehicle		0.700	0.300
Develop and integrate a remotely operated small arms mount with two SPIKE missiles and .50 caliber gun onto the SPARTAN 7-meter RHIB; to expand operations for SPARTAN over-the-horizon by use of a Tactical Unmanned Air Vehicle.			
<b><u>Accomplishments/Planned Program Title:</u></b>		<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>
NATO Friendly Force Information (NFFI) Interface Prototype Standard (NIPS) Project		0.210	0.210
Improve existing defense asset tracking technologies to permit US, allied and/or coalition countries to view personnel and asset position, status, and location information on national or NATO Common Operational/Tactical Pictures. This project will permit greater integration of allied/partner forces into on-going US Blue Force Situational Awareness (BFSA) initiatives. Specifically, the project will focus on: improving the current US Joint Blue Force Situational Awareness (BFSA) extensible markup language (XML) to permit a robust data exchange with future versions of the NATO Friendly Force Information (NFFI) data exchange standard, permitting secure classified transfer of information through the use of robust cross-domain solutions, and migrating this capability into net-enabled command and control (NECC).			
<b><u>Accomplishments/Planned Program Title:</u></b>		<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>
Optimizing Coalition Leader & Team Operational Readiness to Achieve Technical Interoperability in Network Centric Operations		0.140	0.315
Define critical knowledge and skills required to work in a multinational net-centric operational environment and develop a repository of NCE human behavior factors for acquisition and operational consideration.			
<b><u>Accomplishments/Planned Program Title:</u></b>		<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>
Multi-National Turnkey C2		0.480	0.490
Provide NATO with a repeatable methodology and tools to accelerate C2 interoperability and reduce the ad hoc nature of the HQs formation process. This will enable a NATO HQ to rapidly determine required capabilities based on its specific JTF mission, ID shortfalls, and to develop sourcing solutions.			
<b><u>Accomplishments/Planned Program Title:</u></b>		<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>
Multinational Virtual Learning Environment (MVLE)		0.290	0.210
Establish the South Eastern Europe/Black Sea Region Multinational Virtual Learning Environment Training Site and to establish a real-time, online communications that includes a multilingual machine language translation and natural language interface development in support of the Bulgarian, Romanian, and Ukrainian languages.			

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<b><u>Accomplishments/Planned Program Title:</u></b>		<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Coalition Warfare Command & Control Interoperability Enhancement			0.600	0.247
Enhance coalition fire support capability where each Fires Coordination organization of partner nations may coordinate Fires from supporting coalition platforms and other Fires Coordination organizations.				
<b><u>Accomplishments/Planned Program Title:</u></b>		<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Software Defined Radio Coalition Waveform				0.300
Define and standardize a US Software Communications Architecture (SCA) Software Defined Radio waveform for interoperable NATO and coalition operations.				
<b><u>Accomplishments/Planned Program Title:</u></b>		<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Collaborative Portals		0.033	0.018	0.018
Development of web-based collaborative portals to support bilateral and multilateral forces.				
<b><u>Accomplishments/Planned Program Title:</u></b>		<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
CW Support		0.639	0.636	0.698
Support to OUSD(AT&L)/IC for Coalition Warfare				
<b><u>Accomplishments/Planned Program Title:</u></b>		<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Collaborative Initiatives			0.100	0.100
Engagements with coalition partners to support USD(AT&L) priorities.				
<b><u>Accomplishments/Planned Program Title:</u></b>		<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Multinational Outreach			0.117	0.312
Engage with Combatant Commanders and coalition partners on development and execution of coalition warfare projects.				
<b><u>Accomplishments/Planned Program Title:</u></b>		<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
FY 2009 Plans				7.110
Projects that are selected for FY08-09 will be starting their second year of effort. New start projects are selected during FY09 based on proposals that meet criteria based on the DoD priorities (e.g. CONPLANS, Security Cooperation Guidance, COCOM Theater Security Cooperation goals, Joint Staff's Most Pressing Military Issues, USD(AT&L) International Goals) that drive coalition capability requirements.				

# OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**February 2008**

<b>APPROPRIATION/ BUDGET ACTIVITY</b> <b>RDTE, Defense Wide BA 04</b>	<b>PE NUMBER AND TITLE</b> <b>0603923D8Z - Coalition Warfare</b>	<b>PROJECT</b> <b>P923</b>
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<b><u>Accomplishments/Planned Program Title:</u></b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
AT&L Program Reductions	0.175	0.192	
Anticipated program reductions			

<b><u>C. Other Program Funding Summary</u></b>	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Small Boat Modeling and Validation	0.400						
Coalition Airspace Management and Deconfliction	0.275						
GLIDE	0.500						
US-Korea Battle Simulation Model	0.316						
Maritime Coalition Interoperability-Coalition CDEP	0.695						
Global Coalition In-Transit Visibility Network	0.415						
Maritime Information Exchange	0.230						
Multinational C4 National Planning System	0.485	0.485					
EUCOM J2 INMARSAT	0.300	0.300					
Mode V IFF/ Mark XII	0.534	0.560					
Preplanned Response and Emergency Action (PRACT)	0.235	0.365					
Coalition Communications Interoperability and Data Sharing using EoIP	0.200	0.300					
Undersea FORCEnet Coalition Interoperability	0.182	0.272					
Passive, Remote and Open Situation Awareness System (PROSAS)	0.230	0.450					
Miniature Chemical Warfare Detection Agent		0.250	0.250				
US Joint Tactical Radio System (JTRS) & UK Bowman Radio C2 Interoperability		0.700	0.700				
Coalition Access to TRANSCOM Regulating C2 Evacuation System (TRAC2ES)		0.375					
Tactile Situation Awareness		0.390	0.380	0.330			
Distribution Simulation for Coalition Warfare Training		0.070					
Integrated Surveillance, Targeting and Reconnaissance Sensor		0.350	0.560				

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Stabilized Weapons System Installation		0.490	0.490	0.410			
Stake Holder Asset-Based Planning Environment (SHAPE)		0.450	0.550	0.400			
Advanced Dynamic Magnetometer		0.530	0.440	0.430			
Virtual Regional Maritime Traffic Center		0.140	0.350	0.350			
US-Singapore Unmanned Vehicle		0.700	0.300				
NATO Friendly Force Information Interface Prototype Standard		0.210	0.210				
Optimizing Coalition Leader & Team Operational Readiness		0.140	0.315				
Multi-National Turnkey C2		0.480	0.490				
Multinational Virtual Learning Environment		0.290	0.210				
Coalition Warfare Command & Control Interoperability Enhancement		0.600	0.247				
Coalition Software Defined Radio			0.300	0.500			
Collaboration Portal	0.033	0.018	0.018	0.018	0.030	0.050	0.050
CW Program Support	0.639	0.636	0.698	0.732	0.760	0.790	0.810
Collaborative Initiatives		0.100	0.100	0.100	1.200	1.200	1.200
Multinational Outreach		0.117	0.312	0.328	0.500	0.500	0.500
New Start Programs			7.110	5.300	5.500	5.500	5.500
Continuing Project Funding				5.371	6.612	6.818	7.057
AT&L Program Reductions	0.175	0.192					

Comment:

**D. Acquisition Strategy** The Combatant Commands, Services, Defense Agencies, and the Office of the Secretary of Defense (OSD) nominate candidate projects on a yearly cycle. These projects are funded for one to two years. OSD selects projects based on their compatibility with established Coalition Warfare Program (CW) criteria, which are based on DoD priorities (e.g. CONPLAN 7500, the QDR Roadmap for Building Partner Capacity, Combatant Commanders' Integrated Priority Lists (IPLs) and Joint staff's Most Pressing Military Issues): meeting the needs and requirements specified by the Joint Staff and the Combatant Commanders, equitable contributions from international partners, potential for transitions and leverage across the regional and functional Combatant Commands, addressing potential risks related to security and controlled technology,

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responsiveness to USD (AT&L) priorities for international armaments cooperation (e.g., maritime domain awareness, combat identification, joint and coalition experimentation and coalition logistics).

FY08 new starts support the DoD needs to support the following commands: TRANSCOM, SOUTHCOM, SOCOM, JFCOM, and PACOM. New start projects include interoperable secure radio waveforms, tactile situation awareness, tracking of coalition medical evacuees, miniaturized chemical agent detector, distributed simulation for urban environments, among others.

**E. Major Performers**

Category	Name	Location	Type of Work and Description	Award Date
<b><u>Labs/Centers</u></b>				
	JFCOM	Newport News, VA	GITV Project development of an interoperable network of multinational, coalition in-transit visibility (ITV) systems enabled by various Automated Identification Technologies (A.I.T.)NIPS: Develop an interim U.S. message standard for blue force situational awareness data exchange with NATO.C2 Turnkey: A Multi-National HQs Template for the ISAF mission, selected architectural views, the implementation of the methodology the Template with ISAF.	Sep 05
	EUCOM	Stuttgart, Germany	INMARSATCOM (CLASSIFIED) and Multinational C4 National Planning System - Develop the Multinational Command, Control, Communications, and Computers (C4) Network Planning System (MCNPS) to provide a tool to develop, assess, and document network architectures for use by coalition task forces (CTF's).MVLE: Establish a real-time, online communications including a multilingual machine language translation and natural language interface development in Bulgarian, Romanian, and Ukrainian languages.	Sep 06
	SPAWARSSYSCOM	San Diego, CA	GLIDE will improve coalition capabilities to perform target location and identification; develop a compact and inexpensive micro-fluxgate magnetometer; JTRS Coalition waveforms. US-UK JBW and coalition SDR waveform.	Sep 05
	NRL	Carderock, MD	MIE - Develop and integrate rule sets and certification for Secret and Below Interoperability (SABI) security guards to successfully share information between the US and Singapore as well as developing and integrating rule sets for an unclassified COP on the Asia-Pacific Area Network (APAN).	Sep 06
	PACOM	Honolulu, HI	SPARTAN: To develop and integrate a remotely operated small arms mount with two SPIKE missiles and .50 caliber gun onto the SPARTAN 7-meter Rigid Hull Inflatable Boat (RHIB); to expand operations for SPARTAN over-	Sep 07

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		the-horizon by use of a Tactical Unmanned Air Vehicle.
NSWCD	Dahlgren, VA	Demonstrate existing standardization, rationalization and interoperability for combined operations and systems development. This will be accomplished by (1) establishing a compatible infrastructure connecting existing land-based Combat Systems sites employing hardware-in-the-loop combat systems with wide area networks, and (2) conducting distributed engineering and test exercises and events.
ESC Hanscom	Hanscom AFB, MA	CASMAD, Define and develop a software package to provide a machine-to-machine interface between the Joint AirSpace Management And Deconfliction (JASMAD) Advanced Technology Demonstration (ATD) Mode 5 IFF, Develop standards and conduct interoperability trials of the Mode 5 IFF combat identification system and integration trials of the Mode 5 IFF combat recognition system on joint US service platforms & European AWACS aircraft.
PEO STRI	Orlando, FL	Development of models and simulations for all services that is suitable for use in joint and combined exercises between Republic of Korea and U.S. forces.
Army Corps of Engineers	Washington, DC	PREACT/SHAPE: Increase regional stability in the US Southern Command's (SOUTHCOM) Area of Responsibility through the provisioning of a collaborative planning and coordinated response capability (technology and business practices) that enables accurate assessments, situational awareness, dynamic planning, and synchronized response to international disasters.
Defense Information Security Agency	Falls Church, VA	Develop Coalition Communications Interoperability with the Defense Information Systems Network (DISN) services, for Deployed Warfighters, utilizing Everything over IP(EoIP) over Transponded Satellites technology.
NSWCD	Dahlgren, VA	Develop a network centric enterprise services architecture for effective use of netted multi-static RF sensors and UAV-based C4ISR systems; including signal processing and target geo-location techniques, remote joint fires, anti-terrorist force protection capability, and human systems integration using a coalition Operational scenario to ensure tactics, techniques and procedures evolve with technologies to enable decision superiority and deliver measurable effects on the battlefield.
DTIC	Ft. Belvoir, VA	Development of web-based collaborative portals to support bilateral and multilateral forces.
Naval Air Systems Command	Patuxent River, MD	Jointly sponsored flight trials with collaboration by multiple nations to demonstrate the interoperability of production-ready Mode 5 IFF transponders and interrogators.
JTRS JPEO	San Diego, CA	JTRS Coalition waveforms. US-UK JBW and coalition SDR waveform.

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TRANSCOM	Scott AFB, IL	Upgrade existing TRAC2ES to allow coalition forces access to required functionality while protecting the sensitive information in the TRAC2ES database from unauthorized disclosure.	Sep 07
NAMRED	Pensacola, FL	TSAS: Deliver a technology that will reduce the workload of pilots; increase the situational awareness, and reduce the incidence of brownout mishaps in the desert environment. To enlarge the surface area of the TSAS garment to extend the capability beyond hovering to include complete forward flight control.	Sep 07
RDECOM/STTC	Orlando, FL	Distro Sim: Research and development, using their massively multi-player game to support training for asymmetric warfare in dense urban environments	Sep 07
SOCOM	McDill AFB, FL	ISTAR: Provide visual and sensor coverage through the use of networked buoys in order to increase maritime situational awareness.	Sep 07
NSWC - CD	Crane, VA	Stabilized Weapon: design and test a specially mounted stand-off weapon to be used on low-profile boats, in order to preserve low-signature and provide increased offensive and defensive fires capacity.	Sep 07
SOUTHCOM	Miami, FL	SHAPE: Develop a web-enabled tool with embedded business process and associated analysis tools for multinational and interagency planning for stabilization and reconstruction operations. VRMTC: Define and establish a multinational maritime traffic center to allow web-based virtual interagency, multinational access.	Sep 07
Naval Air Systems Command TSD	Orlando, FL	Development of a Human System Performance Assessment Capability repository for US and coalition use.	Sep 07
<b><u>Universities</u></b>			
Naval Postgraduate School	Monterey, CA	Special Operations and Naval Forces require an Undersea FORCEnet (Unet) architecture for command, control, communications (C3) and positioning of undersea distributed netted systems (UDNS), fixed and mobile, manned and unmanned, including gateways to submarines and space. Coalition assets and connectivity enhance capability, coverage and relevance of this Unet architecture.	Sep 06
<b><u>FFRDCs</u></b>			
IDA	Alexandria, VA	Engagements with Combatant Commanders and coalition partners on development and execution of coalition warfare projects to support USD(AT&L) priorities.	Jun 06
University of Texas, Applied Research Lab	Austin, TX	ISTAR: Provide visual and sensor coverage through the use of networked buoys in order to increase maritime situational awareness.	Sep 07

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**Contractors**

	DreamHammer, Inc	Santa Monica, CA	Support to OUSD(AT&L)/IC for Coalition Warfare.	Feb 06
	Telephonics Corporation	Lexington Park, MD	Jointly sponsored flight trials with collaboration by multiple nations to demonstrate the interoperability of production-ready Mode 5 IFF transponders and interrogators.	Sep 06
	Booz Allen Hamilton	McLean, VA	Upgrade existing TRAC2ES to allow coalition forces access to required functionality while protecting the sensitive information in the TRAC2ES database from unauthorized disclosure.	Sep 07
	General Dynamics	Falls Church, VA	JTRS Coalition waveforms. US-UK JBW and coalition SDR waveform.	Sep 07
	Mustang Survival	Bellingham, WA	TSAS: Deliver a technology that will reduce the workload of pilots; increase the situational awareness, and reduce the incidence of brownout mishaps in the desert environment. To enlarge the surface area of the TSAS garment to extend the capability beyond hovering to include complete forward flight control.	Sep 07
	Forterra	Orlando, FL	Distro Sim: Research and development, using their massively multi-player game to support training for asymmetric warfare in dense urban environments	Sep 07
	Ingenuity Research Corporation	Colorado Springs, CO	NIPS: Develop an interim U.S. message standard for blue force situational awareness data exchange with NATO.	Sep 07
	Scitor	Washington DC	NIPS: Develop an interim U.S. message standard for blue force situational awareness data exchange with NATO.	Sep 07
	Northrop-Grumman	McLean, VA	NIPS: Develop an interim U.S. message standard for blue force situational awareness data exchange with NATO.	Sep 07
	Raytheon	Ft. Wayne, IN	CWC2IE: Enhance coalition fire support capability.	Sep 07
	IBM Technologies	Armonk, NY	MVLE: Establish a real-time, online communications that includes a multilingual machine language translation and natural language interface development in support of the Bulgarian, Romanian, and Ukrainian languages.	Sep 07

<b>OSD RDT&amp;E COST ANALYSIS (R3)</b>										<b>February 2008</b>		
<b>BUDGET ACTIVITY</b>			<b>PE NUMBER AND TITLE</b>							<b>PROJECT</b>		
<b>4 - Advanced Component Development and Prototypes (ACDP)</b>			<b>0603923D8Z - Coalition Warfare</b>							<b>P923</b>		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Coalition Warfare Program			5521	5844	1Q	9960	1Q	14030	1Q		35355	
Subtotal:			5521	5844		9960		14030			35355	
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												
<b>Project Total Cost:</b>			<b>5521</b>	<b>5844</b>		<b>9960</b>		<b>14030</b>			<b>35355</b>	

# Schedule Profile (R4 Exhibit)

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BUDGET ACTIVITY  
**4 - Advanced Component Development and Prototypes (ACDP)**

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Event Name	FY 07				FY 08				FY 09				FY 10				FY 11				FY 12				FY 13			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
FY 06-07 Projects	Development				Final Demos/				Wrap-up																			
(1) FY 06-07 Projects																												
FY 07-08 Projects	Development				Final Demos/				Wrap-up																			
(2) FY 07-08 Projects																												
FY 08-09 Projects					Development				Final Demos/				Wrap-up															
(3) FY 08-09 Projects																												
FY 09-10 Projects									Development				Final Demos/				Wrap-up											
(4) FY 09-10 Projects																												
FY 10-11 Projects													Development				Final Demos/				Wrap-up							
(5) FY 10-11 Projects																												
FY 11-12 Projects																	Development				Final Demos/				Wrap-up			
(6) FY 11-12 Projects																												
FY 12-13 Projects																					Development							

**Schedule Detail (R4a Exhibit)**

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BUDGET ACTIVITY  
**4 - Advanced Component Development and Prototypes (ACDP)**

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<u>Schedule Detail</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>
FY 06-07 Projects	1Q - 4Q	1Q - 4Q					
FY 06-07 Projects		4Q					
FY 07-08 Projects	1Q - 4Q	1Q - 4Q	1Q - 4Q				
FY 07-08 Projects			4Q				
FY 08-09 Projects		1Q - 4Q	1Q - 4Q	1Q - 4Q			
FY 08-09 Projects				4Q			
FY 09-10 Projects			1Q - 4Q	1Q - 4Q	1Q - 4Q		
FY 09-10 Projects					4Q		
FY 10-11 Projects				1Q - 4Q	1Q - 4Q	1Q - 4Q	
FY 10-11 Projects						4Q	
FY 11-12 Projects					1Q - 4Q	1Q - 4Q	1Q - 4Q
FY 11-12 Projects							4Q
FY 12-13 Projects						1Q - 4Q	1Q - 4Q