

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

May 2009

APPROPRIATION/ BUDGET ACTIVITY RDTE, Defense Wide BA# 6		PE NUMBER AND TITLE 0604875D8Z - Joint Systems Architecture Development (JSAD)						
COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate					
Total Program Element (PE) Cost	23.191	14.231	15.247					
P875 Joint Systems Architecture Development (JSAD)	12.577	9.756	8.394					
P876 Portfolio Systems Acquisition (PSA)	10.614	4.475	6.853					

A. Mission Description and Budget Item Justification:

The Quadrennial Defense Review (QDR) and acquisition reform initiatives call for top down, national security strategy-driven capabilities-based planning. Department of Defense (DoD) Instruction 5000.2 and Chairman of the Joint Chiefs of Staff Instruction 3170.01 promulgate capabilities-based requirements and acquisition processes. The JSAD program enables collaborative efforts to achieve these goals. These efforts include providing support to conduct warfighting capability-based analyses; performing assessments of joint capability areas and joint integrating concepts; developing and supporting needed sets of system and system-related data; developing and applying systems engineering methodologies and tools; creating integrated roadmaps to support acquisition investment decisions; and performing assessments of major defense acquisition programs and major automated information systems in a capability area context. Activities in the JSAD project are divided into three areas: capability based analyses, roadmaps, and support tools and guidance. Capability-based analyses provide analysis of the different technology, functionality, and integration impacts of systems on warfighting capability, which forms the basis for initial systems engineering. Acquisition roadmaps guide systems development and associated investment plans. JSAD support tools and guidance initiatives develop systems engineering methods, systems data, and tools, exploit modeling and simulation and architecture efforts to improve DoDs overall assessment capability. These efforts guide the development and improve the testing and fielding of integrated systems of systems in order to achieve Joint mission capabilities.

The QDR also lays out the need for an institutional reorientation or shift in emphasis from organization-specific to enterprise-wide approaches. This means: 1) horizontal integration within the Department and unity of effort through greater interagency collaboration, 2) engaging in a coordinated and portfolio-based approach to planning, programming, budgeting and execution, and 3) significant reforms at the governance, management and execution levels. To accomplish this direction, there needs to be a focused goal and concerted emphasis on shifting from systems acquisition to capabilities-based portfolio management (or portfolio systems acquisition). Starting in FY 2008, this program enables collaborative efforts to implement the QDR direction outlined above in order to achieve portfolio systems acquisition goals. The program is broken up into two focus areas (Portfolio Management and Reform Initiatives) and consolidates work previously performed under various other Program Elements. Funding for Joint Advanced Concepts efforts has been transferred to PE0603200D8Z.

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<u>B. Program Change Summary</u>	FY 2008	FY 2009	FY 2010	FY 2011
Previous President's Budget (FY 2008/2009)	14.312	14.310	14.682	
Current BES/President's Budget (FY 2010)	23.191	14.231	15.247	
Total Adjustments	8.879	-0.079	0.565	
Congressional Program Reductions				
Congressional Rescissions		-0.079		
Congressional Increases				
Reprogrammings	7.901			
SBIR/STTR Transfer	0.401			
Other	0.577		0.565	

Funds for Joint Advanced Concepts previously funded in this account have been transferred to PE0603200D8Z.

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

D. Acquisition Strategy: Not applicable for this item.

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
08	See below					
09	See below					
10	See below					

Comment:

FY 2008 Accomplishments:

- Published guidebooks for System of Systems Engineering and System Assurance
- Completed Concept Decision Reviews: Integrated Air & Missile Defense, Global Strike-Raid, Joint Lightweight Tactical Vehicle
- Provided Senior Executive oversight of Single Integrated Air Picture (SIAP)
- Advanced Government and Industry cooperation/collaboration e.g. IAMD Summit, CRADAs
- Created strategic framework for earlier senior leader involvement to produce stable , predictable outcomes e.g., new Materiel Development Decision process in DoDI 5000.2
- Provided Special Access Program Multi-Level Security (MLS) facility and collaborative work environment for A&T, JS, and PA&E
- Developed in coordination with Joint Staff and Defense Acquisition University the initial phase of the Congressional Mandated Requirements Mgt Trng Certification Program

FY 2009 Plans:

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APPROPRIATION/ BUDGET ACTIVITY

PE NUMBER AND TITLE

RDTE, Defense Wide BA# 6

0604875D8Z - Joint Systems Architecture Development (JSAD)

- Develop guidance for early application of systems engineering
 - Review and approve Program Protection Plans in support of milestone decisions
 - Guide development of competency-based curriculum for systems and software engineering
 - Develop guidance for integration systems engineering and software engineering
 - Establish Joint Integrated Air and Missile Defense (JIAMD) Advanced Concepts Exploitation (ACE) initiative
 - Publish a Joint Electronic Warfare Baseline for DoD
 - Conduct Capability Portfolio Management Reviews e.g. Force Application, Protection CPMs
 - Provide Management Oversight of the Congressional Mandated Requirements Management Training Certification Program
 - Provide a Special Access Program Multi-Level Security (MLS) collaborative work environment and security structure
- FY 2010 Plans
- Perform systemic analysis of review data to develop predictive diagnostics of program success

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May 2009

APPROPRIATION/ BUDGET ACTIVITY RDTE, Defense Wide BA# 6		PE NUMBER AND TITLE 0604875D8Z - Joint Systems Architecture Development (JSAD)					PROJECT P875	
COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate					
P875 Joint Systems Architecture Development (JSAD)	12.577	9.756	8.394					

A. Mission Description and Budget Item Justification:

The Quadrennial Defense Review (QDR) and acquisition reform initiatives call for top down, national security strategy-driven capabilities-based planning. Department of Defense (DoD) Instruction 5000.2 and Chairman of the Joint Chiefs of Staff Instruction 3170.01D promulgate capabilities-based requirements and acquisition processes. The JSAD project enables collaborative efforts to achieve these goals. These efforts include providing support to conduct warfighting capability-based analyses; performing assessments of joint capability areas and joint integrating concepts; developing and supporting needed sets of system and system-related data; developing and applying systems engineering methodologies and tools; creating integrated roadmaps to support acquisition investment decisions; and performing assessments of major defense acquisition programs and major automated information systems in a capability area context. Activities in the JSAD project are divided into three areas: capability based analyses, roadmaps, and support tools and guidance. Capability-based analyses provide analysis of the different technology, functionality, and integration impacts of systems on warfighting capability, which forms the basis for initial systems engineering. Acquisition roadmaps guide systems development and associated investment plans. JSAD support tools and guidance initiatives develop systems engineering methods, systems data, and tools, exploit modeling and simulation and architecture efforts to improve DoDs overall assessment capability. These efforts guide the development and improve the testing and fielding of integrated systems of systems in order to achieve Joint mission capabilities. Funding for Joint Advanced Concepts efforts has been transferred to PE0603200D8Z.

B. Accomplishments/Planned Program:

<u>Accomplishments/Planned Program Title:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
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|-------------------------|--------|--|--|
| FY 2008 Accomplishments | 12.577 | | |
|-------------------------|--------|--|--|
- Published guidebooks for System of Systems Engineering and System Assurance
 - Completed Concept Decision Initiative
 - Provided Senior Executive oversight of Single Integrated Air Picture (SIAP)
 - Advanced Government and Industry cooperation/collaboration e.g. IAMD Summit, CRADAs
 - Created strategic framework for earlier senior leader involvement to produce stable , predictable outcomes e.g., new Materiel Development Decision process in DoDI 5000.2
 - Provided Special Access Program Multi-Level Security (MLS) facility and collaborative work environment for A&T, JS, and PA&E
 - Developed in coordination with Joint Staff and Defense Acquisition University the initial phase of the Congressional Mandated Requirements Mgt Trng Certification Program

<u>Accomplishments/Planned Program Title:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
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|---------------|--|-------|--|
| FY 2009 Plans | | 9.756 | |
|---------------|--|-------|--|
- Develop guidance for early application of systems engineering
 - Review and approve Program Protection Plans in support of milestone decisions
 - Guide development of competency-based curriculum for systems and software engineering
 - Perform system engineering research at University Affiliated Research Center
 - Establish Joint Integrated Air and Missile Defense (JIAMD) Advanced Concepts Exploitation (ACE) initiative

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APPROPRIATION/ BUDGET ACTIVITY RDTE, Defense Wide BA# 6	PE NUMBER AND TITLE 0604875D8Z - Joint Systems Architecture Development (JSAD)	PROJECT P875
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- Publish a Joint Electronic Warfare Baseline for DoD
- Conduct Capability Portfolio Management Reviews e.g. Force Application, Protection CPMs
- Provide Management Oversight of the Congressional Mandated Requirements Management Training Certification Program
- Provide a Special Access Program multi-level security (MLS) collaborative work environment and security structure for DUSD(A&T)
- Continue advancement of Government and Industry cooperation/collaboration, e.g., IAMD Summit, CRADAs

<u>Accomplishments/Planned Program Title:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	
FY 2010 Plans			8.394	

- Perform systemic analysis of review data to develop predictive diagnostics of program success

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

D. Acquisition Strategy: Not applicable for this item.

E. Major Performers:

Category	Name	Location	Type of Work and Description	Award Date
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FFRDCs:

	MITRE	Washington DC	Capability Analysis and Software Assessments	
	MITRE	Washington DC	Capability Analysis and Software Assessments	
	IDA	Washington, DC	IAMD Capabilities and Opportunities	Apr 06
	IDA	Washington, DC	IAMD Capabilities and Opportunities	Apr 06

Contractors:

	SAIC/VTC	Washington, DC	Matrix Mapping Tool	
	SAIC/VTC	Washington, DC	Matrix Mapping Tool	
	Camber	Washington, DC	SSM Technical Support	Apr 06
	Camber	Washington, DC	SSM Technical Support	Apr 06
	SAIC	Washington, DC	SSE Technical Support	Apr 06
	SAIC	Washington, DC	SSE Technical Support	Apr 06

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APPROPRIATION/ BUDGET ACTIVITY RDTE, Defense Wide BA# 6		PE NUMBER AND TITLE 0604875D8Z - Joint Systems Architecture Development (JSAD)				PROJECT P876	
COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate				
P876 Portfolio Systems Acquisition (PSA)	10.614	4.475	6.853				

A. Mission Description and Budget Item Justification:

The Departments 2005 Quadrennial Defense Review (QDR) lays out the need for an institutional reorientation or shift in emphasis from organization-specific to enterprise-wide approaches. This means: 1) horizontal integration within the Department and unity of effort through greater interagency collaboration, 2) engaging in a coordinated and portfolio-based approach to planning, programming, budgeting and execution, 3) and significant reforms at the governance, management and execution levels. To accomplish this direction, there needs to be a focused goal and concerted emphasis on shifting from acquisition of individual systems to portfolio management (or portfolio systems acquisition). This program enables collaborative efforts to implement the QDR direction outlined above and to achieve portfolio systems acquisition goals. The program is broken up into two focus areas (Portfolio Management and Reform Initiatives) and consolidates work previously performed under various other Program Elements.

B. Accomplishments/Planned Program:

<u>Accomplishments/Planned Program Title:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
FY 2008 Accomplishments:	10.614	4.475	6.853

- Prepared the Unmanned Aircraft Systems roadmap
- Participated in Unmanned Systems portfolio reviews
- Supported establishment and conduct of USD-level Capability Development Working Groups
- Provided analytical support to the Homeland Defense Coordinator function within OUSD(AT&L)
- Maintained the Joint Conventional Munitions Database
- Performed analyses in support of Program Management Empowerment and Accountability initiatives
- Performed analyses in support of the Rocket Motor Business Process Review
- Assessed aircraft portfolio in support of decreased cycle times, decreased costs, and improved performance
- Provided analytical support to the Unmanned Aircraft Systems Task Force, Airspace Integration IPT
- Collected Ground-Based Sense-and-Avoid performance data and developed initial safety case for FAA
- Supported development of integrated modeling and simulation activity for use in development of UAS standards for National Airspace Integration
- Performed analysis of Service airworthiness certification processes for Unmanned Aircraft Systems

- FY 2009 - FY 2010 Plans:
- Conduct assessments of Capability Portfolios for cost savings opportunities
 - Expand the Unmanned Aircraft Systems roadmap into an integrated Unmanned Systems roadmap
 - Conduct analyses in support of Maritime Domain Awareness
 - Support implementation of Program Management Empowerment and Accountability initiatives
 - Provide analytical support to the Homeland Defense Coordinator function within OUSD(AT&L)

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APPROPRIATION/ BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

RDTE, Defense Wide BA# 6

0604875D8Z - Joint Systems Architecture Development (JSAD)

P876

- Conduct analyses of warfare areas to reduce duplication and identify opportunities for cost savings
- Maintain the Joint Conventional Munitions Database
- Develop Ground Segment Interface standard for Department UAS
- Support development of US/UK Ground Moving Target Indicator (GMTI) collector interoperability

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

D. Acquisition Strategy: Not applicable for this item.

E. Major Performers: Not applicable for this item.

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