

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

**February 2008**

APPROPRIATION/ BUDGET ACTIVITY  
**RDTE, Defense Wide BA 06**

PE NUMBER AND TITLE  
**0604875D8Z - Joint Systems Architecture Development (JSAD)**

COST (\$ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Total Program Element (PE) Cost	9.869	14.312	14.310	14.682	14.601	14.590	14.622
P875 Joint Systems Architecture Development (JSAD)	9.869	9.705	9.479	9.448	9.450	9.450	9.450
P876 Portfolio Systems Acquisition (PSA)		4.607	4.831	5.234	5.151	5.140	5.172

**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 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 DoD's 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.

<b><u>B. Program Change Summary</u></b>	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	9.337	14.437	14.336
Current BES/President's Budget (FY 2009)	9.869	14.312	14.310
Total Adjustments	0.532	-0.125	-0.026
Congressional Program Reductions			

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Congressional Rescissions				
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer				
Other	0.532	-0.125	-0.026	

**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
07	See below					
08	See below					
09	See below					

Comment: Comment: FY 2007 Accomplishments:

- Approximately 40 reviews of acquisition programs
  - Program Support Reviews, e.g., CJR, H-1, V-22, ACS, BAMS, MPS, H-1, VH-71, KC-X
  - Nunn-McCurdy Certifications, e.g., WIN-T, JASSM, EFV, JPATS, GMLRS, C-130 AMP, ACWA
  - Operational Test Readiness, e.g., MPS, LPD-17, Stryker, Global Hawk
  - Special Assessments, e.g., JAGM, IAMD-MEADs, ARH
- Sponsored and chaired development of CMMI-Acquisition model in partnership with General Motors Corp; published guidebook for acquirers
- Developed and coordinating guidebook for system assurance
- Piloted draft system of systems (SoS) engineering guide with 20+ organizations
- Provided technical and analysis support for Concept Decision (CD) Evaluation of Alternatives (EoA) pilot programs (AT&L Goal 2.1 and 2.2):
- Demonstrated a risk-based knowledge management tool supporting IAMD EoA analysis

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APPROPRIATION/ BUDGET ACTIVITY

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**0604875D8Z - Joint Systems Architecture Development (JSAD)**

-Developed enhancement of the Matrix Mapping Tool that supported IAMD EoA and Joint IAMD Summit analysis  
-Provided Special Access Program Multi-Level Security (MLS) facility and collaborative work environment for A&T, JS, and PA&E use required to support two of the CD Pilots (IAMD & GS-R)

#### FY 2008 Plans:

- Approximately 40 reviews of acquisition programs
  - Program Support Reviews, e.g., CJR, H-1, V-22, ACS, BAMS, MPS, H-1, VH-71, KC-X
  - Nunn-McCurdy Certifications, e.g., WIN-T, JASSM, EFV, JPATS, GMLRS, C-130 AMP, ACWA
  - Operational Test Readiness, e.g., MPS, LPD-17, Stryker, Global Hawk
  - Special Assessments, e.g., JAGM, IAMD-MEADs, ARH
- Publish guidebook for System of Systems Engineering
- Develop and coordinate guidebook for system assurance, piloting draft guidance with several acquisition programs
- Use risk-based knowledge management tool for IAMD EoA analysis
- Continue enhancement of the Matrix Mapping Tool that supported IAMD EoA and Joint IAMD Summit analysis

#### FY 2009 Plans:

- Planning approximately 50 reviews of acquisition programs
- Systemic analysis of review data to develop predictive diagnostics of program progress
- Review and approval of Program Protection Plans in support of milestone decisions

#### FY 2008/2009 Plans (P876):

The (P876) project is broken up into two focus areas and consolidates work previously performed under various other Program Elements. The first focus area funds portfolio management efforts. The second focus area funds reform initiatives and activities associated with our program evaluation responsibilities. Portfolio management efforts will include the development and implementation of integrated roadmaps, cross-cutting portfolio reviews, development of metrics for portfolio management, and implementation of governance reforms to include concept decisions, evaluation of alternatives, capital budgeting activities, and improvements to program management. This project will fund analysis in several portfolio areas including rotary wing aviation modernization, unmanned systems, shipbuilding, joint conventional munitions, prompt global strike, and support to our homeland defense mission. Program evaluation efforts will ensure that reforms and activities result in decreased program development cycle times, decreased costs, and more predictable performance in our weapons program.

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

**February 2008**

<b>APPROPRIATION/ BUDGET ACTIVITY</b> <b>RDTE, Defense Wide BA 06</b>		<b>PE NUMBER AND TITLE</b> <b>0604875D8Z - Joint Systems Architecture Development (JSAD)</b>					<b>PROJECT</b> <b>P875</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	
P875 Joint Systems Architecture Development (JSAD)	9.869	9.705	9.479	9.448	9.450	9.450	9.450	

**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 DoD's 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.

**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:	9.869	9.705	9.479

Approximately 40 reviews of acquisition programs

- Program Support Reviews, e.g., CJR, H-1, V-22, ACS, BAMS, MPS, H-1, VH-71, KC-X
- Nunn-McCurdy Certifications, e.g., WIN-T, JASSM, EFV, JPATS, GMLRS, \_C-130 AMP, ACWA
- Operational Test Readiness, e.g., MPS, LPD-17, Stryker, Global Hawk
- Special Assessments, e.g., JAGM, IAMD-MEADs, ARH
- Sponsored and chaired development of CMMI-Acquisition model in partnership with General Motors Corp; published guidebook for acquirers
- Developed and coordinating guidebook for system assurance
- Piloted draft system of systems (SoS) engineering guide with 20+ organizations
- Provided technical and analysis support for Concept Decision (CD) Evaluation of Alternatives (EoA) pilot programs (AT&L Goal 2.1 and 2.2):
- Demonstrated a risk-based knowledge management tool supporting IAMD EoA analysis
- Developed enhancement of the Matrix Mapping Tool that supported IAMD EoA and Joint IAMD Summit analysis
- Provided Special Access Program Multi-Level Security (MLS) facility and collaborative work environment for A&T, JS, and PA&E use required to support two of the CD Pilots (IAMD & GS-R)

<b>OSD RDT&amp;E BUDGET ITEM JUSTIFICATION (R2a Exhibit)</b>	<b>February 2008</b>
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APPROPRIATION/ BUDGET ACTIVITY <b>RDTE, Defense Wide BA 06</b>	PE NUMBER AND TITLE <b>0604875D8Z - Joint Systems Architecture Development (JSAD)</b>	PROJECT <b>P875</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>
FY 2008 and FY 2009 Plans:			

- Planning approximately 50 reviews of acquisition programs
- Complete development of System Assurance Guidebook
- Develop methods for review and approval of Program Protection Plans, initiate pilot efforts
- Update draft SoS Engineering guide, continue piloting efforts, publish initial release
- Systemic analysis of review data to develop predictive diagnostics of program progress
- Review and approval of Program Protection Plans in support of milestone decisions
- Conduct Integrated Air and Missile Defense Investment Balance Review (AT&L Goal 2.2.3).
- Complete the 4 Concept Decision Evaluation of Alternatives Pilots (IAMD, JLTm, GS-R, JRSG); Develop proposed changes to 3170/5000 series reflecting Concept Decision Lessons Learned

**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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<b>APPROPRIATION/ BUDGET ACTIVITY</b> <b>RDTE, Defense Wide BA 06</b>		<b>PE NUMBER AND TITLE</b> <b>0604875D8Z - Joint Systems Architecture Development (JSAD)</b>					<b>PROJECT</b> <b>P876</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	
P876 Portfolio Systems Acquisition (PSA)		4.607	4.831	5.234	5.151	5.140	5.172	

**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:**

<b><u>Accomplishments/Planned Program Title:</u></b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
FY 2008/2009 Plans:		4.607	4.831

The program is broken up into two focus areas and consolidates work previously performed under various other Program Elements. The first focus area funds portfolio management efforts. The second focus area funds reform initiatives and activities associated with our program evaluation responsibilities. Portfolio management efforts will include the development and implementation of integrated roadmaps, cross-cutting portfolio reviews, development of metrics for portfolio management, implementation of governance reforms to include concept decisions, evaluation of alternatives, capital budgeting activities, and improvements to program management. This project will fund analysis in several portfolio areas including rotary wing aviation modernization, unmanned systems, shipbuilding, joint conventional munitions, prompt global strike, and support to our homeland defense mission. Program evaluation efforts will ensure that reforms and activities result in decreased program development cycle times, decreased costs, and more predictable performance in our weapons program.

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