OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

Date: February 2006

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDT&E/ Defense Wide BA# 6	**0604875D8Z - Joint Systems Architechture Development (JSAD)**

Cost ($ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total Program Element (PE) Cost		4.754	10.780	9.390	9.705	9.479	9.448	9.450
P875	Joint Systems Architechture Development (JSAD)	4.754	10.780	9.390	9.705	9.479	9.448	9.450

A. Mission Description and Budget Item Justification: Transformation calls for top down, national security strategy driven, capabilities-based, planning. DoD Instruction (DoDI) 5000.2 and CJCSI 3170.01D promulgate capabilities-based requirements and acquisition processes. This program enables collaborative efforts to achieve these goals. These efforts include: systems support to conduct warfighting capability-based analyses; assessments of joint capability area and joint integrating concepts; development and support of needed sets of system and system-related data; development and application of systems engineering methodologies and tools, creating integrated roadmaps to support acquisition investment decisions; and assessment of major defense acquisition programs (MDAPs) and major automated information systems programs in a capability area context. Activities in this project are divided into three areas: capability based analyses, roadmaps, and support tools and guidance. Capability-based analyses consists of efforts that provide systems aspects (views) to analyze technology, functionality, and integration impacts on warfighting capability; this forms the front end of systems engineering. Roadmaps are proscribed by DoDI 5000.2, paragraph 3.2.2. Initiatives in this project enable roadmap development based on systems engineering and are used to guide systems acquisition decisions and associated investment plans. Support tools and guidance initiatives in this project will develop systems engineering methods, systems data, and tools, exploiting the value of modeling and simulation and architecture to improve effectiveness of Systems Engineering, to improve assessment capability, and to field and test integrated systems of systems to achieve joint mission capabilities.

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	4.900	9.254	9.244
Current BES/President's Budget (FY 2007)	4.754	10.780	9.390
Total Adjustments	-0.146	1.526	0.146
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer	-0.146		
Other		1.526	0.146

C. Other Program Funding Summary: Not Applicable.

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D. Acquisition Strategy: Not Applicable.

E. Performance Metrics: Not Applicable.

OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)

Date: February 2006

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RDT&E/ Defense Wide BA# 6	**0604875D8Z - Joint Systems Architechture Development (JSAD)**	**P875**

Cost ($ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
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A. Mission Description and Project Justification: Transformation calls for top down, national security strategy driven, capabilities-based planning. DoD Instruction (DoDI) 5000.2 and CJCSI 3170.01D promulgate capabilities-based requirements and acquisition processes. This program enables collaborative efforts to achieve these goals. These efforts include providing systems support to conduct warfighting capability-based analyses, and assessments of joint capability area and joint integrating concepts; development and support of needed sets of system and system-related data; development and application of systems engineering methodologies and tools, creating integrated roadmaps to support acquisition investment decisions, and assessment of major defense acquisition programs (MDAPs) and major automated information systems (MAIS) programs in a capability area context. Activities in this project are divided into three areas: capability based analyses, roadmaps, and support tools and guidance. Capability-based analyses consists of efforts that provide systems aspects (views) to analyze technology, functionality, and integration impacts on warfighting capability; this forms the front end of systems engineering. Roadmaps are proscribed by DoDI 5000.2, paragraph 3.2.2; initiatives in this project enable roadmap development based on systems engineering and use to guide systems development and associated investment plans. Support tools and guidance initiatives in this project will develop systems engineering methods, systems data, and tools, exploiting the value of modeling and simulation and architecture to improve effectiveness of Systems Engineering, to improve assessment capability, and to field and test integrated systems of systems to achieve joint mission capabilities.

B. Accomplishments/Planned Program:

Accomplishment/Planned Program Title	FY 2005	FY 2006	FY 2007
JSAD:	4.754	10.780	9.390

(U) FY 2005 Accomplishments: Perform Capability based analyses (CBA): Performed numerous CBAs with the Joint Staff, including DoD Electronic Warfare capabilities. Developed recommendations, including doctrine, materiel and training, to support evaluations of Service EW programs and technology. Development of Capability Roadmaps: Continued development and refinement of the Integrated Air and Missile Defense, Electronic Warfare and Joint Battle Management Command and Control Roadmaps. Support Tools and Guidance: Provided engineering support to acquisition programs. Used findings from these activities to study the impacts of acquiring systems of systems. Developed a model to synchronize the Department's requirements and acquisition processes. Established requirements for an open standard to model SoS architectures. Developed rules to permit exchange of architecture data from the DoD Architecture Framework to its commercial equivalent. Delivered spiral 3 of matrix mapping to; piloted for numerous user applications.

(U) FY 2006 Plans: Perform Capability-based Analyses: Support Joint Functional Capability Board Capability Based Analyses and front end systems engineering planning: Force Protection (Air and Missile Defense, Electronic Warfare); Force Application (Land, Sea, Air) Command and Control, Intelligence, Net-centric Operations; Focused Logistics Development of Capability Roadmaps: Roadmaps along with supporting systems engineering plans currently being planned under this project: JBMC2/AMD (updating), Global Strike, Sea Basing. Support Tools and Guidance: Update Matrix Mapping Tool for use across the Department to support Capabilities Based Planning; Conduct systems engineering verification of proposed joint capabilities; Perform systems of system modeling analysis, using state-of-the-art, industry endorsed, architecture and modeling practices and constructs such as Model Driven Architecture. Define data standards, and content interchange to promote M&S sharing across capability areas capability areas.

(U) FY 2007 Plans: Perform Capability-based Analyses: Support Joint Functional Capability Board Capability Based Analyses and front end systems engineering planning: Force Protection (Air and Missile

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Defense, Electronic Warfare) Force Application (Land, Sea, Air) Command and Control, Intelligence, Net-centric Operations; Focused Logistics Development of Capability Roadmaps: Continue Roadmap development in support of warfighting capability-based analyses conducted by the Joint Staff and COCOMs; Support Tools and Guidance: Update Matrix Mapping Tool for use across the Department to support Capabilities Based Planning; Conduct systems engineering verification of proposed joint capabilities; Perform systems of system modeling analysis, using state-of-the-art, industry endorsed, architecture and modeling practices and constructs such as Model Driven Architecture. Focus on implementing an engineering environment to achieve systems engineering for capabilities. Cross-cutting architectures, models, tools, and test resources are related and used by acquisition systems.

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Not Applicable.

E. Major Performers Not Applicable.