

THE JOINT STAFF
Fiscal Year (FY) 2007 President's Budget
Research, Development, Test and Evaluation (RDT&E), Defense-Wide

R-2, RDT&E Budget Item Justification

Exhibit R-2, RDT&E Budget Item Justification		Date: February 2006
APPROPRIATION/BUDGET ACTIVITY	R-1 Line Item Nomenclature: 160	
RDT&E, Defense-Wide, Joint Staff 0400/BA 7	0208052J Joint Data Support (JDS)	

Cost(\$ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	2.970	0.000	0.000	0.000	0.000	0.000	0.000
Joint Modeling and Simulation	2.970	0.000	0.000	0.000	0.000	0.000	0.000

A. Mission Description and Budget Item Justification:

The Joint Staff shares the lead with the Office of the Secretary of Defense, Director of Program Analysis & Evaluation (OSD (PA&E)). The RDT&E component of JAMIP was the development of the Joint Warfare System (JWARS), which has been terminated by the Department. This program was terminated in FY 2005. Dollars reflect actuals obligated for the program in FY 2005.

<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Description</u>
2.365	0.000	0.000	Software Development.
0.000	0.000	0.000	

B. Program Change Summary:

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
FY 2006 President's Budget	5.161	0.000	0.000
Total Adjustments	-2.191	0.000	0.000
Termination Cots	-2.191	0.000	0.000
FY 2007 President's Budget	2.970	0.000	0.000

C. Other Program Funding Summary:

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Operation and Maintenance	9.509	9.521	9.652	9.845	10.044	10.282	10.526	0.000	69.379
Procurement	0.395	0.403	0.409	0.417	0.424	0.434	0.444	0.000	2.926

D. Acquisition Strategy:

N/A

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APPROPRIATION/BUDGET ACTIVITY	R-1 Line Item Nomenclature: 176	
RDT&E, Defense-Wide, Joint Staff 0400/BA 7	0303149J C4I for the Warrior (C4IFTW)	

Cost(\$ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	4.085	3.499	3.556	3.624	3.662	3.754	3.847
SATCOM Ops Analysis & Integration Tool (J-SCAPE)	2.233	1.868	1.909	1.943	1.979	2.026	2.074
Network & Warfare Simulation (NETWARS)	0.289	0.289	0.294	0.329	0.331	0.339	0.347
Coalition Warrior Interoperability Demonstration (CWID)	1.563	1.342	1.353	1.352	1.352	1.389	1.426

A. Mission Description and Budget Item Justification:

The C4IFTW vision has evolved into the Department's Global Information Grid (GIG) as a means to achieve information superiority. This program provides focus and visibility into resolving joint C4 capacity and interoperability issues and provides a mechanism for achieving information superiority as envisioned by Joint Vision (JV) 2020. Currently, the overall GIG efforts stress interoperability, identification of transmission capacity, and leveraging of the rapid pace of C4 technology advancements. As the GIG evolves and matures, it will spawn new approaches to providing the joint warfighter with C4 capabilities to achieve information superiority. This program element consists of three Joint Staff programs: (1) Network Warfare Simulation (NETWARS), (2) Joint Warrior Interoperability Demonstrations (JWID), and (3) Joint Satellite Communications Architecture Planning and Evaluation (J-SCAPE) tool. NETWARS is the joint communications modeling and simulation (M&S) tool developed to address network traffic analysis, evaluation of emerging technologies, support to rapid contingency planning, and support to wargaming (force-on-force). NETWARS requirements include supporting joint C4 networks and program development, C4 study efforts, enhanced Joint Network Management System (JNMS) data exchange and interoperability, and support of Global Information Grid (GIG) transformational activities. The Joint Staff will continue to provide program oversight focused on identification and satisfaction of joint warfighter C4 M&S requirements. In addition, NETWARS will expand its support to large-scale acquisition programs. JWID (now called Coalition Warrior Interoperability Demonstrations (CWID)) is the only CJCS-sponsored demonstration of new and emerging, low-cost, low-risk C4ISR technologies and interoperability solutions, impartially presented to the Combatant Commands and Military Services, and national civil authorities, in an operational environment. Proposals are selected to fulfill identified warfighter deficiencies and are designed to provide the opportunity to experiment with new and emerging capabilities, assess their value, and recommend them for implementation where appropriate. CWID provides a structured process where new C4ISR capabilities are rigorously vetted, evaluated, and assessed by

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the warfighter. CWID is an integral component of the JV 2020 conceptual template for future joint warfighting.

Joint Satellite Communications Architecture Planning and Evaluation (J-SCAPE) tool contributes to the Satellite Communications (SATCOM) operations analysis and integration effort. J-SCAPE intends to provide decision-makers with the means to focus the ongoing modernization of SATCOM assets to transform current systems and choose the best architectural alternative for the 21st century SATCOM infrastructure. Currently, there is no effective, efficient, and integrated (across multiple constellations) capability to plan and evaluate the ability of current and future SATCOM architectures to meet the Combatant Commands' requirements. When fully operational, the J-SCAPE tool set will be used by the Joint Staff, Combatant Commands, their components, other joint organizations, satellite systems program offices, and Earth terminal program offices. SATCOM planning and analysis organizations will be able to use this tool set to assess the adequacy of SATCOM systems to support their assigned missions, evaluate operational plans, define and refine SATCOM- related operational requirements, and provide operational input to the acquisition process.

B. Program Change Summary:

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
FY 2006 President's Budget	4.068	3.549	3.556
Total Adjustments	-0.170	-0.050	0.000
Economic Assumptions (Sec 8125, P.L. 109-148 FY 2006 Appn Act)	0.000	-0.015	0.000
1% Rescission (P.L. 109-148 FY 2006 Appn Act)	0.000	-0.035	0.000
Technical Adjustment	-0.170	0.000	0.000

R-1 Line Item No. 176

R-2, RDT&E Budget Item Justification

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R-2a, RDT&E Project Justification

Exhibit R-2a, RDT&E Project Justification							Date: February 2006		
APPROPRIATION/BUDGET ACTIVITY		Program Element	Project Name and Number						
RDT&E, Defense-Wide, Joint Staff 0400/BA 7		0303149J	Coalition Warrior Interoperability Demonstration (CWID)						
Cost(\$ in Millions)			FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Coalition Warrior Interoperability Demonstration (CWID)			1.563	1.342	1.353	1.352	1.352	1.389	1.426

A. Mission Description and Budget Item Justification:

The C4IFTW vision has evolved into the Department's Global Information Grid (GIG) as a means to achieve information superiority. CWID (formerly called JWID (Joint Warrior Interoperability Demonstration)) provides focus and visibility into resolving coalition C4 interoperability issues and provides organizing principles, techniques, and procedures for achieving information superiority as envisioned by Joint Vision (JV) 2020. The GIG stresses interoperability and CWID (Coalition Warrior Interoperability Demonstration) leverages the rapid pace of C4 technology advancements. CWID is the Chairman's annual event that enables the U.S. Combatant Commands, national civil authorities, and international community to investigate command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) solutions that focus on relevant and timely objectives for enhancing coalition interoperability and exploring new partnerships. CWID is conducted in a simulated operational environment to provide context for warfighter and national civil authorities validation of those solutions. Interoperability Trials (ITs) are the activities used to address the core coalition, and interagency interoperability objectives selected each year. ITs strive to address warfighter requirements and interoperability deficiencies. Ideally, they will benchmark successes that can immediately support and enhance operations requiring multinational or interagency cooperation. The selection of trials is dependent upon the annual overarching objectives, the host Combatant Command's priorities; Commands/Services/Agencies (C/S/A) desires to partner in a proposed trial, interagency participation, and the desires of invited coalition participants. CWID is an integral component of the JV 2020 conceptual template for future joint and coalition warfighting. Interoperability and information superiority are key goals of the Chairman of the Joint Chiefs of Staff.

B. Accomplishments/Planned Program:

FY 2005 Accomplishments: CWID 2005 host Combatant Command was USNORTHCOM. FY 2005 activity centered on conducting Interoperability Trials (ITs) of hardware, software, and procedures for emerging interagency interoperability issues and problems with other U.S. Government departments, as well as continuing ITs with multiple allied nations, with the goal of identifying benchmark successes that can immediately support interagency operations, as well as multinational

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R-2a, RDT&E Project Justification

Exhibit R-2a, RDT&E Project Justification								Date: February 2006	
APPROPRIATION/BUDGET ACTIVITY		Program Element		Project Name and Number					
RDT&E, Defense-Wide, Joint Staff 0400/BA 7		0303149J		Coalition Warrior Interoperability Demonstration (CWID)					
<p>operations. Additional agencies from the Department of Homeland Security also participated along with the agencies that participated on JWID 2004.</p> <p>FY 2006 Planned Program: CWID 2006 will be hosted by EUCOM. Objectives have been assigned, trials selected. Overall concentration and finite details are still being discussed. In addition to EUCOM participation, NORTHCOM will participate as they did in CWID 2005 with Canada in the Homeland Security and Homeland Defense arena.</p> <p>FY 2007 Planned Program: CWID 2007 will be hosted by EUCOM. Objectives and overall concentration is still being discussed.</p>									
C. Other Program Funding Summary:									
	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To <u>Complete</u>	Total <u>Cost</u>
Operation and Maintenance	0.652	0.727	0.756	0.755	0.755	0.773	0.791	0.000	5.209
Procurement	0.244	0.248	0.262	0.277	0.276	0.283	0.289	0.000	1.879
D. Acquisition Strategy:									
N/A									

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R-3, RDT&E Project Cost Analysis

Exhibit R-3, Project Cost Analysis							Date: February 2006			
APPROPRIATION/BUDGET ACTIVITY		Program Element					Project Name and Number			
RDT&E, Defense-Wide, Joint Staff 0400/BA 7		0303149J					Coalition Warrior Interoperability Demonstration (CWID)			
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Management Services										
Contract Engineering & Technical Support	FP	Various	1.563	1.342	TBD	1.353	TBD	TBD	TBD	
Subtotal Management			1.563	1.342		1.353				
TOTAL COST			1.563	1.342		1.353				

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R-2a, RDT&E Project Justification

Exhibit R-2a, RDT&E Project Justification			Date: February 2006
APPROPRIATION/BUDGET ACTIVITY	Program Element	Project Name and Number	
RDT&E, Defense-Wide, Joint Staff 0400/BA 7	0303149J	SATCOM Ops Analysis & Integration Tool (J-SCAPE)	

Cost(\$ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
SATCOM Ops Analysis & Integration Tool (J-SCAPE)	2.233	1.868	1.909	1.943	1.979	2.026	2.074

A. Mission Description and Budget Item Justification:

The focus of the Satellite Communications (SATCOM) operations analysis and integration effort is the development of the Joint Satellite Communications Architecture Planning and Evaluation (J-SCAPE) Tool Set. J-SCAPE is required to provide decision-makers with the means to focus the ongoing modernization of SATCOM assets to transform current systems and choose the best architectural alternative for the 21st century SATCOM infrastructure. Currently, there is no effective, efficient, and integrated (across multiple constellations) capability to plan and evaluate the ability of current and future SATCOM architectures to meet the Combatant Commands' requirements. Specifically, the J-SCAPE tool set intends to provide the capability to efficiently and accurately evaluate a set of communication requirements -- captured in the form of a scenario -- against a set of SATCOM resources. It will quantify supportability in terms of connectivity and capacity, emphasizing SATCOM parameters such as link budgets, including fading because of rain and scintillation, bit error rates, satellite processing, and crosslink. Other measures of effectiveness include link availability, resistance to jamming, and intercept or signals exploitation. When fully operational, the Joint Staff, Combatant Commands, their components, other joint organizations, satellite systems program offices, and Earth terminal program offices will use the J-SCAPE tool set. SATCOM planning and analysis organizations will use this tool set to assess the adequacy of SATCOM systems to support their assigned missions, evaluate operational plans, define SATCOM-related operational requirements, and provide operational input to the acquisition process.

B. Accomplishments/Planned Program:

FY 2005 Accomplishments. Built on FY 2004 software by adding functionality addressing commercial SATCOM situation awareness, decision support, and automated loading/optimization. In addition, this phase implemented a web-based commercial SATCOM planning tool suitable for use by Combatant Commanders, Global Satellite Communications Support Center (GSSC), and Regional Satellite Communications Support Center (RSSC) planners. Participated in military exercises and operations through the exercise of the J-SCAPE tool set.

FY 2006 Planned Program. Assuming a successful transition of J-SCAPE development to a new sponsor (e.g., USSTRATCOM), FY 2006 planned effort is to add a Mobile User Objective System (MUOS) analysis capability, implementation of scenario development tools such as the definition/use of aggregate "force packages" to speed scenario development, and participation in military exercises. The FY 2006 planned program may also be revised to meet the needs of the new sponsor.

FY 2007 Planned Program. Assuming a successful transition of J-SCAPE development to a new sponsor (e.g., USSTRATCOM), FY 2007 planned effort is to expand J-SCAPE to support analysis of additional SATCOM systems including the anticipated

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Transformational SATCOM (T-SAT) system. Design and implement interfaces to additional communications planning and management systems to acquire near real-time configuration and status information, and import such information as satellite resource data. Participate in military exercises and operations through the exercise of the J-SCAPE tool set. The FY 2007 planned program may also be revised to meet the needs of the new sponsor

C. Other Program Funding Summary:

No other funding.

D. Acquisition Strategy:

After program definition, prototyping, risk-reduction phases, and engineering development (just prior to IOC), J-SCAPE will be openly competed based on fully defined requirement and a mature software design.

** J-SCAPE acquisition strategy is to follow a proof-of-concept phase with a series of prototypes to help further define the program, continue to capture and refine requirements and implement risk-reduction measures. IOC will be achieved following a final engineering development phase with formalized software design and planning on use of commercial off the shelf software tools, as much as feasible.

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R-3, RDT&E Project Cost Analysis

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APPROPRIATION/BUDGET ACTIVITY		Program Element					Project Name and Number			
RDT&E, Defense-Wide, Joint Staff 0400/BA 7		0303149J					SATCOM Ops Analysis & Integration Tool (J-SCAPE)			
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development										
Program Management	CPFF	Various	0.000	0.250	TBD	0.250	TBD	TBD	TBD	
Software Prototype Development	CPFF	Various	0.000	0.813	TBD	0.804	TBD	TBD	TBD	
Subtotal Product Development			0.000	1.063		1.054				
Support										
Services			0.500	0.000	TBD	0.000	TBD	TBD	TBD	
Subtotal Support			0.500	0.000		0.000				
Test and Evaluation										
Verification and Validation		DISA	0.000	0.080	TBD	0.080	TBD	TBD	TBD	
Subtotal T&E			0.000	0.080		0.080				
Management Services										
Configuration Management	CPFF	TBD	0.000	0.075	TBD	0.100	TBD	TBD	TBD	
Contract Engineering & Technical Support (non-FFRDC)	CPFF	TBD	1.067	0.200	TBD	0.225	TBD	TBD	TBD	
Contract Engineering & Technical Support (FFRDC)	CPFF	TBD	0.666	0.450	TBD	0.450	TBD	TBD	TBD	
Subtotal Management			1.733	0.725		0.775				
TOTAL COST			2.233	1.868		1.909				
Remarks:										
Cost data for FY 2006 and FY 2007 assumes J-SCAPE program development continuation following transition to a new DoD sponsor.										