

APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide, Joint Staff/BA 7					R-1 ITEM NOMENCLATURE C4I for the Warrior 0303149j					
COST (\$ in Millions)	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Total PE Cost	2.387	2.811	3.018	2.915	2.974	2.914	2.906	2.898	TBD	TBD
Advanced Concepts	2.194	2.649	2.815	2.714	2.796	2.729	2.726	2.724	TBD	TBD
Joint Warrior Interoperability Demonstrations (JWID)	.193	.162	.203	.201	.178	.185	.180	.174	TBD	TBD
Standardized Tactical Entry Point (STEP)	0	0	0	0	0	0	0	0		
Quantity of RDT&E Articles	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		

A. Mission Description and Budget Item Justification

C4I for the Warrior is the linchpin for promoting immediate joint coalition C4I interoperability worldwide. This program provides focus and visibility into resolving C4I interoperability issues and provides organizing principles, policy and doctrine for information superiority as directed by JV2010. C4IFTW stresses interoperability and leverages the rapid pace of C4I technology advancements. This program is based on three subprograms: 1) Advanced Concepts, 2) Joint Warrior Interoperability Demonstrations (JWID), and 3) Standardized Tactical Entry Point (STEP). As the C4IFTW concepts evolve and mature, they will spawn new approaches to providing the joint warfighter with a fused near-real-time, true representation of the battlespace. It is a unifying concept that brings the warrior an accurate and complete picture of the battlespace, timely and detailed mission objectives, and the clearest view of the targets. The Advanced Concepts initiative is intended to leverage commercial technologies and government-funded developments to provide high priority technologies to the warfighter in the shortest period of time. The current focus of Advanced Concepts, the Network Warfare Simulation (NETWARS) model, addresses communications burden issues. The NETWARS model will assess the effects of full operational combat traffic loading on current and future tactical communications; conduct quick-turn communications planning for small regional conflicts or peacekeeping scenarios; and evaluate new communication systems and technologies. JWIDs are Joint Staff-sponsored C4I demonstrations of existing, off-the-shelf, new and evolving C4I technologies. The demonstrations, which are jointly screened to determine ability to satisfy warfighting requirements, enable warfighters to operate these capabilities and assess their ability to enhance their operational missions. The STEP program will establish a standard set of C4I services at selected Defense Satellite Communications Systems (DSCS) gateways and STEP sites to support a commander joint task force (CJTF) and its component forces worldwide. STEP essentially extends the Defense Information System Network (DISN) to the tactical forces; specifically, services from the Defense Switched Network (DSN), Defense Red Switch Network (DRSN), Unclassified, but sensitive, and SECRET Internet Protocol Router Networks (NIPRNET/SIPRNET) video teleconference (VTC), and the Joint Worldwide Intelligence Communications System (JWICS). (STEP has no RDT&E funds - it uses O&M and procurement funds only; also, STEP transferred from the Joint Staff to DISA in FY 1999)

APPROPRIATION/BUDGET ACTIVITY  
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B. Program Change Summary.

	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
FY 1999 President's Budget	2.506	2.819	3.016	2.910
FY 1999 Appropriated Value		2.819		
Adjustments to Appropriated Value:				
a. Reallocation of non-programmatic adjustments	.119		.051	.055
b. Congressional Non-Programmatic Adj/Inflation		-.008	-.049	-.050
FY 2000 President's Budget	2.387	2.811	3.018	2.915

Reason for Change:

- a. Reductions in FY 1998/9 are due to non-programmatic adjustments.

C. Other Program Funding Summary

	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To Complete	Total Cost
O&M Defense-Wide	2.602	1.263	1.467	1.488	1.396	1.389	1.425	1.449	TBD	TBD
Procurement Defense-Wide	8.869	.787	.880	.861	.976	.976	.958	.940	TBD	TBD

Change between FY 1998 & FY 1999:

STEP transferred from the Joint Staff to DISA in FY 1999. The Joint Staff had exercised both oversight and acquisition responsibilities for the STEP program, due to its enormous importance to the warfighting CINCs, since it was approved by the MCEB and JROC in 1994. The STEP Design Plan was approved on 7 October 1994. Since then, the program has matured to the point that it no longer requires direct Joint Staff program management and, in fact, the Defense Information Systems Agency (DISA) already has an office assigned which has been fulfilling program acquisition functions. DISA is better suited for program management functions and this transfer of responsibility is consistent with its role in other Military Satellite Communication System terminal and baseband equipment upgrade programs. The Joint Staff (J6) will retain its role as the program oversight authority to ensure that the program remains a viable asset to the warfighter.

D. Acquisition Strategy: N/A.

E. Schedule Profile.

The RDT&E will be spent during various quarters of each FY.

Exhibit R-2a, RDT&E Project Justification

Date: February 1999

APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense Wide, Joint Staff/BA 7		PROGRAM ELEMENT 0303149j			PROJECT NAME AND NUMBER C4I for the Warrior – Advanced Concepts					
Cost (\$ in Millions)	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Advanced Concepts	2.194	2.649	2.815	2.714	2.796	2.729	2.726	2.724	TBD	TBD
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		

A. Mission Description and Budget Item Justification

C4I for the Warrior is the linchpin for promoting immediate joint coalition C4I interoperability worldwide. This program provides focus and visibility into resolving C4I interoperability issues and provides organizing principles, policy, and doctrine for information superiority as directed by JV2010. C4IFTW stresses interoperability and leverages the rapid pace of C4I technology advancements. The Advanced Concepts subprogram is intended to leverage commercial technologies and government-funded developments to provide high-priority technologies to the warfighter in the shortest period of time. The initiative provides “seed money” to help focus on large scale advanced development efforts to satisfy current and projected warfighter needs. A primary means to evaluate emerging C4ISR technologies, from a requirement point of view, is via simulation. This simulation will be capable of evaluating emerging technologies, performing communications assessment, and doing contingency planning. It will be evolved through prototyping, database development, and rigorous verification and validation. The objective is to use the simulation to investigate high priority warfighter C4ISR technologies in the context of real warfighter scenarios. The current focus of Advanced Concepts, the Network Warfare Simulation (NETWARS) model, addresses communications burden issues. This effort will start with small joint service scenarios, evolve to include complete Joint Task Force (JTF) scenarios and ultimately to a Major Theater of War (MTW) scenario. Ultimately, the CINCs will have a tool to assist them in conducting network management scenarios to optimize and insure full and efficient C4 systems access and pull.

<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Description</u>
\$ .786	.803	.853	.893	Software Development
\$.379	.597	.635	.665	Program Mgmt
.105	.180	.257	.053	COTS HW & SW
\$.342	.392	.376	.395	Communications Developmental Studies
\$.051	.150	.159	.167	Configuration Mgmt
	.127	.135	.141	Maintenance
\$.276	.200	.200	.200	Verification & Validation
.200	.200	.200	.200	Contractor Eng. Support (FFRDC)
.055	.000	.000	.000	Independent Cost Estimate (FFRDC)
\$2.194	2.649	2.815	2.714	Total

APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense Wide, Joint Staff/BA 7	PROGRAM ELEMENT 0303149j	PROJECT NAME AND NUMBER C4I for the Warrior – Advanced Concepts
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B. Other Program Funding Summary: not applicable

C. Program Development Strategy:

*FY 1997:* A Mission Needs Statement was developed and signed. Subsequent to initiating model development, an extensive Program Development Plan was developed and approved by the Director, Command, Control, Communications, and Computer (C4) Systems Directorate (J-6). A proof-of-concept effort validated the concept and determined that NETWARS would support the requirements. *FY 1998:* A Configuration Management Plan, Software Development and Integration Plan, and Systems Architecture Design Plan were developed. Initiated software and communications modules development, and integration. NETWARS Toolkit Version 1.1 functional requirements were derived, documented, and formalized. JWARS initial requirements for C4 were evaluated relative to expected analytical outputs from NETWARS. *FY 1999:* Software and communications modules development and software integration will continue. If NETWARS is to support the modeling of communications effects in JWARS, a program plan will be developed to guide that effort. *FY 2000-2001:* Software development, module development, and integration software will continue. Manage and maintain NETWARS.

D. Schedule Profile:

The first Phase review was 23 September 1997, when the Phase I “proof of concept” results were presented to the J-6 and Service/agency representatives. The mid-Phase II In-Progress Review (IPR) to the J-6 and the Service/agency reps was held on 19 December 1997. The NETWARS project recently completed Block II of three blocks of development. Block I formally began in March 1997 and involved researching and writing a detailed NETWARS development plan, followed by conducting a “proof of concept” prototype demonstration of a small JTF scenario of 100 to 200 communications nodes. Block II began in mid-September 1997, and was completed in July 1998. In Block II, J6I continued the design and building to complete version 1.1 of the front-end toolset database, and completed a study of a small JTF of up to 5000 nodes. The scenario selected was the Synthetic Theater of War (STOW)/United Endeavor 98-1 scenario, which involved a Joint Task Force defense of Kuwait. Block III, which began in July 1998, will involve continued development, testing, and building of the Version 1.4 front-end tool set database for NETWARS plus completing a large major theater of war Joint Task Force scenario of up to 10,000 communications nodes.

	<u>FY 1998</u>				<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>			
(Fiscal Qtr)	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<b>Contract Award -- Jul 97</b>																
IOC								X								
FOC (FY 2005/4 <sup>th</sup> Qtr)																

Exhibit R-2a, RDT&E Project Justification

Date: February 1999

APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT			PROJECT NAME AND NUMBER					
RDT&E, Defense Wide, Joint Staff/BA 7		0303149j			C4I for the Warrior – Joint Warrior Interoperability Demonstration (JWID)					
Cost (\$ in Millions)	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
JWID	.193	.162	.203	.201	.178	.185	.180	.174	TBD	TBD
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		

A. Mission Description and Budget Item Justification

C4I for the Warrior is the linchpin for promoting immediate joint coalition C4I interoperability worldwide. This program provides focus and visibility into resolving C4I interoperability issues and provides organizing principles, policy and doctrine for information superiority as directed by JV 2010. C4IFTW stresses interoperability and leverages the rapid pace of C4I technology advancements. The Joint Warrior Interoperability Demonstrations (JWIDs) (subprogram) are Joint Staff-sponsored demonstrations of evolving low-cost, low-risk C4I technologies and joint interoperability solutions impartially presented to the CINCs and Military Services in an operational environment. Specific demonstrations are selected to fulfill identified warfighter deficiencies and are designed to provide the opportunity to experiment with new and evolving capabilities, assess their value, and recommend them for implementation where appropriate. JWIDs provide a structured process where new C4 capabilities are rapidly inserted after being rigorously vetted, evaluated, and assessed by the warfighter. JWIDs are integral components of the "C4I for the Warrior" (C4IFTW) concept and the Joint Vision 2010 (JV 2010) conceptual template for future joint warfighting. Demonstrations are required to conform with established standards on systems interoperability and must also be integrated into approved architectures that are Defense Information Infrastructure (DII)/Common Operational Environment (COE) Joint Tactical Architecture (JTA) compliant.

<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Description</u>
.193	.162	.203	.201	Contract Engineering and Technical Support
.193	.162	.203	.201	Total

B. Other Program Funding Summary

	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Complete</u>	<u>Total Cost</u>
O&M Defense-Wide	1.219	1.263	1.467	1.488	1.396	1.389	1.425	1.449	TBD	TBD
Procurement Defense-Wide	.811	.787	.880	.861	.976	.976	.958	.940	TBD	TBD

C. Acquisition Strategy: N/A

D. Schedule Profile.

The RDT&E will be spent during various quarters of each FY.

Exhibit R-3 Cost Analysis (page 1)									Date: February 1999			
APPROPRIATION/BUDGET ACTIVITY 0400/BA7			PROGRAM ELEMENT 0303149j						PROJECT NAME AND NUMBER C4IFTW			
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total Pys Cost	FY99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Program Definition & Proof of Concept	CPFF	SAIC, MITRE	.430	0		0		0		TBD	TBD	
Software Development	CPFF	SAIC	1.471	.803		.853		.893		TBD	TBD	
Pgm Mgmt	CPFF	SAIC	.769	.597		.635		.665		TBD	TBD	
COTS Hardware and Software	CPFF	SAIC	.190	.180		.257		.053		TBD	TBD	
Subtotal Product Development			2.860	1.580		1.745		1.611		TBD	TBD	
Remarks:												
Communications Developmental Studies	CPFF	SAIC	.641	.392		.376		.395		TBD	TBD	
Configuration Mgmt	CPFF	SAIC	.092	.150		.159		.167		TBD	TBD	
Maintenance	CPFF	SAIC	0	.127		.135		.141		TBD	TBD	
Subtotal Support			.733	.669		.670		.703		TBD	TBD	
Remarks												

Exhibit R-3 Cost Analysis (page 2)									Date: February 1999			
APPROPRIATION/BUDGET ACTIVITY 0400/BA 7			PROGRAM ELEMENT 0303149j						PROJECT NAME AND NUMBER C4IFTW			
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total Pys Cost	FY99 Cost	FY 99 Award Date	FY00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Verification & Validation		DISA	.500	.200		.200		.200		TBD	TBD	
Subtotal T&E			.500	.200		.200		.200		TBD	TBD	
Remarks												
Contractor (FFRDC) Eng Support		MITRE	.362	.200		.200		.200		TBD	TBD	
Independent Cost Estimate (ICE) (FFRDC)		MITRE	.100	0		0		0		TBD	TBD	
Contract Engineering and Technical Support (JWID)		Various	.387	.162		.203		.201		TBD	TBD	
Subtotal Management			.849	.362		.403		.401		TBD	TBD	
Remarks												
Total Cost			4.942	2.811		3.018		2.915		TBD	TBD	
Remarks All awards to SAIC under competitively won umbrella support contract, awarded Jul 97												