

UNCLASSIFIED
FY2009 PRESIDENT'S BUDGET ESTIMATES

CLASSIFICATION:								
EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							May 2009	
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				
Research Development Test & Evaluation, Navy				Service Support To JFCOM, JNTC - 0804758N				
Cost (\$ in Millions)	FY 2008	FY 2009	FY 2010					
Total PE Cost	4.932	5.134	4.197					
Project 3152 Service Support to JFCOM, JNTC	4.932	5.134	4.197					
<p>(U) A. Mission Description and Budget Item Justification:</p> <p>In accordance with the FY 2005 National Defense Authorization Act, in FY 2008, JNTC RDT&E managed by Joint Forces Command (JFCOM) transferred from Navy P/E 0804758N to Defense-Wide P/E 0804758D. To maintain execution control, Navy maintained it's JNTC RDT&E for Service Support to JFCOM in P/E 0804758N. This management change reflects the decentralized execution of JNTC RDT&E from JFCOM to Navy. In FY 2009, these funds will continue to be managed and executed by United States Fleet Forces Command (USFF) Fleet Training and Technology Branch.</p> <p>The Navy continues to develop joint training technologies that will play a crucial role in its ability to address current and future joint operational training requirements. Navy program activities include conducting research, development, test and evaluation and cross-service architecture certification on Navy capable systems, developing architectures and roadmaps to ensure that service instrumentation follows a common standard, and researching and assessing Navy mission rehearsal, Joint Semi-Automated Forces (JSAF), JNTC JLVC FOM Interoperabilities, Remote Interface Control, Virtual Communications Multi-Modal Interface, and Coalition / Inter-Agency integration requirements.</p> <p>The Navy will further develop capabilities that integrate live, virtual, and constructive elements into a seamless joint training environment. Using a scientific and phased approach, Navy will leverage and research new technologies and methods, based upon focused joint operational training requirements, that provide a crucial technology-based foundation supporting all current and "to be" Navy joint training capabilities. Available commercial-off-the-shelf (COTS) and government -off-the-shelf (GOTS) networked information technologies and collaborative planning tools will be leveraged to provide improved net-centric joint training capability. Navy will lead the collaboration process to identify, collect and validate the requirements in order to design and develop the modeling and simulation capabilities that address the shortfalls in current abilities to support Joint Task training to standards.</p> <p>The Navy JNTC RDT&E Program efforts directly support the Unified Command Plan (UCP) series and is aligned with the DoD Information Operations (IO) Roadmap</p>								
Exhibit R-2, RDTEN Budget Item Justification								

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APPROPRIATION/BUDGET ACTIVITY Research Development Test & Evaluation, Navy	BA 6	R-1 ITEM NOMENCLATURE Service Support To JFCOM, JNTC - 0804758N
<p>(U) E. Performance Metrics:</p> <p>2) Facilitate integration by providing dedicated support to the effort, improving the quality of participation and documentation of Navy efforts in the JNTC. Refine and mature the Navy Training Federation Object Model (NTF), it is improving interoperability and integration with other services and the Joint community. Provides a standardized Federation Object Model (FOM) for integration across the Navy training simulations.</p> <p>3) The multi-tiered technology approach currently implemented in Joint distributed exercises presents challenges to asset control and monitoring. collective system control is sparse at best. Emerging research in the area of global control architectures and mechanisms is advancing the state of the art in communication network/system control. A current advanced research initiative, Remote Interface Control (RIC), has established an architecture capable of controlling the five layers of the communications network infrastructure that must be addressed as Joint and multi-national events continue to expand: (1) live and virtual radio control, (2) Internet Protocol network control, (3) security administration and control, (4) system health, and (5) support services.</p> <p>4) Current Joint Live-Virtual-Constructive (JLVC) and other federation simulation distribution is accomplished by tying simulation data to multicast groups. This is neither a scalable solution nor is it an effective one as federates are not able to publish and subscribe with fine enough precision. The Simulation Aware Software Router will address this shortcoming, and additionally provide a flexible solution for federating heterogeneous networks and on-the-wire protocols without forcing all federates onto a single, uniform, lowest common denominator solution for each training event. Ultimately, a simulation aware router will allow simulation users to optimize the network for both simulation scalable traffic and for voice and Command, Control, Communications, (Computers), Intelligence (C4I) traffic.</p> <p>5) Naval aviation training components will require the ability to transport multi-modal (e.g. secure, non-secure, coalition, etc.) voice communication simultaneously on the Navy Continuous Training Environment (NCTE) and other networks during Joint fleet exercises. As the Navy Aviation Simulation Master Plan (NASMP) integrates within the NCTE and other Joint training environments, multi-modal virtual communication technology is required for Naval aviation components to participate in multi-national, multi-service, and fleet coalition training events.</p>		
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EXHIBIT R-2a, RDT&E Project Justification						DATE:		
						May 2009		
APPROPRIATION/BUDGET ACTIVITY				Project Name and Number				
Research Development Test & Evaluation, Navy				JSAF Improvement Program (JIP)				
				Project 3152 Service Support to JFCOM				
Cost (\$ in Millions)	FY 2008	FY 2009	FY 2010					
JSAF Improvement Program	\$ 2.678	\$ 2.787	\$ 2.364					
RDT&E Articles Quantity	n/a	n/a	n/a					
<p>(U) A. Mission Description and Budget Item Justification:</p> <p>Navy Warfare Development Command (NWDC) provided dedicated software development, configuration management, verification and validation and engineering management support to ensure that Fleet and Joint requirements were incorporated into Joint Semi-Automated Forces (JSAF) software through the JSAF configuration management and requirements process managed by the Navy. NWDC managed evolving requirements submitted by Joint and Fleet representatives to develop new capabilities and improve reliability and maintainability of the JSAF software simulation. NWDC defined, developed and chaired the JSAF Users Group to work on technical issues related to JSAF such as identifying root-causes and recommending and applying corrective actions to multiple issues. NWDC managed and performed regression testing for and accomplished multiple releases / updates to JSAF. In FY 2008, NWDC supported user acceptance testing and opchecks in seven major Navy Carrier / Expeditionary Strike Group exercises (FST-J 08-1, 08-2, 08-3, 08-4, 08-5, RIMPAC and PC-FST).</p> <p>FY 2009 Plan: The Navy focus is to ensure that Fleet and Joint requirements for maintenance and stability are incorporated into JSAF software through the JSAF configuration management and requirements process managed by the Navy. The NWDC team will manage evolving requirements submitted by Joint and Fleet representatives to develop new capabilities and improve reliability and maintainability of the software simulation. Continue in the development, configuration management, and operational support of the JSAF Modeling and Simulation (M&S) application, used for training purposes, which currently servers as the primary modeling and simulation engine for the Naval Continuous Training Environment (NCTE). NWDC NCTE activities for FY 2009 include two JSAF software releases and coordination and facilitation of Navy JSAF Users Group Meetings during the year. In FY 2009, NWDC plans to support user acceptance testing and opchecks in ten major Navy Carrier / Expeditionary Strike Group exercises (FST-J 09-1, 09-2, 09-3, 09-6, 09-71, 09-72, 09-8, PC-FST, FST-GC BAT, and FST-GC HST).</p> <p>FY 2010 Plan: In FY 2010, funding for the maintenance of established JSAF baseline efforts migrates to the FST/NCTE P/E 0204219N. In FY 2010, the JSAF RDT&E development effort focus incorporates changes required to begin incorporating the program of records that the JNTC/Navy Training FOM effort below has focused upon. FY 2010 sees major federations efforts, and therefore change, with JSAF and the high level testing required to ensure interoperable systems that yield validated results in a sophisticated and distributed Navy & Joint Training system.</p>								
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EXHIBIT R-2a, RDT&E Project Justification		DATE: May 2009												
APPROPRIATION/BUDGET ACTIVITY Research Development Test & Evaluation, Navy	BA 6	Project Name and Number JSAF Improvement Program (JIP) Project 3152 Service Support to JFCOM												
<p>(U) B. Accomplishments / Planned Program:</p> <table style="margin-left: 40px; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2008</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2009</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2010</th> </tr> </thead> <tbody> <tr> <td>Accomplishment / Effort / Subtotal Cost</td> <td style="text-align: center;">\$ 2.678</td> <td style="text-align: center;">\$ 2.787</td> <td style="text-align: center;">\$ 2.364</td> </tr> <tr> <td>RDT&E Articles Quantity - N/A</td> <td style="text-align: center;">n/a</td> <td style="text-align: center;">n/a</td> <td style="text-align: center;">n/a</td> </tr> </tbody> </table> <p>Accomplishments include the stability and robustness improvements to support Fleet Synthetic Training. Improved capability of Automated Status Boards and Link 16 Information Display for the Tactical Training Group Schoolhouses. Improved capability of Class III and V Logistics, TBMCS mission support interface, and Intel fidelity (ELINT) in support of JNTC and NTF/PACOM requirements. Improved capability in support of virtual and constructive users such as: Manned Flight Systems' H-60R and H-60S trainers, JLVC, and NWDC.</p> <p>(U) C. Other Program Funding Summary:</p> <p style="margin-left: 40px;">P1 Procurement Line: N/A C-1 MILCON Project Number: N/A Related RDT&E: N/A</p> <p>(U) D. Acquisition Strategy: N/A</p>				FY 2008	FY 2009	FY 2010	Accomplishment / Effort / Subtotal Cost	\$ 2.678	\$ 2.787	\$ 2.364	RDT&E Articles Quantity - N/A	n/a	n/a	n/a
	FY 2008	FY 2009	FY 2010											
Accomplishment / Effort / Subtotal Cost	\$ 2.678	\$ 2.787	\$ 2.364											
RDT&E Articles Quantity - N/A	n/a	n/a	n/a											

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EXHIBIT R-2a, RDT&E Project Justification						DATE: May 2009	
APPROPRIATION/BUDGET ACTIVITY				Project Name and Number			
Research Development Test & Evaluation, Navy				JNTC/JLVC Navy Training FOM Support			
				Project 3152 Service Support to JFCOM			
Cost (\$ in Millions)	FY 2008	FY 2009	FY 2010				
JNTC/JLVC Navy Training FOM Support	\$ 1.098	\$ 1.582	\$ 1.353				
RDT&E Articles Quantity	n/a	n/a	n/a				
<p>(U) A. Mission Description and Budget Item Justification: Naval Warfare Development Command (NWDC) continued to support the development of standards in networking, simulation federation, and tactical system interfaces for Fleet Synthetic Training interoperability to meet training objectives. NWDC managed collaborative engineering of new and existing Navy Continuous Training Environment (NCTE) federates to meet training objectives and NCTE engineering standards. NWDC drafted and released Navy Training Federation Object Model (NTF) releases in conjunction with Navy Aviation Simulation Master Plan (NASMP), Joint Live Virtual and Constructive (JLVC), and Submarine Multi-Mission Tactical Trainer (SMMTT) inputs. The NCTE Interoperability Guide was published and distributed to the NCTE Integrated Product Team (IPT) members.</p> <p>NWDC conducted several NCTE Interoperability Working Group meetings which focused on immediate interoperability issues as well as long-term architectural standards development and accomplished the enhancements of team training capabilities. These new capabilities included Air Warfare team training between pierside ships, virtual United States Air Force Airborne Warning and Control System (AWACS) trainer, the E-2C Deployable Readiness Trainer, and F/A-18C cockpit trainers, facilitated by simulation role players using tactical system interfaces. Additionally, Anti-Submarine Warfare (ASW) team training capabilities were enhanced by the addition of Mission Readiness Tactical Team Trainer (MRT3) based SH-60B and SH-60F deployable trainers used in concert with pierside ships and simulation role-players. This dedicated support improved the quality of participation and documentation of the Navy efforts in the Joint National Training Capability (JNTC), specifically improving Navy Training integration in the Joint Live-Virtual-Constructive (JLVC).</p> <p>FY 2009 JNTC-JLVC/NAVY Training FOM Plan: NWDC will continue to provide Navy/NCTE software developer and systems engineering, interoperability support and architectural development support of the Navy Training Federation Object Model (FOM) and NCTE specifically focusing on the JNTC LVC Federation. Specific goals for FY 2009 include the addition of team training capabilities in ASW and Undersea Warfare (USW) trainers (MH-60R trainer, P-3C TORT, SH-60B/F WST) and AAW/MI (E-2C WST, EA-6B).</p> <p>FY 2010 JNTC-JLVC/NAVY TRAINING FOM Plan: FY 2010 work continues across the warfighting spectrum of simulator integration into NCTE and JSAF. Naval Aviation assets begin significant integration test and validation efforts as well as the test of significant enhancements to ASW integrated training capabilities as a result of the foundation work accomplished from FY 2008 and the maturation of the process beginning in FY 2009.</p>							
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	FY 2008	FY 2009	FY 2010											
Accomplishment / Effort / Subtotal Cost	\$ 1.098	\$ 1.582	\$ 1.353											
RDT&E Articles Quantity -	n/a	n/a	n/a											
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EXHIBIT R-3, RDT&E Project Cost Analysis										DATE: May 2009		
APPROPRIATION/BUDGET ACTIVITY Research Development Test & Evaluation, Navy / BA 6								Project Name and Number Project 3152 Service Support to JFCOM				
Cost Categories (Taylor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	FY 2009 Award	FY 2009 Date	FY 2010 Award	FY 2010 Date						
Product Development												
Primary Hardware Development			\$ -		\$ -							
Ancillary Hardware Development			\$ -		\$ -							
Systems Engineering *	Various	Various	\$ 5.134	Oct-08	\$ 4.197	Oct-09						
Licenses			\$ -		\$ -							
Tooling			\$ -		\$ -							
GFE			\$ -		\$ -							
Award Fees			\$ -		\$ -							
Sub-Total:			\$ 5.134		\$ 4.197							
Remarks												
* Training Systems Integration												
** Continuing in FY2009 and beyond, United States Fleet Forces (USFF) Command Code N71 manages the execution of Navy JNTC RDT&E funding.												
Support												
Development Support			\$ -		\$ -							
Software Development			\$ -		\$ -							
Training Development			\$ -		\$ -							
Integrated Logistics Support			\$ -		\$ -							
Configuration Management			\$ -		\$ -							
Technical Data			\$ -		\$ -							
GFE			\$ -		\$ -							
Sub-Total:			\$ -		\$ -							
Remarks												
Exhibit R-3, RDTEEN Project Cost Analysis												

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Research Development Test & Evaluation, Navy / BA 6								Project 3152 Service Support to JFCOM				
Cost Categories	Contract	Performing		FY 2009		FY 2010						
(Taylor to WBS, or System/Item Requirements)	Method & Type	Activity & Location		Award	Date	Award	Date					
			FY 2009	Date	FY 2010	Date						
Test and Evaluation												
Developmental Test & Evaluation			\$ -		\$ -							
Operational Test & Evaluation			\$ -		\$ -							
Tooling			\$ -		\$ -							
GFE			\$ -		\$ -							
Sub-Total:			\$ -		\$ -							
Remarks												
Management Services												
Contractor Engineering Services			\$ -		\$ -							
Government Engineering Services			\$ -		\$ -							
Program Management Support			\$ -		\$ -							
Program Management Personnel			\$ -		\$ -							
Travel			\$ -		\$ -							
Labor (Research Personnel)			\$ -		\$ -							
Overhead			\$ -		\$ -							
Sub-Total:			\$ -		\$ -							
Remarks												
Total Cost												
Grand Total:			\$ 5.134	Oct-08	\$ 4.197	Oct-09						
Remarks												

Exhibit R-3, RDTE Project Cost Analysis