Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 6: *RDT&E Management Support*						**R-1 ITEM NOMENCLATURE** PE 0804758N: *Service Support To JFCOM, JNTC*					

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	4.049	4.260	-	-	-	-	-	-	-	0.000	8.309
3152: *Service Support to JFCOM/ JNTC*	4.049	4.260	-	-	-	-	-	-	-	0.000	8.309

A. Mission Description and Budget Item Justification

Per the FY 2005 National Defense Authorization Act, Navy Joint National Training Capability (JNTC) RDT&E is managed by US Fleet Forces Command (USFF) Joint & Sustainment Branch (N71) from P/E 0804758N. This management reflects the decentralized execution of JNTC RDT&E from JFCOM. Throughout the FYDP, these funds will continue to be managed and executed by USFF N71.

The Navy continues to develop joint training technologies that will play a crucial role in it's 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), Joint National Training Capability (JNTC) Joint Live-Virtual Constructive (JLVC) Federation Object Model (FOM) Interoperabilities.

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.

The Navy Joint Live-Virtual Constructive (JLVC) Federation Object Model (FOM) development program is the primary means of providing a persistent and interoperable netowork among the Navy, Joint and Coalition federation components.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy		DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 6: *RDT&E Management Support*		**R-1 ITEM NOMENCLATURE** PE 0804758N: *Service Support To JFCOM, JNTC*		

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	4.180	4.260	4.355	-	4.355
Current President's Budget	4.049	4.260	-	-	-
Total Adjustments	-0.131	-	-4.355	-	-4.355
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.130	-			
• Program Adjustments	-	-	-4.355	-	-4.355
• Congressional General Reductions Adjustments	-0.001	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0804758N: *Service Support To JFCOM, JNTC*	PROJECT 3152: *Service Support to JFCOM/JNTC*

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
3152: *Service Support to JFCOM/ JNTC*	4.049	4.260	-	-	-	-	-	-	-	0.000	8.309
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

BASE REQUEST:

Navy Warfare Development Command (NWDC) provides dedicated Joint Semi-Automated Forces (JSAF) software via development, configuration management, verification and validation and engineering management to ensure that Fleet and Joint requirements are incorporated. NWDC also supports the development of standards in networking, simulation federation, and tactical system interfaces for Fleet Synthetic Training (FST) interoperability to meet training objectives. The JLVC NCTE FOM program provides a persistent and interoperable network among the Navy, Joint and Coalition federation components.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: JSAF Improvement Program	2.654	2.436	-
Articles:	0	0	

Description: 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.

FY 2010 Accomplishments:
Fleet Synthetic Training (FST) utilizes interoperable shore-based and ship-embedded simulation and stimulation systems linked by distributed networks, using JSAF as the core constructive environment. FST capability shortfalls addressed in FY10: BMD integration with live system components, IO; Maritime Interceptions/MDA; IWO/EW; Emergent Requirements. The JSAF Improvement Program delivered a fully operation JSAF Version 4.0 / 4.1 simulation system. The JLVC NCTE FOM Development program delivered the FY10 Interoperability Guide Update.

FY 2011 Plans:
Navy will further develop capabilities to address ASW improvements, information operations, BLUFOR capability representation including Littoral Combat Ship (LCS), P-8A, Surface Warfare Enterprise Advanced Capability Build (ACB) -12/14 development and integration and emergent threats. Navy will further address additional Coalition Partner Integration, LCS Shore Based Training

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0804758N: *Service Support To JFCOM, JNTC*	**PROJECT** 3152: *Service Support to JFCOM/JNTC*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Facility (SBTF) integration, Combined Armed Forces (CAF) - Distributed Mission Operations (DMO) integrations and Korean Simulation Battle Center (KSBC) integration.			
Title: JNTC/JLVC Navy Training FOM Support *Articles:*	1.395 0	1.824 0	-
Description: 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. *FY 2010 Accomplishments:* Fleet Synthetic Training (FST) utilizes interoperable shore-based and ship-embedded simulation and stimulation systems linked by distributed networks, using JSAF as the core constructive environment. FST capability shortfalls addressed in FY10: BMD integration with live system components, IO; Maritime Interceptions/MDA; IWO/EW; Emergent Requirements. The JSAF Improvement Program delivered a fully operation JSAF Version 4.0 / 4.1 simulation system. The JLVC NCTE FOM Development program delivered the FY10 Interoperability Guide Update. *FY 2011 Plans:* Navy will further develop capabilities to address ASW improvements, information operations, BLUFOR capability representation including Littoral Combat Ship (LCS), P-8A, Surface Warfare Enterprise Advanced Capability Build (ACB) - 12/14 development and integration and emergent threats. Navy will further address additional Coalition Partner Integration, LCS Shore Based Training Facility (SBTF) integration, Combined Armed Forces (CAF) - Distributed Mission Operations (DMO) integrations and Korean Simulation Battle Center (KSBC) integration.			
Accomplishments/Planned Programs Subtotals	4.049	4.260	-

C. Other Program Funding Summary ($ in Millions)

  N/A

D. Acquisition Strategy

  N/A

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0804758N: *Service Support To JFCOM, JNTC*	PROJECT 3152: *Service Support to JFCOM/JNTC*

E. Performance Metrics

1) Navy Warfare Development Command (NWDC) will produce one JSAF software release to include documentation; will design and implement upgrades to JSAFconsistent with approved requirements and CRs and document the effects of JSAF capabilities (robustness) and stability. Will design, implement, test, and integrate JSAF enhancements in accordance with requirements.

2) NWDC will produce one Navy Training FOM (NTF) release to include applicable documentation updates for the Guidance, Rational, and Interoperability Manual (GRIM) and Federation Agreement document (FAD). Will implement JSAF capability enhancements to support evolving joint and Coalition training requirements.

3) NWDC will deliver one NCTE Interoperability Guide update to be promulagated to all NCTE users.

4) 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.

5) 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.