Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Office of Secretary Of Defense				DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*

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	39.364	92.253	59.958	-	59.958	78.677	60.413	62.645	62.904	Continuing	Continuing
758: *JOINT NATIONAL TRAINING CAPABILITY (JNTC)*	17.825	19.559	11.818	-	11.818	16.099	16.312	17.797	17.308	Continuing	Continuing
759: *JOINT INNOVATIVE TRAINING METHODS & TOOLS (JITMT)*	1.970	1.994	-	-	-	-	-	-	-	Continuing	Continuing
761: *JOINT SIMULATION SYSTEMS (JSS)*	7.310	7.208	-	-	-	-	-	-	-	Continuing	Continuing
764: *IRREGULAR WARFARE (IW)*	3.700	17.772	11.515	-	11.515	14.953	16.171	17.309	17.571	Continuing	Continuing
769: *JOINT KNOWLEDGE DEVELOPMENT & DISTRIBUTION CAPABILITY (JKDDC)*	2.170	2.194	1.234	-	1.234	1.614	2.243	1.852	2.322	Continuing	Continuing
760: *Congressional Transactions*	6.389	-	-	-	-	-	-	-	-	Continuing	Continuing
770: *U.S. Forces Korea Training and Exercise Support*	-	10.211	7.504	-	7.504	7.436	4.398	1.442	1.363	Continuing	Continuing
754: *Immersive Simulation*	-	33.315	21.868	-	21.868	32.605	14.862	17.240	16.950	Continuing	Continuing
701: *Air Force JNTC*	-	-	2.408	-	2.408	2.023	2.286	2.689	2.765	Continuing	Continuing
772: *Navy JNTC*	-	-	3.611	-	3.611	3.947	4.141	4.316	4.625	Continuing	Continuing

A. Mission Description and Budget Item Justification

These programs are part of a coordinated effort to develop and deploy capabilities for rapidly linking and integrating Live, Virtual, and Constructive (LVC) forces for Services, Combatant Commanders (COCOMs), coalition, and other government agencies. These programs will create a realistic battlespace environment in which to train as a Joint Warfighting force to meet emerging mission requirements including the Long War. These investments support the Secretary of Defense's (SECDEF) Commanders Exercise and Engagement Training Transformation (CE2T2) initiative to enable and enhance Joint Warfighting readiness by training as we intend to fight. The elements associated with this coordinated effort consist of:

- Joint National Training Capability (JNTC)
- Joint Innovative Training Methods & Tools (JITMT)
- Joint Simulation Systems (JSS)

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- Irregular Warfare Functional Training Capability (IW)
- Joint Knowledge Development & Distribution Capability (JKDDC)
- U.S. Forces Korea Training & Exercise Support (USFK)
- Immersive Trainer
- Air Force JNTC

JNTC: Initially established in 2003, JNTC continues to develop and integrate Advanced Training Technologies into a seamless Joint training environment. JNTC establishes the overarching Joint framework and context necessary for COCOMs and Services to achieve a Joint training environment through an integrated network of training sites and nodes. JNTC provides the common standards, architecture, and development processes required to link Joint training programs. By leveraging existing training programs or initiating specific actions, JNTC is developing credible opposing force capabilities and expanded access to assets typically unavailable to the training audience by developing and integrating modeled and simulated representations of these capabilities. This furthers the integration of Joint training objectives into Service training events, while capturing the objective data necessary to provide a complete and accurate after action review. This program develops and enhances current and future Joint training enterprise capabilities.

JITMT: This effort provides innovative acquisition strategy to foster reuse of data, software and components to support a modular joint training system toolkit and reduce the cost of training. JITMT also has a component that reengineer's joint training for more effective learning in realistic environments, enables individual and collective training and mission rehearsal through performance based learning in virtual, gaming and mixed reality environments and develops efficient next generation agile architectures and common standards that provide flexibility and adaptability as required by the CCJO and next generation training strategy. These efforts increase warfighter Joint training capabilities with improved constructive simulations and streamlined acquisition processes, leveraging industry training methodologies and technologies to provide on-demand Joint training tailorable to COCOM requirements for Joint Task Force headquarters staffs and individuals.

JSS: This effort provides warfighters with enhanced Joint Live, Virtual, and Constructive (JLVC) based training capabilities resident in the Joint Force Trainer Toolkit (JFTT). The JFTT is a set of training enablers, and "certified systems" that are interoperable and acceptable for usage within the Joint training environment. The JFTT is a one-stop shop that enables Services, COCOMs, Agencies and Coalition partners to deliver trained, capable, and interoperable Joint Forces.

IW: This research and development effort closes training gaps at the tactical and operational level and ensures our General Purpose Forces (GPF) receive immersive, pre-deployment training equal to that provided to Special Forces. This effort researches, develops and integrates human terrain/cueing/profiling training, enhanced and distributed interagency team training, cultural awareness training, mixed reality training, and distributed training technologies that enhance IW training for GPF. As part of a national effort, IW will integrate and leverage Joint, Service, Interagency and academic initiatives for improving ground combat performance of small unit individuals, leaders and teams in the operating environment-focusing on the hybrid threat-to avoid duplication of efforts can achieve integration and synergy.   JNTC IW integrates human, cultural and social science subject matter experts, establishing laboratory and training facilities with access to urban live fire, and maneuver training facilities and civilian population centers. Develop rapid reach back and reach forward mechanisms to convert current operational practices into training practices, and by providing state of the art simulations on par with aviation and maritime simulation and training capabilities.

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JKDDC: Develop a Joint Individual Training Toolkit of web enabled individual and small group training products and services. Products and services developed in response to JKDDC stakeholder (COCOMs, Services, and Combat Support Agencies) prioritized training requirements. JKDDC supports a career-long joint learning continuum, joint professional military education and tailored common training standards to Service members for tasks that are jointly executed, resulting in trained, capable, and interoperable joint forces. This supports advanced technology development and enhancement for the Joint Advanced Distributive Learning training community. JKDDC advanced technology initiatives principally include the Virtual Cultural Awareness Training (VCAT) web-based gaming and Small Group Scenario Trainer (SGST), both accessible via the Joint Knowledge Online (JKO) Learning Management System. This capability facilitates the training and preparation of tens of thousands of military and civilian personnel deployed to combat theaters of operation prior to serving in their assigned Joint Task Force (JTF) billets. Specifically, VCAT supports one of the top three identified training shortcomings of returning warriors from United States Central Command (CENTCOM) based JTF cultural awareness training. JTF 'battle staffs' will be adequately trained warriors, as individuals and the staffs collectively based on SGST development and overcoming existent training inadequacies for joint warriors.

USFK: This program will develop a Jointly Accredited and Supported Modeling & Simulation federation of constructive simulations capable of satisfying all joint exercise training requirements in the Korean Theater of Operations that is interoperable with the Republic of Korea developed Korean Simulation System. This solution will be capable of interoperating in a common battlespace that realistically represents the operating environment to all levels of training audiences, tactical to strategic, in Korean theater exercises. While supporting USFK's specific requirements, this solution will contain enhancements that will benefit all users of the JLVC.

Immersive Trainer: As part of the Department of Defense's shift to building Irregular Warfare (IW) capability and recognizing the percentage of casualties taken in close combat will support development of infantry immersive training simulators as part of a broader national effort for small unit excellence. While highlighted by the need to adapt simulation now to IW demands, the value of enhanced infantry small unit immersive simulation will contribute to small unit proficiency and survival across the range of military operations, from irregular to conventional.

Air Force JNTC: Supports the SECDEF's Transformation in Training/Joint National Training Capability (JNTC). Develops capabilities that integrate live, virtual, and constructive elements into a seamless joint training environment. Using a scientific and phased approach and focusing on modeling air and space capabilities, researches new technologies and methods that provide a crucial technology-based fondation supporting all JNTC operations.

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B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	33.975	92.253	93.525	-	93.525
Current President's Budget	39.364	92.253	59.958	-	59.958
Total Adjustments	5.389	-	-33.567	-	-33.567
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• OSD Managed Program Reduction	-	-	-13.000	-	-13.000
• JFCOM Disestablishment	-	-	-19.170	-	-19.170
• Reducing DOD Reliance on Service Support Contractors	-	-	-0.509	-	-0.509
• Program Transfer	-	-	4.311	-	4.311
• Economic Assumptions	-	-	-0.113	-	-0.113
• Realignment of Funds to Support Higher Priorities	-	-	-3.510	-	-3.510
• Efficiencies	-	-	-1.576	-	-1.576
• Congressional Add: Integrated Analysis	2.000	-	-	-	-
• Congressional Add: Agile Software Capability	1.200	-	-	-	-
• Congressional Add: Playas Training and Research	3.200	-	-	-	-
• General Program Reductions	-1.011	-	-	-	-

Change Summary Explanation

1. Efficiencies: Eliminates 4 of the 15 Joint Force Trainer functions: joint intelligence training/standards; joint forces intelligence school; field assessment of joint fires training; and training on selected joint fires issues. Reduces the remaining Joint Force Trainer functions by 38 percent, and reduces Special Operations Command Joint Force Command (SOCJFCOM) by 30 percent. Eliminates the Joint Task Force Headquarters Readiness (JTF HQ) function.

2. Agile Software Capability Intervention (ASCI) $1.200 - The ASCI is a process and development activity that provides a distributed testbed solution to the complex software development in the Modeling & Simulation (M&S) domain. Focus is on the JLVC federation and requirements to represent the federation on an Enterprise level in a Service Oriented Architecture (SOA). In addition, ASCI principles are applied to process and development activities to provide database

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initialization solution for complex software development in the M&S domain. Focus is on the Joint Rapid Scenario Generation requirements to represent the capability on an Enterprise level in a SOA. Provides subject matter expertise, rapid reconfiguration laboratory assessment and certification of distributed test bed, products, and documentation review supporting productivity enhancements through use of ASCI in the Joint Training Environment. The ASCI project will focus on 30-day development sprints culminating in deliberate distributed test events supported by the Joint Advanced Training Technology Laboratory (JATTL). The outcome of this effort will result in demonstratable events in the JATTL using the new SOA JLVC federation supporting Political, Military, Economic, Information, and Infrastructure capability.

3. Integrated Analysis Environment $2.000 - Provides enhanced joint training capability for the Home Station Training Program. Supports virtual worlds concept and distributed units in a LVC synthetic training environment. Integrate future immersive training capabilities into the joint operational environment. Builds upon USJFCOM M&S vision through development of an implementation plan and proof of concept demonstration. Supports J7 move towards Service construct (freeform type training) and Unified Agile Architecture. Consolidates and aligns USJFCOM Modeling and Stimulation Support Activities including Training, Exercises, Mission Rehearsal, Mission Planning, Experimentation and Rapid Scenario Generation.

4. Playas Training and Research Center (PTRC) Joint Training Experiment $3.200 - PTRC Joint Training Experiment provides a platform for training, evaluation and/or certification of Active and Reserve Component joint formations in intergovernmental and interagency missions. Integrate with JNTC architecture and standards. Adapt and enhance PTRC capabilities to meet the evolving needs of Active and Reserve Component joint formations in intergovernmental and interagency missions. Enhance government infrastructure capability at PTRC. Become an accredited, integral component of the Joint Training Environment (JTE) and provide dedicated program management and coordination with research institutions and JTE representatives. Monitor execution, perform analysis, conduct tests and establish transition strategy and support. Partnership between New Mexico Tech, New Mexico State University (NMSU) and White Sands Missile Range (WSMR).

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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
758: *JOINT NATIONAL TRAINING CAPABILITY (JNTC)*	17.825	19.559	11.818	-	11.818	16.099	16.312	17.797	17.308	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

DoD directed USJFCOM to establish the JNTC Advanced Training Technology to develop future training concepts and capabilities. The mission is to develop robust research, development test and evaluation (RDT&E) capabilities that integrate Live, Virtual, and Constructive (LVC) elements into a seamless Joint training environment. JNTC creates Joint warfighting conditions through a networked collection of interoperable training sites, ranges, and nodes that synthesize personnel, doctrine, and technology to deliver and achieve "Joint Context" for COCOM and Service training requirements. JNTC provides RDT&E within an LVC distributed test-bed supporting the advancement of training technologies in the context of a Joint integrated battle space. The test bed operates as a continuous training RDT&E environment, providing the foundation for a distributed and deployable Mission Rehearsal System, integrating live Intelligence, Surveillance and Reconnaissance feeding the Common Operational Picture. These funds provide critical Joint/Coalition Service members and interagency partner's enhanced training to allow requisite enhancements to existing training systems, capabilities, and technologies. These enhancements improve training efficiencies and provide an integrated LVC environment. This capability precludes the necessity for conducting large-scale live exercises to achieve the SECDEF's Commanders Exercise and Engagement Training and Transformation (CE2T2) vision.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: P758 Joint National Training Center (JNTC) *Description:* Initially established in 2003, JNTC continues to develop and integrate Advanced Training Technologies into a seamless Joint training environment. JNTC establishes the overarching Joint framework and context necessary for COCOMs and Services to achieve a Joint training environment through an integrated network of training sites and nodes. JNTC provides the common standards, architecture, and development processes required to link Joint training programs. By leveraging existing training programs or initiating specific actions, JNTC is developing credible opposing force capabilities and expanded access to assets typically unavailable to the training audience by developing and integrating modeled and simulated representations of these capabilities. This furthers the integration of Joint training objectives into Service training events, while capturing the objective data necessary to provide a complete and accurate after action review. This program develops and enhances current and future Joint training enterprise capabilities. *FY 2010 Accomplishments:* •Completed research, planning and engineering to transition Joint Training and Enterprise Network (JTEN) to Next Generation (NextGen) JTEN and complete Global Information Grid (GIG) alignment of the JTEN.	17.825	19.559	11.818

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B. Accomplishments/Planned Programs ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012**
•Completed research to identify commercial off the shelf/government off the shelf alternative means of extending the JTEN to remote/austere locations and locations where security constraints do not permit persistent installation of JTEN service delivery points. •Researched and evaluated communication technologies that will facilitate the distribution of mixed-reality training around the globe. This involved the use of distributed training methodologies for remotely-based operators/participants. The technologies would facilitate home-station operations vice having to relocate operators to remote locations. The technologies would also ensure warfighter's pre-deployment training would mirror real-world operations as closely as possible. •Developed and tested a coalition training network reference architecture with the Navy and the Air Force to facilitate trusted-partner participation in training exercises. The effort provided exercise participants and engineers basic design requirements for integrating the coalition partners into the Joint training environment to more closely mirror real-world operations. •Completed interoperability tests and assessments with the United States Air Force's Combat Air Force Distributed Mission Operations (CAF DMO) Office to define and document standards and architectures. •Developed and released block 3 of an enterprise solution to enable near-real time and post event assessment of the Joint Warfighters performance. •Continued developing and integrating remote Command & Control (C2), full effective radiated power (ERP), reactive electronic attack response and durability upgrade into existing Multi-Spectral Threat systems providing threat Surface to Air Missile system surrogates for enhanced BLUE FORCE (BLUFOR) training. •Conducted research of new and emerging technologies such as immersive virtual technologies, story driven training, light simulation/federations, massive-multiplayer online games, training objective driven simulations, embedded training, and Joint community unique simulations for application to enhance the Joint training environment. •Maintained the Joint Advanced Training Technologies Laboratory (JATTL), a 28,000 square foot state-of-the-art laboratory that replicates the Joint Training Environment, and is the nucleus that enables JNTC research and development activities. •Analyzed, certified and assessed eleven training systems for Joint interoperability with and integration into the Joint Training Enterprise thereby reducing future costs and exercise preparation time. •Integrated the National Security Agency's (NSA) Joint Cryptologic Mission Simulation (JCMS) system with Joint Live Virtual Constructive JLVC training federation. This will deliver the full capability of the NSA to the warfighter in a training environment thus providing an enhanced capability to train all Service Signals Intelligence (SIGINT) analysts and allow joint and Service staffs to integrate SIGINT capabilities into training events prior to deployment. •Developed and released the Joint Conflict and Tactical Simulation (JCATS) version 9.0 with significant new capabilities that improved chemical and biological attack representation, amphibious assault modeling, an easier to use graphical user interface, improved scenario management capabilities and an improved Control C2 systems stimulation capability.			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
•Developed and released the Joint Training Data Service (JTDS), a rapid scenario generation capability for the Joint Training Enterprise, to the U.S. Army's III Corps Battle Command Training Center (BCTC), US Army Central (ARCENT) and the U.S. Army Europe (USAREUR) Joint Multinational Simulation Center. This activity will reduce training event support costs to Joint training environment and Service training elements by reducing or eliminating the need for duplicative target and infrastructure data producing services. •Developed over 30 simulation terrain databases used for a wide variety of model and simulations providing high-quality, highly-detailed, and correlated virtual and constructive Modeling & Simulation (M&S) terrain databases that will support pre-deployment training and avoid costly duplication. •Developed a terrain database to support the 101st Airborne Division (Air Assault) to rehearse Counter-Improvised Explosive Device (C-IED) Situational Training Exercises in the BCTC at Ft. Campbell, KY. •Developed a terrain-specific Afghanistan Virtual Battlespace 2 terrain database for the 1st Squadron, 38th Cavalry Regiment (Reconnaissance and Surveillance) for mission rehearsal prior to deployment and continued training in theater. •Supported US Strategic Command and all COCOM/ Service stakeholders within the All Things Missile (ATM) effort by initiating development of Joint integration and Development System documentation to establish ATM as a program of record. This will enable a scalable, dynamic, low overhead technical capability in support of missile mission training from the strategic to tactical level. •Developed collaborative information environment tools that integrate with Net Centric Enterprise Services (NCES) and products in order to provide enhanced exercise planning, mission rehearsal, and exercise control within Joint training environment. Such Net Centric Enterprise Services integration include: •Completed research, development, and testing for a prototype web service data exchange with an external DoD data system. •Completed automation for data input, key word search, and report generation requirements analysis functions related to the J7 Training Development process. •Qualified the Defense Intelligence Agency (DIA) configuration of Tenix Diode Cross Domain Solution for use as a one-way link between the unclassified and classified training environments as a low cross solution for the joint training environment. •Continued pilot project to validate a Joint Navy-Air Force – JFCOM Joint Training Environment Common Domain Information Sharing Enterprise Solution. •Funded an effort to synchronize scheduled releases of JLVC with a certified Combat Direction System that supports JLVC changes. *FY 2011 Plans:* ••Developed, integrated, tested, and delivered block 5 of the Joint After Action Review Resource Library (JAAR-RL), an enterprise solution which enables near-real time and post event assessment of Joint Warfighter performance leveraging previous R&D			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
investments made in the test and training communities by integrating Service and DoD capabilities previously developed. Block 5 release provides an accredited and certified full operational JAAR-RL capability to the Joint training programs in accordance with (IAW) the DoD Information Assurance Certification and Accreditation Process (DIACAP). •Developed, tested, and released the FY11 update of the JNTC Test and Training Enabling Architecture (TENA) Logical Range Object Model (LROM), incorporating major structural changes made in the latest version of the TENA middleware and latest changes to Service live range capabilities enabling interoperable instrumentation between Service training ranges and instrumentation systems delivering new Joint capabilities IAW the T2 I-plan initiative, "3.3. Range Modernization." • Implemented Afghanistan Mission Network-Training Federation (AMN-TF) initial operational capability during support of Unified Endeavor 11-2 mission rehearsal event. • Expanded ACGU network training capability to allow connectivity of national command and control networks with training network to add a significant degree of realism to Australia, Canada, Great Britain and United Stated (ACGU) training events. • Completed development United States segment of the AMN-TF in support of forces training for deployment to International Security Assistant Force-Afghanistan. Provided capabilities that fundamentally transform joint and coalition training as forces use a common network. Created the foundation for a future North Atlantic Treaty Organization (NATO) training network. Implemented AMN-TF initial operational capability during support of Unified Endeavor 11-2 mission rehearsal event. • Accomplished non-guarded cross domain environment for trusted mission partners ACGU, allowing ACGU nations to connect training networks for conduct of bi-lateral or multi-lateral training. Expanded ACGU network training capability to allow connectivity of national command and control networks with training network to add a significant degree of realism to ACGU training events. • Initiated JFCOM/Navy/Air Force Cross Domain Information Sharing Pilot Program (Navy as Lead Service) to research and develop a network guard, cross domain solution suitable for use across spectrum of US networks, which include addition of coalition partners. •Completed Phase II development, and integration of the Operational Forces Command and Control network at Naval Air Station Fallon Range Complex which will provide a threat Integrated Air Defense System and enhance training environment realism. Initiated Phase III development which will result in integration of target data receivers, Fox Plot Extractors, Test and Training Enabling Architecture, and threat radars. •Completed hardware/software installation for the display of Link-16 data on the Large Area Training Range displays. •Completed Battlefield Communication Simulation System, increment two, development for Navy application which resulted in successful installation onboard the USNS Prevail. Initiated increment three for Air Force Special Operations Command application which will provide a remote controlled simulated integrated air defense communications network. •Completed the Multi-Spectral Threat System remote command and control and durability upgrade, and continued developing and integrating full effective radiated power and reactive electronic attack response into existing systems.			

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B. Accomplishments/Planned Programs ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012**
•Continued the Massachusetts Institute of Technologies (MIT) Lincoln Laboratory "Lariat" Information Operations Traffic Generation tool development which provides written communications over training computer networks for Computer Network Attack, Exploitation, and Defense training. •Continued the development of the Sandia Nation Laboratory "Cyber Situational Awareness" providing new analysis algorithms to exploit internet attack data, and prototype situational awareness engine & visualization tools. •Initiated the development of Track Data Fusion Engine/ Adaptable Range Exercise System for incorporation into the 9C2 opposing forces Network at Pacific Alaska Range Complex and Naval Air Station Fallon. •Initiated the development and upgrade to the Multiple Integrated Laser Engagement System (MILES) threat weapon system probability of kill/probability of hit data. Most opposing forces weapon systems use blue forces data which produces/replicates incorrect weapons capabilities. This effort provides updated unclassified probability of kill/probability of hit data. •Initiated Phase I Navy Fury III development. This effort resulted in Fury being used as a ground truth receiver for real world radios and as a communications jammer at Naval Air Station Fallon, and provided installation of Fury on the USNS Prevail and on a mobile platform at Southern California Offshore Range. •Developed automated system interfaces for on-demand data access to external authoritative reference of Universal Joint Task List maintained by Joint Staff J7. This provides real-time cross reference to the authoritative Universal Joint Task definitions for J7 planning and J7 training development. •Completed automation for data input, key word search, and report generation functions of the J7 Training Development process. •Completed workflow automation for Front End Solution Analysis that is part of the J7 Training Development Process. •Develop and implement a Service Oriented Architecture approach for Joint training information applications by creating interfaces between Joint training web applications and the JFCOM Enterprise document management system. This will provide greater access to information and reference document resources. •Continue to gather requirements and refine capabilities for Joint Training data automation. •Develop system integrations and access to enterprise information resources that facilitate improved planning processes for Joint Training. •Continued the research and engineering effort to support migration of current Joint Training and Enterprise Network (JTEN) 1.0 to JTEN 2.0 capability. This will accomplish Global Information Grid (GIG) alignment for future transition that will enable the Joint training environment through a GIG service. *FY 2012 Plans:* •Develop, integrate, test, and deliver Joint After Action Review Resource Library (JAAR-RL) Block 6, an enterprise solution which enables near-real time and post event assessment of Joint Warfighter performance leveraging previous R&D investments made in the test and training communities by integrating Service and DoD capabilities previously developed. Begin research, development,			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
and testing of advanced data mining technologies to leverage JAAR-RL capabilities deployed to the Joint training programs to support warfighter performance assessment. •Develop, test, and release the FY12 update of the JNTC Test and Training Enabling Architecture (TENA) Logical Range Object Model (LROM), incorporating changes made in the TENA middleware and Service live training range capabilities. Enables Joint and Service live ranges to take advantage of the new capabilities provided in the middleware and changes to Service live range capabilities enabling interoperable instrumentation between Service training ranges and instrumentation systems delivering new Joint capabilities IAW the T2 I-plan initiative, "3.3. Range Modernization."			
Accomplishments/Planned Programs Subtotals	17.825	19.559	11.818

C. Other Program Funding Summary ($ in Millions)

Line Item	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
• 0804767D8Z: *JNTC O&M Funding*	65.600	60.505	64.557		64.557	64.248	63.385	63.039	61.778	Continuing	Continuing
• 0804767D8Z-: *JNTC Procurement Funding*	13.590	25.650	23.722		23.722	28.011	25.575	25.412	24.904	Continuing	Continuing

D. Acquisition Strategy

  N/A

E. Performance Metrics

  The USJFCOM Joint Warfighting Center (JWFC) Joint Force Trainer Enterprise Resource Planning Board (JFT ERPB) established in FY07 reviews all RDT&E equities. The JFT ERPB consists of senior technical, operational, program manager, and stake holder representatives within the Joint Force Trainer Community. The board's responsibilities encompass merging and prioritizing technical training requirements. It apportions work to the RDT&E elements based on an assessment of where the work is best accomplished. The board will evaluate the efficacy of development efforts based on performance metrics and will vote on whether or not to continue the effort. This process will ensure the Joint Force Trainer capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, money, realism, and fidelity as defined below:

  •   Time – Will the effort enable the Joint Force Trainer to prepare and execute training more timely than current capabilities allow?
  •   Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?
  •   Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?
  •   Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?

Exhibit R-2A, **RDT&E Project Justification:** PB 2012 Office of Secretary Of Defense		**DATE:** February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	**PROJECT** 758: *JOINT NATIONAL TRAINING CAPABILITY (JNTC)*

The ERPB is the strategic management forum where the outcomes of performance relative to our external customers, stakeholders, and strategic stewardship of resources are the focus of discussion. Performance against the targets will be assessed and reported monthly, briefed quarterly to the ERPB, and rolled up into the JWFC Joint Training End-of-Fiscal Year Performance Report to ensure transparency and accountability.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Office of Secretary Of Defense		DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	PROJECT 759: *JOINT INNOVATIVE TRAINING METHODS & TOOLS (JITMT)*

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
759: *JOINT INNOVATIVE TRAINING METHODS & TOOLS (JITMT)*	1.970	1.994	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Joint Force Trainer supports development capabilities in Joint simulations to eliminate training gaps identified by the Combatant Commanders (COCOMs) and in accordance with Secretary of Defense's Training and Transformation objectives. In accordance with the Unified Command Plan 2006, US Joint Forces Command (JFCOM), Joint Warfighting Center leads the development and implementation of system architectures that directly support distributed Joint training requirements of the other COCOMs, Joint Task Forces, and Defense Agencies. The underlying premise of JITMT centers on privatization of training support and development with the competitive market forces driving the development of technologies to reduce the cost of training. The creation of a JFCOM Joint Oversight Board establishes a governance process to review the effectiveness of the tools and the providers. Management of the toolkit, which is a set of capabilities, and system certified technologies that are interoperable and acceptable for usage within the Joint training environment and supports; Joint Exercises, Doctrine, Lessons Learned, Distributed Learning, and Modeling & Simulation (M&S). There will be a government-led Consortium with industry and academia that ensures the tools in the toolkit comply with the requirements of the common architecture. A number of emerging technologies from Industry, Government and Academic sources that offer the greatest potential to reengineer Joint training are considered for training use. These technologies include Light Simulations, Light Federations, Story-Driven Training, Massively-Multi-player Games, Training Objective Driven Simulation, Embedded Training, and Joint Community Unique Simulations

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: P759 Joint Training Capability Analysis of Alternatives (TCAoA) *Description:* This effort provides innovative acquisition strategy to foster reuse of data, software and components to support a modular joint training system toolkit and reduce the cost of training. JITMT also has a component that reengineer's joint training for more effective learning in realistic environments, enables individual and collective training and mission rehearsal through performance based learning in virtual, gaming and mixed reality environments and develops efficient next generation agile architectures and common standards that provide flexibility and adaptability as required by the CCJO and next generation training strategy. These efforts increase warfighter Joint training capabilities with improved constructive simulations and streamlined acquisition processes, leveraging industry training methodologies and technologies to provide on-demand Joint training tailorable to COCOM requirements for Joint Task Force headquarters staffs and individuals. *FY 2010 Accomplishments:* • Provided a course training task analysis on the Defense Support to Civil Authorities (DSCA) course.	1.970	1.994	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Office of Secretary Of Defense		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	**PROJECT** 759: *JOINT INNOVATIVE TRAINING METHODS & TOOLS (JITMT)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
• Developed procurement package for full and open competitive contract to enhance and standardized DSCA course. • Integrated Joint Composable Object Model common standards and open architectures to support net-centric data strategy and enable interoperability of mixed architecture training environments. • Developed integrating architecture ontology for High Level Architecture (HLA) 1.3, HLA 1516 evolved, Test and Training Enabling Architecture, Distributed Inactive Simulation and Common Training Instrumentation Architecture to support proof of concept evaluation for JLVC federation integration of new systems. • Delivered first Technical and Operational Demonstrations of Future Immersive Training Environment. This enhances small unit home station training through inoculation of cognitive, visual, audio, thermal, olfactory effects and chaos of battle in a fully immersive live virtual constructive environment. • Performed an Expeditionary Theater Opening Doctrine, Organization, Training, Materiel, Leadership and education, Personnel and Facilities Change Recommendation Front End Analysis (FEA) and identified potential program savings for way ahead. • Developed, integrated and demonstrated Joint Conflict and Tactical Simulation and Chemical Biological Simulation capability in the Chemical, Biological, Radiological, Nuclear and high yield Explosives Tactical Training System. *FY 2011 Plans:* •Enhanced emerging technologies such as immersive virtual technologies, story driven training and massive-multiplayer online game technology to develop two new prototypes for Joint community unique simulations in support of JITMT gaps. • Implemented DSCA Front End Analysis recommendations. • Developed and Refined Defense Support Civil Authorities (DSCA) courseware proof of concept. • Investigated and Identified other National Planning scenario candidates for inclusion in the JLVC and DSCA Small Team Immersive Training Capability (STITC). • Designed the multi-architecture framework proof of concept exercise planning and execution. • Developed LVC Architecture Framework (LVCAF) repository proof of concept. • Performed FEA for Joint Theater Level Simulation (JTLS). • Developed innovative acquisition package for restructure of JTLS. • Enhanced existing web-based, immersive technologies simulations to enable advanced problem solving, enhanced decision-making, and leadership skills for the Joint, Interagency, Intergovernmental and multi-national players deployed in Global War on Terrorism. • Commenced implementation of an over-arching M&S vision strategy (gaming, immersive, etc.) that is Joint training focused, yet coordinated with Service training capability requirements and RDT&E plans to identify future innovative prototypes and acquisition strategies (long term Measures of Effectiveness).			

Exhibit R-2A, **RDT&E Project Justification:** PB 2012 Office of Secretary Of Defense		**DATE:** February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	**PROJECT** 759: *JOINT INNOVATIVE TRAINING METHODS & TOOLS (JITMT)*

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012**
• Researched and developed a Service Orientated Architecture construct for Joint training federation, and implement a live, virtual, and constructive capability to support COCOM and North Atlantic Treaty Organization (NATO) events. • Developed Net-Centric Data Strategy (NCDS) for terrain, order of battle, weather, targeting, and infrastructure that provides faster and higher-fidelity mission rehearsals through improved interoperability. • Analyzed the effectiveness of using Massively Multiplayer Games, Story-Driven Training, and Light Simulations/Federations for COCOM training requirements. • Enhanced small unit home station training through inoculation of cognitive, visual, audio, thermal, olfactory effects and chaos of battle in a fully immersive live virtual constructive environment. ***FY 2012 Plans:*** •			
Accomplishments/Planned Programs Subtotals	1.970	1.994	-

C. Other Program Funding Summary ($ in Millions)

Line Item	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
• 0804767D8Z: *PROC-Joint Innovative Training Methods & Tools (JITMT)*			1.169		1.169	1.239	1.092	1.110	1.132	Continuing	Continuing

D. Acquisition Strategy

  N/A

E. Performance Metrics

  The USJFCOM Joint Warfighting Center (JWFC) Financial Management Board (FMB) and Contract Acquisition Management Board (CAMB) review all Research Development Test and Evaluation (RDT&E) equities. The JWFC FMB/CAMB consists of senior technical, operational, program manager, and stakeholder representatives within the Joint Force Trainer Community. The board's responsibilities encompass merging and prioritizing technical training requirements. It apportions work to the RDT&E elements based on an assessment of where the work is best accomplished. The boards evaluate the efficacy of development efforts based on performance metrics and will vote on whether or not to continue the effort. This process will ensure the Joint Force Trainer capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, money, realism, and fidelity as defined below:
  • Time – Will the effort enable the Joint Force Trainer to prepare and execute training more timely than current capabilities allow?
  • Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?
  • Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?

Exhibit R-2A, **RDT&E Project Justification:** PB 2012 Office of Secretary Of Defense		**DATE:** February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	**PROJECT** 759: *JOINT INNOVATIVE TRAINING METHODS & TOOLS (JITMT)*

• Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?

The Performance Improvement and Information Management Board is the strategic forum where the outcomes of performance relative to our external customers, stakeholders, and strategic stewardship of resources are the focus of discussion. Performance against the targets will be assessed and reported monthly, briefed quarterly to the FMB/CAMB, and rolled up into the JWFC Joint Training End-of-Fiscal Year Performance Report to ensure transparency and accountability.

Short Term MOEs:
• One innovative acquisition strategy that will provide effective team training events at 85% of current training costs to achieve the same training and mission rehearsal objectives, and utilize advanced distance learning online via courseware, prior to convening resident training.
• Two innovative training prototypes per year, that allows training audiences to master 80% of training objectives. This includes online courseware, agile architectures and common standard development with testing and certification to allow training audience to master vast knowledge prior to entering a traditional classroom situation.

Long Term MOEs:
• Develop Joint Theater Level Simulation innovative acquisition strategy, that provides replacement of an obsolete model. New product should provide effective staff level training at 65% of current training costs to achieve the same training and mission rehearsal objectives. This will allow for the implementation of standardized training for DoD, Agency and Coalition students. This standardized training capability will provide uniform knowledge, capabilities and individual skills for staff level participants.
• Eight innovative training prototype capabilities, each tested with an immersive capstone event leveraging working knowledge of policy, tactics and procedures, which will allow training audiences to master 90% of training objectives.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Office of Secretary Of Defense		DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	PROJECT 761: *JOINT SIMULATION SYSTEMS (JSS)*

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
761: *JOINT SIMULATION SYSTEMS (JSS)*	7.310	7.208	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Secretary of Defense Program Decision Memorandum dated 12 Dec 2003 tasked USJFCOM with the responsibility of maintaining JSS software and establishing a Software Support Facility at the Joint Warfighting Center, This program supports the development of capabilities in Joint simulations to eliminate COCOM identified training gaps.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: P761 Joint Simulation System (JSS) *Description:* This effort provides warfighters with enhanced Joint Live, Virtual, and Constructive (JLVC) based training capabilities resident in the Joint Force Trainer Toolkit (JFTT). The JFTT is a set of training enablers, and "certified systems" that are interoperable and acceptable for usage within the Joint training environment. The JFTT is a one-stop shop that enables Services, COCOMs, Agencies and Coalition partners to deliver trained, capable, and interoperable Joint Forces. *FY 2010 Accomplishments:* • Enhanced logistics modeling-and-simulation (M&S) capabilities to fully support global deployment requirements of U.S. Transportation Command. • Provided an initial Marine Corps air and amphibious capabilities through the integration Marine Air Ground Task Force Tactical Warfare System • Enhanced the Air Force's Air and Space Collaborative Environment Information Operations Suite (ACE-IOS) to provide a more robust intelligence capability. • Implemented an initial psychological operations capability in the Joint, Live, Virtual (JLVC), and Constructive Federation. • Established data services for terrain,, weather, targeting, and infrastructure, to provide faster and higher-fidelity mission rehearsals for both constructive models and gaming engines. • Provided enhanced signal intelligence (SIGINT) capability in the JLVC by integrating the Joint Cryptologic Mission Simulation trainer. *FY 2011 Plans:* • Documented existing standards and protocols needed to enable greater virtual trainer integration into the JLVC.	7.310	7.208	-

Exhibit R-2A, **RDT&E Project Justification:** PB 2012 Office of Secretary Of Defense		**DATE:** February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	**PROJECT** 761: *JOINT SIMULATION SYSTEMS (JSS)*

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012**
• Provided an initial Integrated Air and Missile Defense M&S capability for training audiences from the Strategic to Service component level within the JLVC. • Identified and document technical requirements for an initial M&S Space training capability. • Enhanced and integrated Marine Corps air and amphibious capabilities through the integration Marine Air Ground Task Force Tactical Warfare System within the JLVC. • Provided an initial low cost /low overhead M&S training capability. *FY 2012 Plans:* •			
Accomplishments/Planned Programs Subtotals	7.310	7.208	-

C. Other Program Funding Summary ($ in Millions)

   N/A

D. Acquisition Strategy

   N/A

E. Performance Metrics

   The USJFCOM Joint Warfighting Center (JWFC) Financial Management Board (FMB) and Contract Acquisition Management Board (CAMB) review all Research Development Test and Evaluation (RDT&E) equities. The JWFC FMB/CAMB consists of senior technical, operational, program manager, and stakeholder representatives within the Joint Force Trainer Community. The board's responsibilities encompass merging and prioritizing technical training requirements. It apportions work to the RDT&E elements based on an assessment of where the work is best accomplished. The boards evaluate the efficacy of development efforts based on performance metrics and will vote on whether or not to continue the effort. This process will ensure the Joint Force Trainer capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, money, realism, and fidelity as defined below:

• Time – Will the effort enable the Joint Force Trainer to prepare and execute training more timely than current capabilities allow?
• Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?
• Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?
• Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?

The Performance Improvement and Information Management Board is the strategic forum where the outcomes of performance relative to our external customers, stakeholders, and strategic stewardship of resources are the focus of discussion. Performance against the targets will be assessed and reported monthly, briefed quarterly to the FMB/CAMB, and rolled up into the JWFC Joint Training End-of-Fiscal Year Performance Report to ensure transparency and accountability.

   Short Term MOEs:

Exhibit R-2A, **RDT&E Project Justification:** PB 2012 Office of Secretary Of Defense		**DATE:** February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	**PROJECT** 761: *JOINT SIMULATION SYSTEMS (JSS)*

• Provide the JLVC Federation version 4.0 by 30 July 2010 to enable Services, COCOMS, Agencies and Coalition partners to deploy trained, capable, and interoperable joint forces.
o JLVC version 4.0 is delivered on time with less than ten priority one and two problem trouble reports.
o JLVC version 4.0 has an exercise availability rating of 95% .
• Provide the JLVC Federation version 4.1 by 30 Dec 2010 to enable Services, COCOMS, Agencies and Coalition partners to deploy trained, capable, and interoperable joint forces.
o JLVC version 4.1 is delivered on time with less than ten priority one and two problem trouble reports.
o JLVC version 4.1 has an exercise availability rating of 95%.

Exhibit R-2A, **RDT&E Project Justification:** PB 2012 Office of Secretary Of Defense			**DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	**PROJECT** 764: *IRREGULAR WARFARE (IW)*

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
764: *IRREGULAR WARFARE (IW)*	3.700	17.772	11.515	-	11.515	14.953	16.171	17.309	17.571	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This research and development effort closes training gaps at the tactical and operational level and ensures the General Purpose Forces (GPF) receive relevant immersive, pre-deployment training equal to that provided to Special Forces. This effort researches, develops and integrates combat immersive human terrain/cueing/ profiling training, security force assistance training, counter threat finance training, virtual predator integration testing and training, asymmetric warfare improvised explosive device defeat training, improved mission rehearsal exercise after action review capability,, and distributed training technologies to provide irregular warfare training for the GPF. As part of a national effort, irregular warfare functional training research and development integrates and leverages academic, COCOM, Interagency, Joint, and Service initiatives and hybrid threat tactical and technical ground, aviation and maritime subject matter expertise to improve the combat performance of expeditionary forces in complex operating environments.   Joint National Training Center irregular warfare research and development avoids duplicative efforts and achieves integration and synergetic training effects through coordination efforts within an irregular warfare community of interest in order to convert current operational practices, human, cultural and social science schools of thought, as well as state of the art virtual and constructive modeling and simulation capabilities to increase the combat proficiency and survival of jointforces across the full spectrum of warfare.

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012**
Title: P764 Irregular Warfare	3.700	17.772	11.515
Description: Description: This research and development effort closes training gaps at the tactical and operational level and ensures the General Purpose Forces (GPF) receive relevant immersive, pre-deployment training equal to that provided to Special Forces. This effort researches, develops and integrates combat immersive human terrain/cueing/profiling training, security force assistance training, counter threat finance training, virtual predator integration testing and training, asymmetric warfare improvised explosive device defeat training, improved mission rehearsal exercise after action review capability,, and distributed training technologies to provide irregular warfare training for the GPF. As part of a national effort, irregular warfare functional training research and development integrates and leverages academic, COCOM, Interagency, Joint, and Service initiatives and hybrid threat tactical and technical ground, aviation and maritime subject matter expertise to improve the combat performance of expeditionary forces in complex operating environments. Joint National Training Center irregular warfare research and development avoids duplicative efforts and achieves integration and synergetic training effects through coordination efforts within an irregular warfare community of interest in order to convert current operational practices, human, cultural and social science schools of thought, as well as state of the art virtual and constructive modeling and simulation capabilities to increase the combat proficiency and survival of joint forces across the full spectrum of warfare.			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Office of Secretary Of Defense		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	**PROJECT** 764: *IRREGULAR WARFARE (IW)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
FY 2010 Accomplishments: • Conducted a web based IW modeling and simulation study to identify and create an intuitive IW search engine for scenario development. Study identified universal software formats and content that can be transferred into a standard software language in order to develop a collaborative IW modeling and simulation user community throughout the DoD and other governmental agencies. Created an easily used intuitive IW web based search process based upon 'high-level content object models' searchable across the domain of governmental and non-governmental systems on an array of digital formats . • Delivered a common IW modeling and simulation joint training environment to support GPF-SOF integration. The Joint Training Data Systems IW Repository significantly expands the existing Joint terrain generation capabilities within the Joint Training Environment. • Initiated an IW simulation environment that provides a gaming storyline and cueing/profiling models that replicate crowd behavior, insurgent and local population profiles and the associated effects of disrupting terrorist networks for incorporation into mission rehearsal gaming trainers. • Conducted initial research and development into a Virtual Mission Rehearsal Training Capability for SOFs. This capability will prepare SOFs for real-world rehearsal activities through the integration of live feeds. The system permits trainees to gain access to and input time-sensitive data whereby the tactical value necessitates supplementing or updating into planning and rehearsal outcomes. This allows small units and individuals to be prepared to conduct the full range of military operations in ground, air, and maritime environments. An integrated architectural strategy provides commanders the ability to make critical decisions before committing scarce resources. • Initiated an indigenous population study for inclusion into realistic training programs. Study includes cultural strategic communication and stems from a gap in current capabilities within the Joint Training Environment to provide training stimuli culture based on Joint Training Plan objectives. • Demonstrated and successfully assessed a fully immersive training environment (i.e. the Future Immersive Training Environment (FITE) Joint Technology Concept Demonstration (JTCD) for dismounted, close-combat missions/tasks, that emulate and reinforce complex tactical combat and human decision-making during contingency operations, for inclusion into Service training programs • Conducted an Adversarial Behavior Study to enhance and modify joint mission rehearsal/readiness exercises training scenarios.. Study provides an understanding of the decision making process of the adversary and elaborates on how the decision making process effects the leaders, individuals within the adversarial groups and their alliances. Findings influence both the planning and execution of the experiments and exercises through the development of the scenario, mission rehearsal and academic preparation. *FY 2011 Plans:*			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Office of Secretary Of Defense		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	**PROJECT** 764: *IRREGULAR WARFARE (IW)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
.•Designed and developed an integration and connectivity capability for an asymmetric warfare training capability that links virtual, constructive and various gaming Improvised Explosive Device (IED) Defeat simulators to a constructive simulation capability, aircraft and Intelligence, surveillance and Reconnaissance (ISR) simulators across various distributive networks. • Conducted initial research and development of Afghan Mission Network Training Federation for coalition and joint exercises, ensuring interoperability and development of C2 DOTMLPFs. • Initiated development and delivery of a Counter Threat Finance program prototype for inclusion in training programs and pre-deployment mission rehearsals. The development of Counter Threat Finance training program prototype provided flexible means for Department of Defense to facilitate future training among interagency, law enforcement, private sector, allies, and partner nations. • Provided a human/crowd reaction model to various stimuli (i.e a Human Terrain Model) and IW Scenario Library for collaborative joint use in Service pre-deployment mission rehearsals. • Initiated Development of an Enhanced Scenario Based Observation Tool prototype capability. This capability is designed to improve mission rehearsal exercise after action reporting capability in dynamic and complex operational training environments. • Initiated development of Security Force Assistance Special Operations Forces-General Purpose Forces integrated training program of instruction in support of Services home station training and Joint Task Force Headquarters pre-deployment exercises. • Develop a virtual predator broadcast integration capability at Nellis test and training range. System will provide integrated intelligence, surveillance and reconnaissance training to support joint training exercises and Services home station training when live air assets are unavailable. • Conducted research and development to develop three new scenarios for Special Operations Forces-General Purpose Forces irregular warfare staff training using the Small Group Scenario Trainer. • Continued development of Virtual Mission Rehearsal training capability for Special Operations Forces which will prepare them for real-world rehearsal activities. Expands on the software and hardware integration engine that allows multiple inputs into a near-real time gaming systems for mission rehearsal practice. Develop Joint Live-Constructive-Virtual integration capability for close air support and Joint Intelligence Surveillance and Reconnaissance (JISR) operations in a Counterinsurgency (COIN) environment through rapid scenario development and integrated support to joint rehearsal and training exercises. • Developed and integrated an Immersive Training capability into Service and Joint Training programs of record. Of particular note, implemented small unit system prototype laboratories focused on a reconfigurable and modular approach to software development which enables increased variable adjustment in order to respond to operational realities. • Developed and produced geospatial data products for US Army virtual simulation systems for use in Military Units on Urban Operations (MOUT) sites and Combat Training Centers to support mission rehearsal and sustainment training. • Conducted Joint Terminal Attack Controller: training effectiveness evaluation cost benefit assessment and study.			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Office of Secretary Of Defense		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	**PROJECT** 764: *IRREGULAR WARFARE (IW)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
• Conducted Stability Operations Information Cell study to develop joint training standards for irregular warfare operations information management training in support of Stability, Security, Transition and Reconstruction operations. • Demonstrated development of Joint Enabled Immersive Technology Insertion training capability. • Developed a rapid deployable joint, live, virtual, constructive irregular warfare aviation training capability for USAF units. • Continued development of the US Army's One Semi-Automated Forces (OneSAF) comprehensive simulation of extant counter improvised explosive device technologies including unclassified associated tactics, techniques and procedures, organization, equipment, and US Army Materiel Systems Analysis Activity validated physical models. *FY 2012 Plans:* •Conduct research and development in the creation of Strategic Communications and Information Operations training program. • Continue research and development of intelligence, surveillance and reconnaissance processing, exploitation, and dissemination joint training capabilities. • Continue analysis of COCOM IW training requirements to replicate the fluid operating environment. Analysis will concentrate on the identification of training gaps, adaptation to emerging requirements and incorporation into Service training and pre-mission rehearsal exercises. Goal is to mitigate key IW capability gaps identified by Quadrennial Defense Review (QDR), IW Joint Operating Concept (JOC), COCOM Integrated Priority List (IPLs), JFCOM Joint Training Plan (JTP) and other IW capability requirement documents. • Continue research and development to codify Special Operations Forces-General Purpose Forces training integrated 'best practices' into joint training. • Continue research and development of joint counterinsurgency training standards. • Continue research into IW areas in order to develop artificial intelligence and simulation models for live units to train with reactive virtual OPFOR and neutral civilian personnel through state of the art software technologies such as virtual worlds and other gaming technologies. • Continue Joint Live-Constructive-Virtual integration training capability for close air support and Joint intelligence, surveillance, reconnaissance operations in a counterinsurgency environment through rapid scenario development and integrated support to joint rehearsal and training exercises.			
Accomplishments/Planned Programs Subtotals	3.700	17.772	11.515

C. Other Program Funding Summary ($ in Millions)

Line Item	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
• 0804767D8Z: *IW O&M Funding*	2.625	5.298	5.323		5.323	5.479	5.597	5.765	5.649	Continuing	Continuing

UNCLASSIFIED

Exhibit R-2A, **RDT&E Project Justification:** PB 2012 Office of Secretary Of Defense		**DATE:** February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	**PROJECT** 764: *IRREGULAR WARFARE (IW)*

C. Other Program Funding Summary ($ in Millions)

Line Item	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
• 0804767D8Z-: *IW Procurement Funding*	1.190	2.535	2.682		2.682	2.869	2.555	2.623	2.675	Continuing	Continuing

D. Acquisition Strategy

 N/A

E. Performance Metrics

 The USJFCOM Joint Warfighting Center (JWFC) Financial Management Board (FMB) and Contract Acquisition Management Board (CAMB) review all Research Development Test and Evaluation (RDT&E) equities. The JWFC FMB/CAMB consists of senior technical, operational, program manager, and stakeholder representatives within the Joint Force Trainer Community. The board's responsibilities encompass merging and prioritizing technical training requirements. It apportions work to the RDT&E elements based on an assessment of where the work is best accomplished. The boards evaluate the efficacy of development efforts based on performance metrics and will vote on whether or not to continue the effort. This process will ensure the Joint Force Trainer capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, money, realism, and fidelity as defined below:
• Time – Will the effort enable the Joint Force Trainer to prepare and execute training more timely than current capabilities allow?
• Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?
• Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?
• Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?
The Performance Improvement and Information Management Board is the strategic forum where the outcomes of performance relative to our external customers, stakeholders, and strategic stewardship of resources are the focus of discussion. Performance against the targets will be assessed and reported monthly, briefed quarterly to the FMB/CAMB, and rolled up into the JWFC Joint Training End-of-Fiscal Year Performance Report to ensure transparency and accountability.

 Short Term MOE:
• Provide a 10 % increase in capacity for the number of Soldiers, Sailors, Airmen, and Marines able to be trained in dismounted tactical training systems that replicate the IW operating environment.
• Increase the cognitive and temporal ratings of IW training environments by 10%, thereby increasing realism and reducing the number of close combat casualties sustained by US forces by ensuring that a Soldier, Sailor, Airmen, or Marine's next combat experience is no worse than his last training experience.
• Develop an initial web-based portal capable of displaying valuable information to support the enhancement of small units with a   robust community of interest.
• Conduct three forums related to the human dimension, immersive training and joint capabilities at the small unit level.
• Contribute to DOD-wide immersive training related initiatives.
• Provide a Vision Narrative and a Campaign Plan.

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• By 30 September 10 complete a Joint Combat Hunter program of instruction, and related materials, which focuses on human and environment profiling to be given to all Services and other partners for the enhancement of performance their small units/teams. Profiling skills will give each individual a better sense of his environment and pattern recognition to support identification of adversaries and Improvised Explosives Devices and support negotiations, cultural interactions.

Long Term MOEs:
• Provide a robust and efficient capability to conduct IW Joint Force training that address 90% of the required training objectives and a capacity to support all units that are preparing to deploy into harm's way.
• Provide a Joint roadmap of immersive IW training environment development that allows the Services to reduce duplicated efforts
and enables them to discern logical touch points and leverage each other's work.
• Transition Combat Hunter to Services, Interagency, and Multinational partners as a primary program of record or related program applicable to the partner.
• Complete identification of authorities and roles and responsibilities for multinational consortium that results in sharing of immersive training capabilities.
• Expand the number of small unit partnerships by 50% or more.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Office of Secretary Of Defense									DATE: February 2011	

APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	PROJECT 769: *JOINT KNOWLEDGE DEVELOPMENT & DISTRIBUTION CAPABILITY (JKDDC)*

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
769: *JOINT KNOWLEDGE DEVELOPMENT & DISTRIBUTION CAPABILITY (JKDDC)*	2.170	2.194	1.234	-	1.234	1.614	2.243	1.852	2.322	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Department's requirement is to develop a Joint Individual Training Toolkit of web enabled individual and small group training products and services. Products and services are developed in response to JKDDC stakeholder (COCOMs, Services, and Combat Support Agencies) prioritized training requirements. JKDDC supports a career-long joint learning continuum, joint professional military education and tailored common training standards to Service members for tasks that are jointly executed, resulting in trained, capable, and interoperable joint forces. This supports advanced technology development and enhancement for the Joint Advanced Distributive Learning training community. Emerging JKDDC advanced technology initiatives include the OSD(P&R) mandated collaboration with National Defense University (NDU) Federal Consortium for Virtual Worlds (FCVW) project focused on developing a secure virtual world satisfying web-based requirements for the Joint training community. Current JKDDC advanced technology initiatives principally include the Virtual Cultural Awareness Training (VCAT) web-based gaming and Small Group ScenarioTrainer (SGST), both accessible via the Joint Knowledge Online (JKO) Learning Management System. This capability facilitates the training and preparation of tens of thousands of military and civilian personnel deployment to combat theaters of operation prior to serving in their assigned Joint Task Force (JTF) billets. Specifically, VCAT supports one of the top three identified training shortcomings of returning warriors from United States Central Command (CENTCOM) based JTFs (cultural awareness training). JTF 'battle staffs' will be adequately trained, warriors as individuals and the staffs collectively, based on SGST development, overcoming existent training inadequacies for joint warriors. Significant training deficiencies will be mitigated in critical 'go to war'.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: P769 Joint Knowledge Development & Distribution Capability (JKDDC)	2.170	2.194	1.234
Description: This requirement is to develop a Joint Individual Training Toolkit of web enabled individual and small group training products and services. Products and services developed in response to JKDDC stakeholder (COCOMs, Services, and Combat Support Agencies) prioritized training requirements. JKDDC supports a career-long joint learning continuum, joint professional military education and tailored common training standards to Service members for tasks that are jointly executed, resulting in trained, capable, and interoperable joint forces. This supports advanced technology development and enhancement for the Joint Advanced Distributive Learning training community. JKDDC advanced technology initiatives principally include the Virtual Cultural Awareness Training (VCAT) web-based gaming and Small Group Scenario Trainer (SGST), both accessible via the Joint Knowledge Online (JKO) Learning Management System. This capability facilitates the training and preparation of tens of thousands of military and civilian personnel deployed to combat theaters of operation prior to serving in their assigned Joint Task			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Office of Secretary Of Defense		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	PROJECT 769: *JOINT KNOWLEDGE DEVELOPMENT & DISTRIBUTION CAPABILITY (JKDDC)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Force (JTF) billets. Specifically, VCAT supports one of the top three identified training shortcomings of returning warriors from United States Central Command (CENTCOM) based JTF cultural awareness training. JTF 'battle staffs' will be adequately trained warriors, as individuals and the staffs collectively based on SGST development and overcoming existent training inadequacies for joint warriors. Significant training deficiencies will be mitigated in critical 'go to war' tasks. *FY 2010 Accomplishments:* • Developed VCAT web-based game version 2 (focused on Northern Africa AOR), originally developed with JFCOM Training Capability Analysis of Alternatives RDT&E funding beginning in FY08. Version 2 of this web-based game enhanced joint warrior provided recommendations from version 1 (focused on Horn of Africa AOR), expanded the number of training audience areas of responsibility (AOR) environments to two, integrated Defense Language Institute (DLI) approved language training content, while simultaneously demonstrating an improved capability to deliver training via an innovative training technique. The training readiness and tactical proficiency of thousands of individual augmentees deploying to Central Command's AOR improved via this JKO provided training enabling toolset. • developed SGST version 2, a small group training capability focusing on improving the training readiness of individuals and small joint headquarters staffs has begun. Version 1 prototype was developed with JFCOM Training Capability Analysis of Alternatives RDT&E funding beginning in FY08. Version 2 will enhance joint warrior provided recommendations from version 1, and target development of six additional SGSTs use cases for representative JTF staffs, all designed to complement existing COCOM mission rehearsal exercises in preparation for deployment to combat theaters of operation. Thousands of joint, interagency, intergovernmental and multinational participants were better trained as individuals and collectively as small teams prior to and during deployment in hostile environments. • Provided direct customized instruction through intelligent tutor/avatars based advanced technologies software embedded in learning stimulation to students (without the intervention of human beings) via web-based training courses. Intent was to collaboratively enhance six JKO web-based training courses with the Advanced Distributed Learning Co-Lab by creating instantiations of adaptable intelligent tutor/avatar enabled courses delivered by JKO. Learning return on investment is significant as published academic research stated that learning retention, effectiveness and efficiency can increase by as much as 80% via intelligent tutor/avatar embedded courseware. *FY 2011 Plans:* • Developed VCAT web-based game version 3 (focused on Afghanistan AOR), originally developed with JFCOM Training Capability Analysis of Alternatives RDT&E funding beginning in FY08. Version 3 of this web-based game enhanced joint warrior provided recommendations from version 1 (focused on Horn of Africa AOR) and version 2 (focused on Northern Africa AOR), expanded the number of training audience AOR environments to three, integrated DLI approved language training content, while simultaneously demonstrating an improved capability to deliver training via an innovative training technique. The training			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Office of Secretary Of Defense		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	PROJECT 769: *JOINT KNOWLEDGE DEVELOPMENT & DISTRIBUTION CAPABILITY (JKDDC)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
readiness and tactical proficiency of thousands of individual augmentees deploying to Central Command's AOR improved via this JKO provided training enabling toolset. • Operationalized training stimulation by developing SGST version 2, a small group training capability focused on improving the training readiness of individuals and small joint headquarters staffs. Version 1 prototype was developed with JFCOM Training Capability Analysis of Alternatives RDT&E funding beginning in FY08. Version 2 enhanced joint warrior provided recommendations from version 1, and target development of six additional SGSTs use cases for representative JTF staffs, all designed to complement existing Combatant Command mission rehearsal exercises in preparation for deployment to combat theaters of operation. Thousands of joint, interagency, intergovernmental and multinational participants were better trained as individuals and collectively as small teams prior to and during deployment in hostile environments. • Provided direct customized instruction through intelligent tutor/avatars based advanced technologies software embedded in learning stimulation to students (without the intervention of human beings) via web-based training courses. Intent was to collaboratively enhance twelve JKO web-based training courses with the Advanced Distributed Learning Co-Lab by creating instantiations of adaptable intelligent tutor/avatar enabled courses delivered by JKO. Learning return on investment is significant as published academic research stated that learning retention, effectiveness and efficiency can increase by as much as 80% via intelligent tutor/avatar embedded courseware. *FY 2012 Plans:* • Establish a plan to develop a JKO Online Virtual Immersive Training Environment (JOVITE) in concert with NDU FCVW project focused on joint individuals and small groups pre-deployment and pre-mission rehearsal exercise training. Plan will include a curriculum to guide individuals on required and operational training within the JOVITE focused on Virtual Language and Culture Scenario Training and the Virtual Staff Skills Validation Toolkit. The JOVITE will serve as the culminating event system that will provide Commanders the capability to assess whether or not individuals and small groups within a CJTF Staff are prepared to execute their primary mission within a CJTF or Joint Headquarters Staff. • Introduce SGST version 3, developed to continue achieving joint warrior directed training requirements and improve training readiness of individuals and small joint headquarters staffs. Version 3 will enhance joint warrior provided recommendations from versions 1 and 2, and target development of four additional SGSTs use cases for representative JTF staffs, all designed to complement existing Combatant Command mission rehearsal exercises in preparation for deployment to combat theaters of operation. Thousands of joint, interagency, intergovernmental and multinational participants will be better trained as individuals and collectively as small teams prior to and during deployment in hostile environments.			
Accomplishments/Planned Programs Subtotals	2.170	2.194	1.234

Exhibit R-2A, RDT&E Project Justification: PB 2012 Office of Secretary Of Defense		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	**PROJECT** 769: *JOINT KNOWLEDGE DEVELOPMENT & DISTRIBUTION CAPABILITY (JKDDC)*

C. Other Program Funding Summary ($ in Millions)

Line Item	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
• 0804767D8Z: *JKDDC O&M Funding*	6.840	6.648	6.726		6.726	6.841	6.956	7.120	7.262	Continuing	Continuing
• 0804767D8Z-: *JKDDC Procurement Funding*	0.270	0.279	0.292		0.292	0.309	0.274	0.282	0.288	Continuing	Continuing

D. Acquisition Strategy

  N/A

E. Performance Metrics

  .The USJFCOM Joint Warfighting Center (JWFC) Financial Management Board (FMB) and Contract Acquisition Management Board (CAMB) review all Research Development Test and Evaluation (RDT&E) equities. The JWFC FMB/CAMB consists of senior technical, operational, program manager, and stakeholder representatives within the Joint Force Trainer Community. The board's responsibilities encompass merging and prioritizing technical training requirements. It apportions work to the RDT&E elements based on an assessment of where the work is best accomplished. The boards evaluate the efficacy of development efforts based on performance metrics and will vote on whether or not to continue the effort. This process will ensure the Joint Force Trainer capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, money, realism, and fidelity as defined below:
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  Short Term MOEs:
• Augment the ability to provide cultural context training for COCOM's Joint Mission Essential Task functional areas by one geographic area of responsibility, and two mission areas per year.
• Provide small group training focused on Joint Exercise Life Cycle specified mission areas for pre-requisite in exercise augmentation, or post exercise remediation training for three exercise response cells per year.
• Add context sensitive remediation to five existing Joint Distributed Learning courses per year.

  Long Term MOEs:

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• Provide a systematic, steady-state process for integrating cultural context, small group training, and intelligent remediation requirements into the Joint Training System Phase I of the initiative, resulting in improved training and readiness for the warfighter.

• Provide cost model for evaluating level of effort, additional conditions and standards for cultural context, small group training, and intelligent remediation to Joint Mission Essential Task training solutions for the Joint Training System Phase II, resulting in improved readiness, while providing improved training to the warfighter, will be in place by year five of the initiative.

Exhibit R-2A, **RDT&E Project Justification:** PB 2012 Office of Secretary Of Defense	**DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	**PROJECT** 760: *Congressional Transactions*

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**
760: *Congressional Transactions*	6.389	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Congressional transactions; COCOM Exercise Engagement & Training Transformation Appn Conference $6.4M less Section 8025(f) (-.161), less Section 8104 Economic Assumptions (-.170).

B. Accomplishments/Planned Programs ($ in Millions)

	FY 2010	**FY 2011**	**FY 2012**
Title: P760 Congressional Transactions	6.389	-	-
FY 2010 Accomplishments: Not applicable			
Accomplishments/Planned Programs Subtotals	6.389	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2012 Office of Secretary Of Defense			DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	PROJECT 770: *U.S. Forces Korea Training and Exercise Support*

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
770: *U.S. Forces Korea Training and Exercise Support*	-	10.211	7.504	-	7.504	7.436	4.398	1.442	1.363	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

USFK requires an updated Joint and Combined Training Environment in order to complete their transition by 2012. USFK's current federation of models, including the overarching Joint Training Transformation Initiative Korea is used only at USFK, no longer has Service or JWFC support, does not meet Coalition interoperability requirements, and cannot fully utilize the Joint Live Virtual Constructive (JLVC) Federation's capabilities. USJFCOM will initially conduct technical planning and individual simulation software development in order to complete the detailed technical planning that enables individual simulations to develop their necessary software. USJFCOM, in collaboration with USFK and appropriate Republic of Korea agencies, will then ingrate War Simulation (WARSIM) into the JLVC Training Federation in order to field a functioning JLVC federation to USFK. This new training environment will support the extensive ground order of battle required to accurately simulate operations on the Korean Peninsula. It also maximizes existing JLVC training standards and investments, and fully leverages Service training capabilities and roadmaps. This solution will provide the initial effort to link coalition training architectures into the JLVC as well. It will also promotes the Joint Training Environment vision and goals as described in the draft DoDI 1322.xx and 1322.yy and implement selected pieces of recommendations identified in the LVC report, the Flagship Study.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: USFK Training & Exercise	-	10.211	7.504

Description: This program will develop a Modeling & Simulation solution that is a jointly accredited, supported, and funded federation of constructive simulations capable of satisfying all joint exercise training requirements in the Korean Theater of Operations and that is interoperable with the Republic of Korea developed Korean Simulation System. This solution will be capable of interoperating in a common battlespace that realistically represents the operating environment to all levels of training audiences, tactical to strategic, in Korean theater exercises. While supporting USFK's specific requirements, this solution will contain enhancements that will benefit all users of the JLVC.

FY 2011 Plans:
• Integrated initial Integrated Air and Missile Defense Modeling & Simulation (M&S) training capability within M&S training capability for USFK.
• Initiated WARSIM Capabilities assessment prior to Joint Live Virtual Constructive Integration.
• Began initial integration of Army's ground model as part of USFK's M&S Training capability.
• Conducted technical solutions analysis of USFK Maritime M&S training capability

Exhibit R-2A, RDT&E Project Justification: PB 2012 Office of Secretary Of Defense		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
• Researched and analyzed WARSIM Data Initialization requirements. • Conducted WARSIM Scalability Experiment to meet USFK ground/maneuver training requirements. • Began initial integration of "All Things Missile" Theater Missile Defense M&S Training capabilities in support of USFK. *FY 2012 Plans:* • Integrate Air Force model with WARSIM as a part of USFK's M&S training capability. • Complete USFK technical planning to include development of detailed implementation plan. • Develop USFK network evaluation and implementation plan and timeline. • Initial software development for JLVC simulations. • Develop Joint Logistics M&S training capability.			
Accomplishments/Planned Programs Subtotals	-	10.211	7.504

C. Other Program Funding Summary ($ in Millions)

Line Item	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
• 0804767D8Z: *U.S. Forces Korea Training&Exercise Proc*		0.498	1.193		1.193	1.193	0.298	0.297	0.304	Continuing	Continuing

D. Acquisition Strategy

 N/A

E. Performance Metrics

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The Performance Improvement and Information Management Board is the strategic forum where the outcomes of performance relative to our external customers, stakeholders, and strategic stewardship of resources are the focus of discussion. Performance against the targets will be assessed and reported monthly, briefed quarterly to the FMB/CAMB, and rolled up into the JWFC Joint Training End-of-Fiscal Year Performance Report to ensure transparency and accountability.

Short Term MOEs:
• Develop software for JLVC simulations with initial integration of the Army's Warfare Simulation model (WARSIM), along with a validated approach for Cross Domain Information Sharing technologies for the joint training enterprise, to provide common ground truth and a realistic warfighter training environment.

Long Term MOEs:
• Integrate War simulation into the JLVC to the level of conducting basic direct and indirect fire integration with other federates.
• To provide a training capability for Korean Simulation center to operate within the 5.0/5.1 upgrade of the JLVC.

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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
754: *Immersive Simulation*	-	33.315	21.868	-	21.868	32.605	14.862	17.240	16.950	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

As part of the Department of Defense's shift to building IW capability and recognizing the percentage of casualties taken in close combat, RMD 700 increased funding through Undersecretaries of Defense, Personnel and Readiness to the services and USJFCOM for urgent development of infantry immersive training simulators as part of a broader effort for small unit excellence. While highlighted by the need to adapt simulation now to IW demands, the value of enhanced infantry small unit immersive simulation will contribute to small unit proficiency and survival across the range of military operations, from irregular to conventional.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: Immersive Simulation	-	33.315	21.868
Description: Accelerate fielding of immersive training systems and capabilities inclusive of integrated hardware with virtual enhancements, modular systems and video capture within individual and collective tracking systems. Accelerate development of autonomous behavior capabilities through development of Opposing Force and Blue Force Behavior, Common SAF in Synthetic Environment, and enhancement of current software (Virtual Battlespace 2). These expenditures will improve 119 behaviors models, establish 50 new entities, 50 new visual models/year, 50 BLUEFOR Behaviors, improve Avatar capability and enhance interactions. *FY 2011 Plans:* • Develop a strategic design and engineering plan to build two close combat/infantry immersive simulators. • Design and test an evaluation plan to ensure efficacy of the effort.			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Office of Secretary Of Defense		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	**PROJECT** 754: *Immersive Simulation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
• Develop a rapid prototyping document describing fundamentals and outlining coordination of this close combat/infantry immersive training simulator, to ensure DoD-wide awareness. • Develop a facility plan and acquire space for a fully enclosed training facility area that accommodates platoon/squad elements and adapts to other small units in future environments, with additional working space for control/operations functions, classroom, after action and rehearsal capacity, and storage/admin space. • Develop innovative training approaches, strategies, and methodologies for essential personnel, logistics and support structure to meet training requirements and instructions. • Develop a simulator capable of replicating joint capabilities, Afghanistan theater C2 architecture and data/voice links to other select simulators and facilities. • Achieve realistic sounds and visual cues replicating ambient noise and visual stimulus. • Develop an initial capability that advances two and three dimensional displays, capable of creating realistic projected virtual entities with Afghanistan cultural and language abilities; fully integrated with select role players and, realistic weapon's effects during force on force actions. • Develop and build an initial prototype individual tracking of trainees/role players, weapons locations and trainee head orientation. The after action report (AAR) system will use and integrate scenario development or mission rehearsal tools in order to automate data capture of significant training decision events. • Develop sophisticated measurement and assessment systems that records and plays back each trainee, role player, and simulated entities movements, orientation, and communications. • Develop an initial prototype responsive integrating scenario generation software tool, linked to Mission Essential Task List based training standards, cognitive decision requirement standards, and innovative instructional tools. • Develop a realistic static and reconfigurable training structure, to include multi-story structures, and an ability to support future power and infrastructure upgrades. • Develop an initial prototype simulator capable of creating limited environmental conditions (wind, heat & cold) and designed to accept future environmental capabilities, such as humidity and rain. ***FY 2012 Plans:*** • Purchase WARSIM Test Suite. • Enhance technical planning to include development of detailed implementation plan. • Research WARSIM Data Initialization requirements. • Conduct WARSIM Scalability Experiment. • Develop network evaluation and implementation plan and timeline. • Initial software development for JLVC simulations.			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Office of Secretary Of Defense		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	**PROJECT** 754: *Immersive Simulation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
• Provide cross domain information sharing solution between USFK and ROK forces.			
Accomplishments/Planned Programs Subtotals	-	33.315	21.868

C. Other Program Funding Summary ($ in Millions)

  N/A

D. Acquisition Strategy

  N/A

E. Performance Metrics

  The funds allocated for Immersive Simulation are
designed to speed delivery of capability for small teams for training. Use of
the funds will be audited against the metric of how quickly improvements for
immersive simulation are delivered. These metrics will be evaluated by a panel
of flag and general officers on a quarterly basis. Performance metrics
include, but are not limited to; time, money, realism, and fidelity as defined
below:
. Time - Will the effort enable the Joint Force Trainer to prepare and
execute training more timely than current capabilities allow?
. Cost - Will the effort enable the Joint Force Trainer to prepare and
execute training at a more effective and efficient cost than current
capabilities allow?
. Realism - Will the effort enable the Joint Force Trainer to create a
training environment that is closer to the real world environment than current
capabilities allow?
. Fidelity - Will the effort enable the Joint Force Trainer to create more
detailed capabilities in the training environment than current capabilities
allow?

Exhibit R-2A, RDT&E Project Justification: PB 2012 Office of Secretary Of Defense		DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	PROJECT 701: *Air Force 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
701: *Air Force JNTC*	-	-	2.408	-	2.408	2.023	2.286	2.689	2.765	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Supports the SECDEF's Transformation in Training/Joint National Training Capability (JNTC). Develops capabilities that integrate live, virtual, and constructive elements into a seamless joint training environment. Using a scientific and phased approach and focusing on modeling air and space capabilities, researches new technologies and methods that provide a crucial technology-based foundation supporting all JNTC operations.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: AF JNTC *Description:* Supports the SECDEF's Transformation in Training/Joint National Training Capability (JNTC). Develops capabilities that integrate live, virtual, and constructive elements into a seamless joint training environment. Using a scientific and phased approach and focusing on modeling air and space capabilities, researches new technologies and methods that provide a crucial technology-based foundation supporting all JNTC operations. *FY 2012 Plans:* AIR WARFARE SIMULATION (AWSIM) UPGRADES: Continue Air Force Modeling & Simulation Tool Kit (AFMSTT) Scenario and Terrain module development. BEGIN/CONTINUE MULTI-LEVEL SECURITY: Live Multi-level Security for Virtual-Constructive BEGIN/CONTINUE CONCEPT OF OPERATIONS FOR SPACE Distributed Mission Operations Center (DMOC): Continue space effects and GPS jamming integration into JNTC	-	-	2.408
Accomplishments/Planned Programs Subtotals	-	-	2.408

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

Exhibit R-2A, **RDT&E Project Justification:** PB 2012 Office of Secretary Of Defense		**DATE:** February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	**PROJECT** 701: *Air Force JNTC*

E. Performance Metrics

The USJFCOM Joint Warfighting Center (JWFC) Financial Management Board (FMB) and Contract Acquisition Management Board (CAMB) review all Research Development Test and Evaluation (RDT&E) equities. The JWFC FMB/CAMB consists of senior technical, operational, program manager, and stakeholder representatives within the Joint Force Trainer Community. The board's responsibilities encompass merging and prioritizing technical training requirements. It apportions work to the RDT&E elements based on an assessment of where the work is best accomplished. The boards evaluate the efficacy of development efforts based on performance metrics and will vote on whether or not to continue the effort. This process will ensure the Joint Force Trainer capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, money, realism, and fidelity as defined below:

• Time – Will the effort enable the Joint Force Trainer to prepare and execute training more timely than current capabilities allow?

• Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?

• Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?

• Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?

The Performance Improvement and Information Management Board is the strategic forum where the outcomes of performance relative to our external customers, stakeholders, and strategic stewardship of resources are the focus of discussion. Performance against the targets will be assessed and reported monthly, briefed quarterly to the FMB/CAMB, and rolled up into the JWFC Joint Training End-of-Fiscal Year Performance Report to ensure transparency and accountability.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Office of Secretary Of Defense		DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0804767D8Z: *COCOM Exercise Engagement and Training Transformation (CE2T2)*	PROJECT 772: *Navy 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
772: *Navy JNTC*	-	-	3.611	-	3.611	3.947	4.141	4.316	4.625	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Resource Management Decision (RMD) No: 700, Issue No: INV-5438, Issue Title: Transfer of Navy Joint Training Program. Defers the transfer of Navy Joint Training Research, Development, Test & Evaluation funds to the Combatant Commander's Exercise Engagement & Training Transformation (CE2T2) account until the Joint Forces Command is disestablished. The OUSD (P&R) is to present a more informed proposal for the CE2T2 Program realignments to the OUSD(C) no later than June 30, 2011. Several Combatant Commander Exercise Engagement & Training Transformation (CE2T2) Issue Papers were submitted during this Program/Budget Review Cycle containing elements related to the Joint Forces Command (JFCOM), and therefore in light of the JFCOM disestablishment consideration of these issue papers are deferred until June 30, 2011. This Issue Paper proposes that the Navy Joint Training Research, Development, Test & Evaluation efforts are more appropriately budgeted in CE2T2 program to continue the consolidation of the Department's Joint training funds.

A. Mission Description and Budget Item Justification

Supports the SECDEF's Transformation in Training/Joint National Training Capability (JNTC). Develops unique maritime capabilities that integrate live, virtual, and constructive elements into a seamless joint training environment. Using a scientific and phased approach and focusing on modeling maritime, littoral and bathometric capabilities, researches new technologies and methods that provide a crucial technology-based foundation supporting all JNTC operations.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: Navy Joint National Training Center *Description:* Supports the SECDEF's Transformation in Training/Joint National Training Capability (JNTC). Develops unique maritime capabilities that integrate live, virtual, and constructive elements into a seamless joint training environment. Using a scientific and phased approach and focusing on modeling maritime, littoral and bathometric capabilities, researches new technologies and methods that provide a crucial technology-based foundation supporting all JNTC operations. *FY 2012 Plans:* 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 Interoperability's.	-	-	3.611

Exhibit R-2A, **RDT&E Project Justification:** PB 2012 Office of Secretary Of Defense		**DATE:** February 2011
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B. Accomplishments/Planned Programs ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012**
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 JLVC FOM development program is the primary means of providing a persistent and interoperable network among the Navy, Joint and Coalition federation components. The Navy JNTC RDT&E Program directly supports the Unified Command Plan (UCP) series and is aligned with the DoD Information Operations (IO) Roadmap.			
Accomplishments/Planned Programs Subtotals	-	-	3.611

C. Other Program Funding Summary ($ in Millions)

  N/A

D. Acquisition Strategy

  N/A

E. Performance Metrics

  • Joint Semi-Automated Forces (JSAF) will have one software release to include documentation; will design and implement upgrades to JSAF consistent 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.

  • Navy Training FOM (NTF) will have one 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.

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• 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.

• 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.