

# UNCLASSIFIED

FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET  
Exhibit R-2

DATE: Feb 2005

BUDGET ACTIVITY: 03

PROGRAM ELEMENT: 0603727N

PROGRAM ELEMENT TITLE: Joint Experimentation

COST: (Dollars in Thousands)

| Project<br>Number<br>& Title                          | FY 2004<br>Actual | FY 2005<br>Estimate | FY 2006<br>Estimate | FY 2007<br>Estimate | FY 2008<br>Estimate | FY 2009<br>Estimate | FY 2010<br>Estimate | FY 2011<br>Estimate |
|---|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| R2497 Joint Experimentation                           |                   |                     |                     |                     |                     |                     |                     |                     |
|   | 107,326           | 105,583             | 112,474             | 113,184             | 109,437             | 115,896             | 118,409             | 120,527             |
| R3145 Joint Combined Training Center (JCTC)           |                   |                     |                     |                     |                     |                     |                     |                     |
|   | 0                 | 0                   | 5,000               | 5,000               | 0                   | 0                   | 0                   | 0                   |
| R3149 Joint Training                                  |                   |                     |                     |                     |                     |                     |                     |                     |
|   | 0                 | 14,095              | 23,575              | 22,691              | 22,092              | 18,522              | 15,577              | 15,067              |
| R3153 Joint National Training Capability (JNTC)       |                   |                     |                     |                     |                     |                     |                     |                     |
|   | 26,150            | 45,944              | 46,894              | 45,806              | 42,641              | 37,371              | 38,213              | 39,558              |
| R9489 Location Specific Digital Fingerprinting (LSDF) |                   |                     |                     |                     |                     |                     |                     |                     |
|   | 0                 | 1,485               | 0                   | 0                   | 0                   | 0                   | 0                   | 0                   |
| <b>Total</b>  | 133,476           | 167,107             | 187,943             | 186,681             | 174,170             | 171,789             | 172,199             | 175,152             |
| <b>PE</b>   |                   |                     |                     |                     |                     |                     |                     |                     |

**A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:** Combatant Commander (COCOM), U.S. Joint Forces Command (USJFCOM) was chartered "as the Executive Agent for conducting joint warfighting concept development and experimentation within the Department of Defense." The Secretary of Defense signed the USJFCOM's Joint Warfighting Experimentation Charter on 15 May 1998. H8150, 22 September 1998, Sec 922, directed the establishment of Joint Warfighting Experimentation.

Each COCOM has input to the priorities for experimentation through the USJFCOM Combatant Commander Engagement program. The future of joint warfighting is the USJFCOM area of responsibility. Joint Experimentation's purpose is to lay the foundation for national security transformation. Development of a coherent joint force starts with aggressive concept development and robust joint experimentation. USJFCOM establishes a common joint context for the DoD, which has already proven to be a powerful tool that fosters coherence, improved stewardship and early interoperability materiel solutions "born joint." Concept development, both Joint and Service, happens through intellectual exploration, focus, and partnerships.

DoD priorities supported by Joint Experimentation: a) Successfully pursue the Global War on Terrorism; b) Strengthen joint warfighting capabilities; c) New concepts of global engagement; d) Transform the joint force;

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e) Homeland Security; f) Optimize intelligence capabilities; and g) Improve Department of Defense processes. We ensure this transformation by exploring, testing, and then establishing new combinations of concepts, capabilities, people, and organizations. Through the process of discovering new capabilities, we can exploit our nation's strengths and advantages while protecting ourselves from asymmetric forces that threaten our strategic superiority. Joint Experimentation implements this transformation mission through a process of discovery, innovation, concept development, and experimentation to provide for optimal joint future force capability.

The Joint Experimentation campaign focuses on developing two distinct products as the result of a two-path strategy on which we base our approach to innovation. The first path is called the Joint Prototype Pathway. This conceptual/prototypical system or doctrine evolves from concept experimentation in concert with our partners. These systems are inserted into real world situations (e.g., U.S. Forces Korea) so that we can expand the experimental ground and refine the concept/prototype at the user level to ensure the solutions work as envisioned. This path is designed to help the Department improve near-term warfighting capabilities now by taking new ideas or concepts that originate on the joint concept development pathway and converting them into physical form, as developmental prototypes. From there, these prototypes are put into the hands of joint warfighters as quickly as possible to validate the capability at the user level. While commanders feel that a number of new concepts offer greater promise than current capabilities, they use them with the understanding that they are part of the continuing refinement process. Some aspects of these concepts were utilized in Operation Enduring Freedom and Operation Iraqi Freedom.

The second path is called the Joint Concept Development Pathway. This path and its products consist of actionable recommendations that result from collaborative experimentation with new concepts and capabilities that focus on the next decade. Based on how these concepts perform at the user level, we make recommendations to senior leaders that help them decide how to invest military resources in the next decade. Work performed on the joint concept development path is dedicated to making long-term improvements to military capability, focusing on making next decade improvements to joint warfighting. Part of the campaign strategy is continuous experimentation using Combatant Commanders' exercises and operations (engagement and combat) across a Distributed Continuous Experimentation Environment (DCEE). USJFCOM designed the DCEE to be a world-class resource designed to support continuous experimentation; a sophisticated network of high-tech model and simulations with a global reach, both virtual and physical. This laboratory is capable of conducting various experiments, either locally or globally and, because of this, our partners, the Services, CC's, allied nations, or various agencies, may participate in experiments at levels specific to their needs and interests.

For joint concept experimentation to be effective, we use four common scenarios that reflect current and future threats based on the geopolitical and military realities we see emerging between now and 2015:

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1) Major Combat operations against an inaccessible adversary who presents a global weapon of mass destruction threat; 2) Joint operations in urban environments; 3) Operations against a non-state actor with significant regional combat capability, weapons of mass effect, and ties to global terrorist operations; and 4) Operations against a faltering or failing state that has regional weapons of mass destruction of mass effect capability. These scenarios are the basis for evaluating the major military challenges that were derived from strategic guidance and input from the Services and CC's. USJFCOM's efforts over the next several years will focus in particular on the following concepts: Achieving decision superiority: shared-situation understanding so that we can make decisions and take action faster than any adversary; Creating coherent effects: Harmonizing military, interagency, and multinational activities at the strategic, operational, and tactical levels against any type of adversary; Conducting and supporting distributed operations: Planning, preparing, and executing simultaneously in multiple theaters and widely distributed points of action within each theater while denying sanctuaries and protecting ourselves from homeland to point of action.

The mission of the Joint Training Center (JNTC) is to develop the capabilities that integrate live, virtual and constructive elements into a seamless joint training environment. JNTC creates joint warfighting conditions through a networked collection of interoperable training sites and nodes that synthesize personnel, doctrine and technology to achieve combatant commander and service training requirements.

USJFCOM has been tasked with the responsibility for maintaining Joint Simulation System (JSIMS) software and establishing a Software Support Facility (SSF) at the Joint Warfighting Center, pending the results of an Analysis of Alternatives (AoA). As a result of the AoA findings, the SSF will further develop additional enhancements to constructive simulations designed to eliminate COCOM training gaps. The center provides the joint training environment with the ability to insert emerging technology or reuse existing systems in the constructive training architecture.

At the July 2004 Australia/US Ministerial Consultations (AUSMIN), the Secretary of Defense (SECDEF) signed an Australian - United States Joint Statement of Principles of Interoperability and affirmed the development of a Joint/Combined Training Center (Capability) (JCTC). The end-state for the JCTC is to enhance high-end training and enable forces to be exercised in Joint/Combined mission essential tasks in order to increase and measure operational capability and preparedness, improve interoperability, facilitate capability development by identifying specific deficiencies that occur in the gaps and seams and develop recommended solutions, and lastly enhance regional security. The JCTC will be linked to DoD's Joint National Training Center (JNTC) as part of the Global Joint Training Infrastructure (GJTI) via USPACOM's Gaming and Simulation Facility (GSF) and eventually USPACOM's Pacific Warfighting Center as a cooperative collection of training sites, nodes, simulations, and events.

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Due to the number of efforts in this PE, the programs described herein are representative of the work included in this PE.

## PROGRAM CHANGE SUMMARY:

|   | <u>FY 2004</u> | <u>FY 2005</u> | <u>FY 2006</u> | <u>FY 2007</u> |
|---|----------------|----------------|----------------|----------------|
| FY 2005 President's Budget Submission           | 137,315        | 167,626        | 173,292        | 171,693        |
| Cong Rescissions/Adjustments/Undist. Reductions | 0              | -1,985         | 0              | 0              |
| Congressional Action                            | 0              | 1,500          | 0              | 0              |
| Non-Pay Inflation Adjustments                   | -127           | 0              | 0              | 0              |
| Program Realignments                            | 0              | 0              | 5,000          | 5,000          |
| Program Adjustments                             | 0              | -34            | 9,630          | 9,971          |
| SBIR Assessment                                 | -3,712         | 0              | 0              | 0              |
| Technical Adjustments                           | 0              | 0              | 21             | 17             |
| FY 2006/2007 President's Budget Submission      | 133,476        | 167,107        | 187,943        | 186,681        |

## PROGRAM CHANGE SUMMARY EXPLANATION:

Technical: Not applicable.

Schedule: Not applicable.

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|------------------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| R2497 Joint Experimentation  | 107,326           | 105,583             | 112,474             | 113,184             | 109,437             | 115,896             | 118,409             | 120,527             |

**A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:** The Joint Experimentation Campaign Plan focuses on high priority tasks assigned to U.S. Joint Forces Command (USJFCOM) through the Defense Planning Guidance (DPG) and the Chairman of the Joint Chiefs of Staff (CJCS) Instructions on Joint Concept Development and Experimentation. These direct USJFCOM to continue development and refinement of, and experimentation with, Rapid Decisive Operations (RDO) as an integrating concept supported by eight functional concepts that provide critical capabilities for Rapid Decisive Operations. These functional concepts are: Knowledge Centric Command and Control (K/C2) comprised of: Common Relevant Operational Picture (CROP), Adaptive Joint Command and Control (AJC2), and Joint Interactive Planning (JIP); Focused Logistics (FL); Information Operations (IO); Assured Access (AA); Strategic Deployment (SD); Operational Net Assessment (ONA); Joint Intelligence, Surveillance and Reconnaissance (JISR) and Effects-Based Operations (EBO).

In FY2003, USJFCOM moved to a continuous experimentation environment. USJFCOM accelerated the Impact/Vision Experiments as a continuous experimentation pathway in addition to the Joint Prototype Pathway for Standing Joint Force Headquarters (SJFHQ) enabling concepts. A series of experiments addressed the challenges of Rapid Decisive Operations -- Next Decade, Joint Operations Concept (JOpsC), and subordinate Joint Operating Concepts (JOC) to integrate concepts in FY 2015 and beyond. The Impact/Vision experiments provide the joint context for exploring how well these future concepts work together to transform joint military capabilities at the operational level of war. In the Campaign Plan 2003, the Combatant Commander of USJFCOM directed that concepts relating to Joint Command and Control meet the Chairman's goal of having a Standing Joint Force Headquarters capability for the Combatant Commanders by 2005. USJFCOM synchronized Joint and Service efforts in a "battle rhythm" that balances concept development with experimentation and smaller events that are more agile and adaptable. USJFCOM continues to strengthen these tools for conducting joint concept development and experimentation, including scalable parallel processing for modeling and simulation, providing highly capable and thinking adversaries through more effective red teaming initiatives, and building stronger links with other U.S. agencies and potential coalition partners.

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## B. ACCOMPLISHMENTS/PLANNED PROGRAM:

|                                   | FY 2004 | FY 2005 | FY 2006 | FY 2007 |
|-----------------------------------|---------|---------|---------|---------|
| Joint Concept Development Pathway | 43,420  | 47,267  | 50,778  | 51,065  |

### FY 2004 Accomplishments:

- Continued the work initiated in FY2003 on future concepts in the 2015 timeframe and out. All concept development focused on addressing the 18 issues identified by Regional Combatant Commanders:

| Achieving Decision Superiority                                | Creating Coherent Effects   | Conducting & Supporting Distributed Operations                              |
|---|---|---|
| 1. Achieving info superiority (anticipatory understanding)    | 1. Info operations and info assurance                                       | 1. Force projection: Deployment, Employment and Sustainability              |
| 2. Decision making in a Collaborative Information Environment | 2. Joint maneuver and strike:<br>a. Global<br>b. Operational<br>c. Tactical | 2. Force protection and base protection                                     |
| 3. Coalition and interagency info sharing                     | 3. Interagency operations   | 3. Counter anti-access and area-denial (includes Forcible Entry Operations) |
| 4. Global integration   | 4. Multinational operations   | 4. Low density-high demand assets   |
| 5. Joint ISR  | 5. Precise effects  | 5. Proper decentralization  |
|   | 6. Urban operations   |   |
|   | 7. Deny sanctuary   |   |
|   | 8. Transition operations  |   |

- Strengthened joint warfighting capabilities, transformed the joint force and assisted the global war on terrorism with Joint Operations Concepts (JOpsC) and subordinate Joint Operating Concepts (JOC) development with its enabling concepts. Development of the JOpsC and subordinate JOCs were critical to transformation of the Department's Joint Warfighting Capabilities The Transformation Planning Guidance states the transformation

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of how we fight "hinges on the development of future joint warfighting concepts" and the ongoing reform in the acquisition process will allocate resources based on these joint operating concepts.

- JOpsC: Described how the Joint Force intends to operate within the next 15 to 20 years. Linked strategic guidance with the conceptual framework to guide future joint operations and joint, Service, combatant command and combat support defense agency concept development and experimentation, and the foundation for the development and acquisition of new capabilities.

- Major Combat Operations (MCO): Communicated a more specific vision of how a Joint Force Commander integrates multiple functional concepts within a coherent warfighting strategy that addresses conflicts ranging between nuclear war and peacekeeping.

- Stability Operations: Addressed activities that precede and follow conflict. This concept directly affected future doctrine development, the aforementioned functional concepts, and supported the further development of recommendations. - Joint Urban Operations (JUO): Developed operational capabilities for warfighting in urban terrain impacting maneuver, engagement and force protection.

- Strategic Deterrence (SD): Strategy that addressed activities designed to deter aggression or coercion, including counter-proliferation efforts, defense against weapons of mass destruction, overseas presence, peacetime military engagement, and both nuclear and non-nuclear strikes.

## **FY 2005 Plans:**

- Joint Concept Development and Experimentation emphasis for 2005 is developing solutions for capability gaps, process shortcoming and operational shortfalls. Continue to refine future concepts and push discovered capabilities that make a difference for the Joint Task Force Commanders to the field. Emphasis will be on Joint Operations Concepts; Joint Operating Concepts which includes the family of Major Combat Operations, Stability Operations, Strategic Deterrence and Homeland Security; Joint Forcible Entry Operations, Joint Urban Operations, Joint Force Projection and Sustainment for Full Spectrum Operations. These concepts are focused on: a) Major Combat Operations against an adversary with a global weapons of mass destruction (WMD) threat and robust regional anti-access capability; b) joint operations in an urban environment; c) operations against a non-state factor with significant regional combat capability, access to weapons of mass effect, and ties to global terrorist organizations; and d) operations in a faltering or failing state that has regional weapons of mass destruction/effects capability.

## **FY 2006 Plans:**

- Emphasis on key areas identified as capabilities gaps and operational shortfalls. USJFCOM will focus on:  
- Joint Information Superiority (JxI) . JFC ability to effectively use information in supporting operations

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is frequently challenged by existing informational means and approaches to create knowledge across the joint force.

- Global Military Integration Capability (JxG). Current and projected military planning, coordination, and execution methodologies are insufficient to support the global conduct of operations.
- Decision Making (DAA). The current military decision making process will not fully support a global operating environment, saturated with vast amounts of data, while confronting an adaptive adversary.
- Joint Basing Alternatives. The JFC does not have adequate force projection and sustainment alternatives when indigenous supporting infrastructures are not available to support operations.
- Other areas in concept development include Major Combat Operations, Stability Operations, Strategic Deterrence, Homeland Security, Joint Forcible Entry Operations, Joint Urban Operations, Joint Force Projection and Sustainment for Full Spectrum Operations.

## **FY 2007 Plans:**

- Continue all efforts of FY2006 concept development emphasis on key areas identified as capabilities gaps and operational shortfalls. USJFCOM will add focus on:
- Joint Deployment and Sustainment (JxDS). Programmed deployment and sustainment methodologies will not support Joint Force operations as specified in the JOpsC family of concepts.

|  | FY 2004 | FY 2005 | FY 2006 | FY 2007 |
|--|---------|---------|---------|---------|
| <b>Joint Executable Concept Refinement</b> | 28,853  | 30,508  | 32,067  | 32,302  |

Previously known as Standing Joint Force Headquarters (SJFHQ) Enabling Concept in the FY 2005 President's Budget. The title was changed to eliminate confusion with work being done by the Joint Battle Center to support the Standing Joint Forces HQ Interoperability Technical Demonstration Center (ITDC).

## **FY 2004 Accomplishments:**

- Enhanced and moved FY2004 concepts from the Joint Concept Development Pathway theory to initial applications at the Regional Combatant Commanders where refinement work took place in real world operations. In FY2004 joint executable concepts were inserted into the Regional Combatant Commands (RCCs) to refine them at the user level in real world environments. Joint Experimentation finalized work on the enabling concepts that are tied to the fielding of the Standing Joint Force Headquarters by 2005. These enabling concepts are:
- Collaborative Information Environment: a tool and process that provides common situational awareness,

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understanding, and collaborative workspace for decision makers and staffs without today's time and space limitations.

- Operational Net Assessment: a product, process, and organization all focused upon understanding the operational environment as well as the effects of friendly actions.
- Effects-based Operations: a method of planning, preparing, and executing operations in which the focus is on achieving common effects on adversaries.
- Joint Interagency Coordination Group: an advisory element on the Commander's staff that facilitates information sharing and coordinated action across the interagency community.
- Joint Fires Initiative: processes and tools that improve the Joint Force's capability to apply fires from any force in support of any other.
- Joint Logistics (Common Relevant Operating Picture): a tool that addresses the deployment, employment, and sustainment for a coherently joint and multinational force.

## **FY 2005 Plans:**

- During FY2005 USJFCOM will coordinate the Department's concept development and experimentation efforts. USJFCOM will lead the development, exploration and assessment of new joint concepts, organizational structures and emerging technologies. USJFCOM utilizes a process of discovery, innovation, adaptation and experimentation to drive transformational changes that achieve the optimum future joint force capability.
- USJFCOM will work with national and multinational partners to develop fully integrated, interoperable, and interdependent future military forces that are capable of supporting the Global War on Terrorism and combatant commander's operational needs for continued joint context for all wargames and experiments, coherently joint operational intelligence, integrated command and control acquisition, and multinational and interagency interoperability. This includes moving the Collaborative Information Environment, Operational Net Assessment and Joint Interagency Control Group, Joint Fires Initiative Block 1 and Logistics Common Relevant Operational Picture to Programs of Record for fielding and lifecycle management.
- New efforts for executable concept refinement consist of: Knowledge Advantage, Multinational Information Sharing, Multinational Interagency Group, Multinational Experiment 4.

## **FY 2006 Plans:**

- Continue concept refinement activities and identify capabilities mature enough for insertion into Combatant Commanders infrastructure to evaluate capabilities in real world operational environments. The USJFCOM goal is to identify maturing applications through experimentation spirals and move them forward into real world situations as to provide an increased capability for joint warfighting.

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- Knowledge Advantage: Ability to synthesize information into a construct that provides the joint force commander a strategic and operational edge.
- Multinational and Coalition Information Sharing: Synthesis and multi level stratified information sharing applications through portal technology.
- Multinational Interagency Group: Current methodologies for interagency coordination and information sharing will not support Joint Force operations across the full spectrum of engagement and leveraging to include non governmental and multinational agencies for Diplomatic, Information, Military and Economic (DIME) applications.
- Expand and continue multinational experimentation for multinational and coalition integration and operations coherently across the joint force commander operational needs.
- Multinational Experiment 5: Expand and continue multinational and coalition integration and operations coherently across the joint force commander's operational needs.

## **FY 2007 Plans:**

- Continue all efforts of FY 2006.

|  | FY 2004 | FY 2005 | FY 2006 | FY 2007 |
|--|---------|---------|---------|---------|
| <b>Joint Deployment, Employment and Sustainment (JDES)</b> | 7,258   | 8,056   | 8,584   | 8,638   |

## **FY 2004 Accomplishments:**

- Joint Deployment, Employment, and Sustainment (JDES) focused on near term improvement and next decade capabilities in DES (Logistics and Transportation), to support or solve issues related to Force projection; how we deploy, employ, and sustain the force. JDES directed the development of a collaborative information environment that facilitates the fusion of logistics information and visibility that enhances a Combatant Commander's ability to deploy and sustain forces.
- Deployed a series of process improvements called "Quick Wins" that enhanced deployment and sustainment processes for joint force commanders and services.

## **FY 2005 Plans:**

- Continue JDES initiatives focusing on next near term ready applications and next decade capabilities. Joint Force Projection and Sustainment allows the deployment, employment and sustainment of joint forces

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conducting distributed and non-contiguous operations, in an anti-access or area denial environment.

- Begin design work on a "blank sheet of paper" next generation logistics system. Construct is to work a new process, procedure and system that is not bogged down by the non integrated multiple logistics systems currently in place.

- Develop Force Projection and Sustainment Alternatives: Provide a mix of alternative capabilities to the Joint Force Commanders that increase options for supporting distributed operations under various conditions. Currently the Joint Force Commander does not have adequate force projection and sustainment alternatives when indigenous supporting infrastructures are not available to support operations.

- Develop Joint Basing Alternatives: Provide a mix of alternative solutions to the Joint Force Commanders that increase options for supporting distributed operations under various conditions. Currently the Joint Force Commander does not have adequate force projection and sustainment alternatives in anti-access conditions. Distributed operations requires capabilities that include extended operational reach, overseas basing, and joint sea basing to provide alternative approaches to force projection and sustainment of the joint force.

## **FY 2006 Plans:**

- Continue efforts to meet Basing Alternatives and Force Projections and Sustainment.
- Provide focused logistics concept development for operating in an adaptive, elastic and ubiquitous distribution-based sustainment system along with the required information architecture to provide and receive time-definite support measured in hours, not days and weeks. Establish a joint sustainment force that is rapidly deployable, fully capable, immediately employable, and responsive to supported forces.
- Joint Deployment Systems Business Process Reengineered Prototype Implementation: Process workflow portal to manage the deployment and sustainment of forces for 1) increased effectiveness to deploy and sustain forces in execution of joint operations; 2) enterprise application integration platform to share data and tools and 3) established functional and technical development "battle rhythm" to delivery rapid operational spirals providing enhanced transformation change solution sets to the warfighter every 9-12 months.
- Joint Deployment Data Transparency: for joint deployment common data model/data standards, and extensible machine language (XML) data schema for shared data and increased system to system interoperability, and provide the strategic framework to plan, influence acquisition, and sustain Joint Deployment Capability for the development and management execution of an Integrated Master Plan and Integrated Master Schedule.

## **FY 2007 Plans:**

- Continue all efforts of FY 2006.

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|   | FY 2004 | FY 2005 | FY 2006 | FY 2007 |
|---|---------|---------|---------|---------|
| <b>Integration with Other Regional Combatant Commanders,<br/>Military Services and Agencies</b> | 6,726   | 7,466   | 7,954   | 8,004   |

## FY 2004 Accomplishments:

- Continued to address Joint Strike, Information Operations and Information Assurance, Global Integration, and Coalition and Interagency Information Sharing. Work continued on expanding Interagency Operations to include other portions of national power. The first Wargame included the National Reconnaissance Office which executed the Joint Operations Concept as a backdrop for other joint alternative approaches.

## FY 2005 Plans:

- Apply joint context to assist in developing and defining joint operation concepts for use by Joint, Interagency and Multinational warfighting community. Key venues for incorporating these integration activities include Pinnacle Impact, Unified Quest, Unified Course, Thor's Hammer, Unified Engagement, Joint Urban Warrior, Multinational Experiment 4, and Sea Viking. This approach ensures common, consistent and transparent joint data, tools, services, joint analysis and metrics. Areas under consideration and evaluation include Interagency Incident Management Teams, Global Architecture Intelligence, and incorporation of Department of State support to operations.

## FY 2006 Plans:

- Ensure all joint warfighting capability needs of combatant commanders are addressed in experimentation efforts.  
- Continue all efforts of FY 2005

## FY 2007 Plans:

- Continue FY2006 plans.

|                                   | FY 2004 | FY 2005 | FY 2006 | FY 2007 |
|-----------------------------------|---------|---------|---------|---------|
| <b>Innovation and Exploration</b> | 6,554   | 7,275   | 7,751   | 7,801   |

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## **FY 2004 Accomplishments:**

- Continued using the analytical model to rapidly assess new ideas. Innovation and exploration efforts continued for impacting 2025-2040 timeframe. Investigation continued in areas of Hard-to-Get Signals, sensor development, complexity, crisis and instability forecasting, and others.

## **FY 2005 Plans:**

- Expand efforts to tie Department Joint science and technical efforts to identified joint warfighting capabilities gaps.  
- Continue using the analytical model to rapidly assess new ideas. Innovation and exploration efforts continue for impacting 2025-2040 timeframe. Investigation continues in areas of application of nano-biotechnology, knowledge workers, unmanned effects, and multinational information sharing, among others.

## **FY 2006 Plans:**

- Continue to expand efforts to tie Department Joint science and technical efforts to identified joint warfighting capabilities gaps.  
- Investigate in areas of application, such as swarming entities, use of compressive receivers in detecting and locating "hard-to-get" threat emitters, medical operations transformation, and pattern recognition for time-critical targeting, near space applications, special weapons and effects assessment.

## **FY 2007 Plans:**

- Continue all efforts of FY 2006.

|   | FY 2004 | FY 2005 | FY 2006 | FY 2007 |
|---|---------|---------|---------|---------|
| <b>Multi-National and Coalition Concept Development</b> | 4,515   | 5,011   | 5,340   | 5,374   |

Previously reported under Joint Concept Development Pathway in the FY 2005 President's Budget. Multi-National and Coalition concept development is a high-level interest. For that reason, a new title was developed to report on those high visibility efforts. Funding realigned internally to program to support critical ongoing efforts to integrate operational capabilities with our multinational and coalition partners.

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PROGRAM ELEMENT: 0603727N

PROJECT NUMBER: R2497

PROGRAM ELEMENT TITLE: Joint Experimentation

PROJECT TITLE: Joint Experimentation

## **FY 2004 Accomplishments:**

- Continued exploring the Multi-National (MN) concept of operations, engagement, education and collaboration with our MN partners. This was through a series of Limited Objective Experiments that explored information sharing, Multi-Level Security (MLS), and Coalition Common Relevant Operating Picture (CCROP) during Rapid Decisive Operations (RDO)-Next Decade and Joint Warfighting Concept (JWC). The multi-national experimentation efforts continued to be embedded in all our other experimentation efforts.

## **FY 2005 Plans:**

- Develop experimental concept integration with operational partners.  
- Continue exploring the MN concept of operations, engagement, education and collaboration with our MN partners. USJFCOM continues to increase the visibility of our MN partners needing access to vital information and emphasizing system technology improvements in MLS. USJFCOM will be expanding the current experiment audience beyond the MN Interoperability Council members (Australia, Canada, France, Germany, United Kingdom and NATO). Potential additional countries include Finland, Sweden, and Japan among others.

## **FY 2006 Plans:**

- Build upon lessons learned from real world and experimental coalition experimentation. Work on the Content-Bases Information Security and other options to fully engage our partners in the ways and means of joint/coalition warfighting. MN experimentation efforts will include work with other nations to identify and support coalition operations with leading technology or innovations from their national capabilities to export across the coalition collaborative needs.

## **FY 2007 Plans:**

- Continue all efforts of FY 2006

|  | FY 2004 | FY 2005 | FY 2006 | FY 2007 |
|--|---------|---------|---------|---------|
| <b>Standing Joint Force Headquarters (SJFHQ)</b>               | 10,000  | 0       | 0       | 0       |
| <b>Interoperability Technology Demonstration Center (ITDC)</b> |         |         |         |         |

Interoperability Technology Demonstration Center (ITDC) funds were realigned to 0604787N PE (BA-4) in FY 2005 and out.

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Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 03

PROGRAM ELEMENT: 0603727N

PROJECT NUMBER: R2497

PROGRAM ELEMENT TITLE: Joint Experimentation

PROJECT TITLE: Joint Experimentation

## **FY 2004 Accomplishments:**

- Interoperability Technology Demonstration Center (ITDC) demonstrated the five categories of operational, system of systems, technical, software, and procedural interoperability of selected new programs or systems prior to further progress within the acquisition system. ITDC initiative supported U.S. Joint Force Command's (USJFCOM) responsibilities for Joint Command & Control (JC2) capabilities. ITDC executed interoperability demonstrations for selected new programs/systems. The purpose of demonstrations were to ensure interoperability within the Joint Command and Control environment (JC2E). The added advantage of the demonstrations was the provision of high quality cost and schedule estimates of low cost support options for a program office. For example, the ITDC, in conjunction with the Deployable Joint Command and Control (DJC2) program office, demonstrated interoperability of prototype capabilities, in support of Standing Joint Force Headquarters (SJFHQ), at lesser cost than contract supported prototype. The ITDC provided interoperability demonstrations leveraging vehicles such as the Joint National Training Capability.

The successful fielding of interoperable JC2 systems is equally dependent on the ITDC as well as the successful completion of the operational assessment process. Both processes support the acquisition process, as it should be implemented in support of SJFHQ standup and other DOD transformation programs. The operational assessment process supports the assessment of operational prototypes in operational environments. These operational prototypes are developed as enablers to approve needs created out of concept experiments and lead to identification for fielding interim capabilities. The ITDC provided interoperability demonstrations of selected (configuration controlled) pilot capability implementations in coordination with a joint program office, such as DJC2. Successful performance of a candidate capability fielded in an interoperability demonstration supported the need for capabilities to be "born joint."

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Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 03

PROGRAM ELEMENT: 0603727N

PROGRAM ELEMENT TITLE: Joint Experimentation

PROJECT NUMBER: R3145

PROJECT TITLE: Joint Combined Training Center (JCTC)

COST: (Dollars in Thousands)

| Project               | FY 2004  | FY 2005  | FY 2006  | FY 2007  | FY 2008  | FY 2009  | FY 2010  | FY 2011  |
|-----------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| Number Actual & Title | Estimate | Estimate | Estimate | Estimate | Estimate | Estimate | Estimate | Estimate |

R3145 Joint Combined Training Center (JCTC)

|   |   |       |       |   |   |   |   |
|---|---|-------|-------|---|---|---|---|
| 0 | 0 | 5,000 | 5,000 | 0 | 0 | 0 | 0 |
|---|---|-------|-------|---|---|---|---|

**A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:** At the July 2004 Australia/US Ministerial Consultations (AUSMIN), the Secretary of Defense (SECDEF) signed an Australian - United States Joint Statement of Principles of Interoperability and affirmed the development of a Joint/Combined Training Center (Capability) (JCTC). The end-state for the JCTC is to enhance high-end training and enable forces to be exercised in Joint/Combined mission essential tasks in order to increase and measure operational capability and preparedness, improve interoperability, facilitate capability development by identifying specific deficiencies that occur in the gaps and seams and develop recommended solutions, and lastly enhance regional security. The JCTC will be linked to DoD's Joint National Training Center (JNTC) as part of the Global Joint Training Infrastructure (GJTI) via USPACOM's Gaming and Simulation Facility (GSF) and eventually USPACOM's Pacific Warfighting Center as a cooperative collection of training sites, nodes, simulations, and events.

**B. ACCOMPLISHMENTS/PLANNED PROGRAM:**

|                                       | FY 2004 | FY 2005 | FY 2006 | FY 2007 |
|---------------------------------------|---------|---------|---------|---------|
| Joint Combined Training Center (JCTC) | 0       | 0       | 5,000   | 5,000   |

**FY 2004 Accomplishments:**

N/A

**FY 2005 Plans:**

N/A

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DATE: Feb 2005

BUDGET ACTIVITY: 03

PROGRAM ELEMENT: 0603727N

PROJECT NUMBER: R3145

PROGRAM ELEMENT TITLE: Joint Experimentation

PROJECT TITLE: Joint Combined Training Center (JCTC)

## **FY 2006 Plans:**

- Program Study and/or a series of Planning and Design studies of desired capabilities as described in JCTC Scoping Study.
- Connectivity between USPACOM and Australia JCTC Management Center (ADFWC)
- Prepare ranges as described in JCTC Scoping Study to support Proof of Concept during Talisman Saber 07.
- Lease, borrow, and transport architecture elements of a deployable and/or permanent Live and Constructive environments to support Proof of Concept during Talisman Saber 07.

## **FY 2007 Plans:**

- Lease, borrow, and transport architecture elements of a deployable and/or permanent Live and Constructive environments to support Proof of Concept during Talisman Saber 07.

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Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 03

PROGRAM ELEMENT: 0603727N

PROGRAM ELEMENT TITLE: Joint Experimentation

PROJECT NUMBER: R3149

PROJECT TITLE: Joint Training

COST: (Dollars in Thousands)

| Project<br>Number<br>& Title | FY 2004<br>Actual | FY 2005<br>Estimate | FY 2006<br>Estimate | FY 2007<br>Estimate | FY 2008<br>Estimate | FY 2009<br>Estimate | FY 2010<br>Estimate | FY 2011<br>Estimate |
|------------------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| R3149 Joint Training         | 0                 | 14,095              | 23,575              | 22,691              | 22,092              | 18,522              | 15,577              | 15,067              |

**A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:** USJFCOM has the responsibility for maintaining Joint Simulation System (JSIMS) software and establishing a Software Support Facility (SSF) at the Joint Warfighting Center, pending the results of an Analysis of Alternatives (AoA). As a result of the AoA findings, the SSF will further develop additional enhancements to constructive simulations designed to eliminate COCOM training gaps. The center provides the joint training environment with the ability to insert emerging technology or reuse existing systems in the constructive training architecture.

**B. ACCOMPLISHMENTS/PLANNED PROGRAM:**

|                               | FY 2004 | FY 2005 | FY 2006 | FY 2007 |
|-------------------------------|---------|---------|---------|---------|
| Joint Simulations Development | *       | 14,095  | 13,175  | 11,991  |

\* Funding was realigned from PE 0603757N in FY 2005 and out.

**FY 2005 Plans:**

- The Joint Warfighting Center(JWFC) based upon findings from the recent Training Capabilities AoA, will develop additional enhancements to constructive simulations designed to eliminate training gaps identified in the needs analysis. Develop and integrate efforts to close COCOM training gaps in the constructive modeling and simulation environment. The focus of these enhancements is on high priority needs such as: mission rehearsal support by improving rapid database development, replication of non-kinetic processes, building adaptable constructive training systems, enhancing strategic context, support for multi-echelon training, and emerging concepts and missions. This will increase capabilities to support Joint training requirements quickly by providing JFCOM the ability to insert an emerging technology or reuse existing systems in the constructive training architecture. These enhancements will reduce long-term life cycle costs; increase

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FY 2006/2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET  
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DATE: Feb 2005

BUDGET ACTIVITY: 03

PROGRAM ELEMENT: 0603727N

PROGRAM ELEMENT TITLE: Joint Experimentation

PROJECT NUMBER: R3149

PROJECT TITLE: Joint Training

scalability, composability, and reliability by focusing development efforts. Joint training requirements will drive capabilities development within the joint training federations. The training simulations will include representations and products from the intelligence community that will incorporate intelligence as part of the warfighting/training audience. Funding for the limited simulation enhancement begins to close training gaps in the training environment by eliminating unnecessary redundancy, incorporating automated tools, and increasing commonality in the Joint training simulation toolkit. The JWFC Joint Development and Integration and Software Support Facilities will perform software configuration management (CM) which ensures users are operating the most current versions of simulation software in Joint Exercises. The CM team will document upgrades/fixes to the software and publish those changes to the user community at large. Real-time technical support to Joint Exercise and other training or testing events will be provided to include 24/7 help desk support during a given event, and insure the Joint training federations operate as delivered, taking steps to correct real-time problems that arise. Specific training (technical and operational) will be provided to users prior to conducting a Joint Federation-driven Joint Exercise. Periodic upgrade training will be provided to user sites, and training will be provided for periodic model testing events, as required. The facilities will maintain and control all Joint models and federation software and documentation in a central location (resource repository) and will serve as an archive for historical documentation. Perfunctory Software administrative support (considered specialized and technical) will be provided to the above functions, to include organic security and engineering expertise.

## **FY 2006 Plans:**

- Continue all efforts of FY 2005 to develop and enhance capabilities in constructive simulations to support Joint training.

## **FY 2007 Plans:**

- Continue all efforts of FY 2006.

|  | FY 2004 | FY 2005 | FY 2006 | FY 2007 |
|--|---------|---------|---------|---------|
| Training Capability Analysis of Alternatives Joint National Training Capability (TCAoA/JNTC) | 0       | 0       | 10,400  | 10,700  |

## **FY 2004 Accomplishments:**

N/A

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DATE: Feb 2005

BUDGET ACTIVITY: 03

PROGRAM ELEMENT: 0603727N

PROJECT NUMBER: R3149

PROGRAM ELEMENT TITLE: Joint Experimentation

PROJECT TITLE: Joint Training

## **FY 2005 Plans:**

**N/A**

## **FY 2006 Plans:**

- Initiate and conduct a proof of principle test, initially deliver this capability to two COCOMs. This effort will provide organic Observer/Trainers and training support tools to the COCOMs in order to execute their statutory requirement to conduct individual and staff training for assigned forces. Current Joint training is centered on exercises supported by federations of Joint and Services constructive simulations. Additionally, COCOMs require resources to plan, execute, and assess training for the individuals and staffs of Joint Force Commands, Standing Joint Force Headquarters, and Joint Task Forces.
- Initiate and conduct a limited three-year prototype to explore innovative acquisition strategies, which can provide a model for more cost effective acquisition of training tools and contractor support services.

## **FY 2007 Plans:**

- Continue all efforts of FY 2006.

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Exhibit R-2a

DATE: Feb 2005

BUDGET ACTIVITY: 03

PROGRAM ELEMENT: 0603727N

PROGRAM ELEMENT TITLE: Joint Experimentation

PROJECT NUMBER: R3153

PROJECT TITLE: Joint National Training Capability (JNTC)

COST: (Dollars in Thousands)

| Project<br>Number<br>& Title                    | FY 2004<br>Actual | FY 2005<br>Estimate | FY 2006<br>Estimate | FY 2007<br>Estimate | FY 2008<br>Estimate | FY 2009<br>Estimate | FY 2010<br>Estimate | FY 2011<br>Estimate |
|---|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| R3153 Joint National Training Capability (JNTC) | 26,150            | 45,944              | 46,894              | 45,806              | 42,641              | 37,371              | 38,213              | 39,558              |

**A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:** The mission of the Joint Training Center (JNTC) is to develop the capabilities that integrate live, virtual and constructive elements into a seamless joint training environment. JNTC creates joint warfighting conditions through a networked collection of interoperable training sites and nodes that synthesize personnel, doctrine and technology to achieve combatant commander and service training requirements.

**B. ACCOMPLISHMENTS/PLANNED PROGRAM:**

|  | FY 2004 | FY 2005 | FY 2006 | FY 2007 |
|--|---------|---------|---------|---------|
| Joint National Training Center (JNTC) Advanced Training Technologies (ATT) | 26,150  | 45,944  | 46,894  | 45,806  |

**FY 2004 Accomplishments:**

- Continued defining, developing, and modeling the JNTC Operational, System and Technical Architectures for a distributed training capability designed to execute Joint Tactical Task-based joint training events. The architecture development formed the technical framework from which JNTC infrastructure and its interfacing systems were designed/integrated. The Operational Architecture organized and modeled system requirements. The System Architecture translated Logical Nodes and packages of requirements to JNTC Physical Nodes and system Configuration Items (CIs) (i.e. sites, products and applications). The Technical Architecture furnished the standards and technical interfaces for integration of JNTC systems.
- Completed an architecturally based systems engineering process to systematically progress from requirements analysis, through architecture development, system design, capability development and integration, testing, certification and deployment. This function included the definition of required standards and interfaces for operation of JNTC infrastructure/capabilities and the implementation of a Collaborative Information

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DATE: Feb 2005

BUDGET ACTIVITY: 03

PROGRAM ELEMENT: 0603727N

PROGRAM ELEMENT TITLE: Joint Experimentation

PROJECT NUMBER: R3153

PROJECT TITLE: Joint National Training Capability (JNTC)

Environment (CIE).

- Completed a prototype CIE designed to support: 1) an Operational Collaborative Environment in which USJFCOM, Combatant Commands, Services, and Components can participate in the development of coordinated training plans, event planning and cooperative execution of the Joint Event Life Cycle; 2) a Technical Collaborative Environment for the concurrent development of JNTC software and hardware; and 3) an Event Execution Collaborative Environment for the conduct of distributed joint training events.
- Completed an operational information management/knowledge management plan that serves the needs of JNTC.
- Completed defining, developing, and establishing a Joint Rapid Distributed Database Development (JRD3) Geospatial Intelligent Development System prototype.
- Initiated defining, developing, and establishing a mission rehearsal visualization tool and concept of operations.

## **FY 2005 Plans:**

- Continue all efforts of FY04 less those noted as completed above.
- Perform research and development within a Live, Virtual and Constructive (LVC) distributed testbed to support the advancement of training technologies in the context of a joint integrated battlespace. The testbed will operate as a Continuous Training Research and Development Environment and provide the foundation to a deployable Mission Rehearsal System. The LVC testbed will support advancement of training technologies, Research and Development (R&D) test events and interoperability certification assessments. The testbed will enable new training CONOPS to drive efficiency into the planning and conduct of complex joint training events. It will also provide capability to identify, evaluate and solve training system shortfalls. This testbed will be established as a laboratory at US Joint Forces Command and will draw on other facilities through distributed communications links.
- Prototype a knowledge management framework that provides access to digital libraries and distributed learning centers in the centers of excellence to support Standing Joint Force Headquarters training and mission rehearsal.
- Develop a real world database and distribution system for geography and forces to facilitate training and mission rehearsal capability.
- Develop OPFOR Threat systems to include Service instrumentation, interoperability standards, weapons models and simulated terrain, and virtual training capabilities.
- Design and develop multi-level security modeling and simulation (M&S) capabilities to integrate Department of Defense training.
- Take CIE to Initial Operating Capability.
- The increase in budget from FY04 was due to a planned ramp up which will enable JNTC to stand up the Joint

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PROGRAM ELEMENT: 0603727N

PROGRAM ELEMENT TITLE: Joint Experimentation

PROJECT NUMBER: R3153

PROJECT TITLE: Joint National Training Capability (JNTC)

Advanced Training Technologies Laboratory and the contractor support necessary to operate it and to conduct a higher level research and development of new systems in the out years.

## **FY 2006 Plans:**

- Continue all efforts of FY 2005 except work on CIE which will be at IOC in FY 2005.

## **FY 2007 Plans:**

- Continue all efforts of FY 2006.

## **C. OTHER PROGRAM FUNDING SUMMARY:**

Not applicable.

## **D. ACQUISITION STRATEGY:**

Not applicable.

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DATE: Feb 2005

BUDGET ACTIVITY: 03

PROGRAM ELEMENT: 0603727N

PROJECT NUMBER: Various

PROGRAM ELEMENT TITLE: JOINT EXPERIMENTATION

PROJECT TITLE: Congressional Plus-Ups

## CONGRESSIONAL PLUS-UPS:

| R9489   | FY 2004 | FY 2005 |
|---|---------|---------|
| LOCATION SPECIFIC DIGITAL FINGERPRINTING (LSDF) | 0       | 1,485   |

The Location Specific Digital Fingerprint (LSDF) is a digital authentication tool that destroys the capabilities of hacker tools by introducing physics into the computer security equation and offers true security for both wired and wireless networks. In addition to providing unpredictable random numbers that cannot be tracked by hackers, the LSDF also yields specific information about the environment around a computer to allow the identification of the space around it. The LSDF system allows the introduction of the strongest security and access control required by the government for use in National Security Systems and can have significant positive impact in protecting U. S. critical infrastructure.

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