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FY 2002 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: June 2001

BUDGET ACTIVITY: 3 PROGRAM ELEMENT: 0603727N
 PROGRAM ELEMENT TITLE: Joint Experimentation

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 2000 ACTUAL	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R2497 Joint Experimentation	42,300	51,033	118,802						CONT.	CONT.

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Commander in Chief, U.S. Joint Forces Command (CINCUSJFCOM) is chartered by the Secretary of Defense as the Department of Defense Executive Agent for joint concept development and experimentation (JCDE). CINCUSJFCOM's mission is to develop and implement an aggressive program of experimentation that fosters innovation and rapid fielding of new concepts and capabilities. This effort will enable U.S. armed forces to achieve and maintain Full Spectrum Dominance as envisioned in the Chairman, Joint Chiefs of Staff (CJCS) Joint Vision 2020 (JV 2020). The Charter establishes U.S. Joint Forces Command (USJFCOM) as the focal point for all joint concept development and experimentation activities. This program element (PE) directly supports that initiative by providing funding to continue activities focused on the development, analysis and experimentation of new joint operational concepts which are key to addressing future military challenges. This effort results in empirically based recommendations for change to joint doctrine, organization, training, material, leadership, personnel, and facilities (DOTMLPF).

(U) Recommended changes resulting from this experimentation activity will be forwarded CJCS and the Joint Requirements Oversight Committee (JROC) for implementation. The individual Military Services and United States Special Operations Command (USSOCOM) retain primary responsibility to develop concepts and conduct experimentation within their core competencies, to include their respective land, air and space, sea, expeditionary and special operations roles. USJFCOM serves as the joint force integrator. The Assistant Secretary of Defense for Strategy and Threat Reduction (ASD(S&TR)) monitors USJFCOM's joint concept experimentation on behalf of the Secretary of Defense. ASD(S&TR), working with the Defense Resources Board (DRB) acting in its Revolution in Military Affairs (RMA) oversight role, conducts reviews of CINCUSJFCOM experimentation activities.

(U) The Joint Experimentation Campaign Plan for FY 2001 focuses on high priority tasks assigned to USJFCOM through the Defense Planning Guidance (DPG) and CJCS Instructions on Joint Concept Development and Experimentation. The DPG and CJCS instructions direct USJFCOM to continue development and refinement of the Rapid Decisive Operations (RDO) concept. RDO is the overarching, integrating concept and is supported by eight functional concepts. These functional concepts are Attack Operations Against Critical Mobile Targets (AOACMT) Common Relevant Operational Picture (CROP), Adaptive Joint Command and Control (AJC2), Joint Interactive Planning (JIP), Focused Logistics: Enabling Early Decisive Operations (FLEEDO), Information Operations (IO), Assured Access (AA) (formerly Forcible Entry Operations (FEO), and

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Strategic Deployment (SD). Two new joint operational concepts are also under development. These are joint, Intelligence, Surveillance and Reconnaissance (JISR) and Effects Based Operations (EBO). Development of these new concepts is based on lessons learned from completed FY00 joint experimentation activities.

(U) During FY 2000, USJFCOM conducted the first of a series of biennial Millennium/Olympic Challenge (MC/OC) major joint integrating experiments (to be staged in even years). These experiments will address the challenges of Rapid Decisive Operations. Millennium Challenge 2000 is the U.S. Armed Forces first large scale, joint warfighting concept experiment. Scheduled in August and September 2000, it is designed to assess proposed, future joint warfighting concepts by integrating into a single exercise experimentation activities from all the Military Services and USJFCOM. MC 00 integrated the Army's Joint Contingency Advanced Warfighting Experiment (JCF-AWE); Navy's Fleet Battle Experiment - Hotel (FBE H), Air Force's Joint Expeditionary Field Experiment (JEFX), and the Marine Corps' Millennium Dragon (MD) experimentation activities. MC 00 is a prototype for future service and joint experiments. USJFCOM achieved two major objectives during MC 00. These were to provide an overarching joint context for the Services' major experiments and to leverage these Service activities as well as selected joint exercises in order to examine three specific operational issues related to RDO: Joint Deployment Process Improvement, Precision Engagement and Information Superiority/Command and Control. CJCS envisions MC 00 as the model for multi-service collaboration, synchronization and interoperability. The MC/OC series of exercises will be the foundation for joint experimentation activities in FY 2002, 2004 and 2006. Millennium 2002 (MC 02) will assess the ability of a coherent, interoperable joint force to conduct a rapid, decisive joint strike operation in the 2004-2007 time period. Olympic Challenge 2004 (OC 04) will evaluate a similar operation in the 2010-2015 timeframe. The FY2001 Senate Armed Services Committee Report specifically directed the Secretary of Defense to plan in Fiscal Year 2001 and conduct in Fiscal Year 2002, a joint field experiment focused on exploring the most critical war fighting challenges that will confront U.S. joint military forces at the operational level of war. It further directed that this experiment incorporate elements of all the military services and Special Operations forces. This activity would include elements representative of each military service and U.S. Special Operations Command's future force concepts, e.g., Air Force Expeditionary Aerospace Force, Army medium weight brigades, and the Navy/Marine Corps' Forward From the Sea, Operational Maneuver From the Sea visions. The MC/OC series of joint experiments will provide the joint context for examining how well these individual service concepts work together to provide joint military capabilities at the operational level of war.

(U) Beginning in FY 2001, USJFCOM will conduct a series of annual Unified Vision (UV) experiments that provide context for refinement of RDO and its supporting functional concepts. Unified Vision 2001 will serve as the preliminary concept and experiment event that supports MC 02. Unified Vision events in odd years will support the even year MC/OC major joint integrating experiments. Unified Vision experiments in even years will support development of future integrating concepts, leading toward the UV and MC/OC experiments three and four years later. Unified Vision experiments will also provide a venue to develop and establish the joint operational environment as a context for USJFCOM participation in the Military Services' future wargames.

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(U) The CJCS Joint Experimentation Campaign Plan 01 Guidance directed exploration of revolutionary concepts and advanced technologies that have potential to significantly alter the conduct of military operations. These include autonomous operations; nano-technologies, biocentric operations, non-kinetic engagement technologies and space based capabilities. Additionally, USJFCOM has CJCS direction to work closely with the science and technology community in developing warfighting capabilities.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is budgeted within the ADVANCED TECHNOLOGY DEVELOPMENT Budget Activity because it encompasses design, development, simulation, and experimental testing or prototype hardware. It is also necessary to validate technological feasibility and concept of operations to reduce technological risk prior to initiation of a new acquisition program or transition to an ongoing acquisition program.

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(U) PROGRAM ACCOMPLISHMENTS AND PLANS: Rapid **Decisive Operations**. This concept describes how a joint force commander can determine and employ the right balance of air, sea, land, space and electromagnetic spectrum capabilities. It is the integrating concept for future joint experimentation activities and is supported by the other functional concepts described in this paper. A series of sequential wargames and field exercises will be used to develop and assess this concept

Rapid Decisive Operations (RDO)	FY00 \$6,550	FY01 \$15,582	FY02 \$10,750
Initiate	<ul style="list-style-type: none"> • Analytical wargame series Conduct first wargame Conduct wargame technical rehearsal Developed computer models • Integrate Entropy based wargaming models into scheduled wargaming events • Conduct evaluations of alternative operational concepts of force employment • Provide lessons learned and results to support development of FY01 and FY02 joint experiments 	<ul style="list-style-type: none"> • Unified Vision 2001 experiment in preparation for Millennium Challenge 2002 • Leverage Northern Edge 2001 teaming event 	<ul style="list-style-type: none"> • Unified Vision 2002 experiment in preparation for Millennium Challenge/Olympic Challenge experiments in 2004 and 2006 • Millennium Challenge 2002

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<p>Continue</p>	<ul style="list-style-type: none"> • Concept white paper under development • Technology focus: <ul style="list-style-type: none"> ➢ Elements of Information and Intelligence ➢ Fully Networked, Sensor Systems ➢ Non-Kinetic Effects ➢ Non-Lethal Weapons ➢ Command and Control (C2) ➢ Unmanned Air Vehicle (UAV) Employment ➢ Mobile Offshore Base ➢ Intrusive Information Operations ➢ Bar Coding ➢ Global Positioning Satellite (GPS) tracking ➢ Comprehensive Data Bases ➢ Predictive modeling ➢ Wide bandwidth and Broad User Selections ➢ Portable, Wireless, Ruggeddized Reliable Hardware Systems 	<ul style="list-style-type: none"> • Continue to develop the integrating concept for Rapid Decisive Operations • Leverage Navy Fleet Battle Experiment India • Leverage Marine Capable Warrior • Leverage U.S. Pacific Command (PACOM) Joint Mission Force • Technology focus: <ul style="list-style-type: none"> ➢ Elements of Information and Intelligence ➢ Fully Networked, Sensor Systems ➢ Non-Kinetic Effects ➢ Non-Lethal Weapons ➢ C2 ➢ UAV Employment ➢ Mobile Offshore Base ➢ Intrusive Information Operations ➢ Other technologies as previously listed 	<ul style="list-style-type: none"> • Leverage three Navy Fleet Battle Experiments (Juliet, Kilo, Lima) • Leverage Marine Capable Warrior • Leverage PACOM Joint Mission Force • Leverage U.S. European Command (EUCOM) exercise Matador 02 • Leverage U.S. Air Force Joint Expeditionary Field Experiment (JEFX) 02 • Leverage Army Advanced Warfighting Experiment • Technology focus: <ul style="list-style-type: none"> ➢ Elements of Information and Intelligence ➢ Fully Networked, Sensor Systems ➢ Non-Kinetic Effects ➢ Non-Lethal Weapons ➢ C2 ➢ UAV Employment ➢ Mobile Offshore Base ➢ Intrusive Information Operations ➢ Other technologies as previously listed
<p>Complete</p>	<ul style="list-style-type: none"> • Baseline Collective Assessment (BCA) published • RDO Analytical Wargame • Millennium Challenge 2000 	<ul style="list-style-type: none"> • Concept White paper published • Doctrine, Organization, Training, Material, Leadership, Personnel, and Facilities (DOTMLPF) recommendations completed for forwarding to Chairman, Joint Chiefs of Staff (CJCS) 	<ul style="list-style-type: none"> • Refined concept white paper published • DOTMLPF recommendations forwarded to CJCS • Concept reports and papers published.

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		<ul style="list-style-type: none"> • Concept reports and white papers published 	
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(U) **Attack Operations Against Critical Mobile Targets.** A functional concept supportive of Rapid Decisive Operations. It includes the immediate identification and continuous, accurate tracking of critical mobile and time sensitive targets, and subsequent engagement with precise, retargetable and immediately responsive weapons and offensive information operations

Attack Operations Against Critical Mobile Targets (AOACMT)	FY00 \$5,165	FY01 \$1,197	FY02 \$7,350
Initiate	<ul style="list-style-type: none"> • Experimentation and Exercise sequence including: <ul style="list-style-type: none"> Exercise Unified Vision 00 Exercise Attack Operations 00 Supporting seminars • Joint Test & Evaluation Program in Joint Suppression of Enemy Air Defenses • Fleet Battle Experiments F & G • Experimentation and research on Detect and Decide components of Attack Operations 	<ul style="list-style-type: none"> • Attack Operations Against Critical Mobile Targets (AO 01) • Unified Vision 2001 experiment in preparation for Millennium Challenge 2002 • Decision Making Ability of Software Agents Limited Objective Experiment (LOE) 	<ul style="list-style-type: none"> • Experimentation and research on Decide and Deliver components of Attack Operations • Unified Vision 2002 experiment in preparation for Millennium Challenge/Olympic Challenge experiments in 2004 and 2006. • Millennium Challenge 2002
Continue	<ul style="list-style-type: none"> • Investigation into the Joint Critical Mobile Target Cell composition, structure, and processes • Technology focus: <ul style="list-style-type: none"> ➢ Intelligence, Surveillance and Reconnaissance (ISR) Sensor Fusion ➢ Automatic Target Recognition 	<ul style="list-style-type: none"> • Experimentation and research on Detect and Decide components of Attack Operations • Leverage Army Forces Command's (FORSCOM) Roving Sands 01 • Leverage PACOM/USFK's (U.S. Forces Korea) Ulchi Focus Lens • Technology focus: <ul style="list-style-type: none"> ➢ ISR Sensor Fusion 	<ul style="list-style-type: none"> • Leverage Roving Sands 02 • Leverage PACOM/USFK's Ulchi Focus Lens • Technology focus: <ul style="list-style-type: none"> ➢ ISR Sensor Fusion ➢ Automatic Target Recognition ➢ Automated Intel Preparation of the Battlefield

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	<ul style="list-style-type: none"> ➤ Automated Intel Preparation of the Battlefield ➤ Attack Operations Enhanced Decision Aids ➤ Air Platforms ➤ Enhanced Decision Aids ➤ Faster precision weapon delivery systems ➤ Alternate attack systems 	<ul style="list-style-type: none"> ➤ Automatic Target Recognition ➤ Automated Intel Preparation of the Battlefield ➤ Attack Operations Enhanced Decision Aids ➤ Air Platforms ➤ Enhanced Decision Aids ➤ Faster precision weapon delivery systems ➤ Alternate attack systems 	<ul style="list-style-type: none"> ➤ Attack Operations Enhanced Decision Aids ➤ Air Platforms ➤ Enhanced Decision Aids ➤ Faster precision weapon delivery systems ➤ Alternate attack systems
Complete	<ul style="list-style-type: none"> • Concept white paper published • BCA published • Initial Adversary Vulnerability Assessment (IAVA) published • Attack Ops 00 Human in the Loop (HITL) Virtual Simulation Experiment • Millennium Challenge 2000 	<ul style="list-style-type: none"> • Attack Ops 01 HITL Virtual Simulation Experiment • Refined white paper published • Unified Vision 2001 • DOTMLPF recommendations produced and forwarded to CJCS • Concept Reports and papers published 	<ul style="list-style-type: none"> • Refine concept white paper published • Unified Vision 2002 HITL Virtual Simulation Experiment • DOTMLPF recommendations produced and forwarded to CJCS • Concept Reports and papers published • Millennium Challenge 2002

(U) Information Superiority: Includes four function concepts: Common Relevant Operational Picture, Joint Interactive Planning, Adaptive Joint Command and Control and Information Operations. Together these concepts work to provide a Joint Force Commander with a superior picture of both national and coalition forces and seek to deny or disrupt information, which is critical to the enemy's concept of operations and mission

Information Superiority (IS)	FY00 \$3,550	FY01 \$5,584	FY02 \$5,411
Initiate	<ul style="list-style-type: none"> • Common Relevant Operational Picture (CROP) Initiated seminar/workshop series (CROP) • Commence Information superiority wargame (CROP) 	<ul style="list-style-type: none"> • Unified Vision in preparation for Millennium Challenge 2002 • Collaboration Decision Environment (CDEX01-1) • Command Post Experiment 2001 Workshop 	<ul style="list-style-type: none"> • Unified Vision Experiment in preparation for Millennium Challenge/Olympic Challenge experiments in 2004 and 2006 • Millennium Challenge 2002

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	<p>Integrate wargame/seminar results into Millennium Challenge 00 Global Wargame at Naval War College</p> <ul style="list-style-type: none"> • Joint Interactive Planning (JIP) <ul style="list-style-type: none"> Joint Interactive Planning Workshop & Seminars Participate in Rapid Decisive Operations and Attack Ops Experiments Army Joint Command Post Exercise Participation in Millennium Challenge 00 Participation in Navy Fleet Battle Experiment Golf • Adaptive Joint Command and Control (AJC2). <ul style="list-style-type: none"> Begin Force Application Seminars, Workshop and wargame Participate in JFCOM Information Superiority Wargame Participate in Deployment and Sustainment seminars, workshops and wargame Millennium Challenge 00 JFCOM Joint Command Post Exercise • Information Operations (IO). <ul style="list-style-type: none"> Participate in Air Force 	<p>Workshop</p> <ul style="list-style-type: none"> • Command Post Experiment 2001 Workshop II (CDEX01-2) • Web of the Future Limited Objective Experiment (LOE) • Decision Making Ability of Software Agents LOE 	<ul style="list-style-type: none"> • Two Command Post Experiment LOEs
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	<p>Global Engagement Wargame Information Superiority workshops, seminars and wargame Joint Warrior Information Demonstration (JWID) 00 with USSPACECOM Global Wargame 00 at Naval War College JFCOM Evident Surprise Information Operations Wargame</p> <ul style="list-style-type: none"> • IS Integrated Concept Team (ICT) • CROP LOE • AJC2 LOE • JIP LOE 		
<p>Continue</p>	<ul style="list-style-type: none"> • Concept white paper coordination for JIP and AJC2 • BCA planned for IO • Technology focus: <ul style="list-style-type: none"> ➢ Collaborative Information Environment ➢ Decision Support ➢ Battlespace Awareness ➢ Information Assurance 	<ul style="list-style-type: none"> • Leverage All Service Combat Identification Evaluation Team (ASCIET) (All Service Combat Identification Program) • Technology focus: <ul style="list-style-type: none"> ➢ Collaborative Information Environment ➢ Decision Support ➢ Battlespace Awareness ➢ Information Assurance 	<ul style="list-style-type: none"> • Technology focus: <ul style="list-style-type: none"> ➢ Collaborative Information Environment ➢ Decision Support ➢ Battlespace Awareness ➢ Information Assurance
<p>Complete</p>	<ul style="list-style-type: none"> • Concept white paper published for CROP • BCA published for CROP, JIP, and AJC2 • Millennium Challenge 2000 	<ul style="list-style-type: none"> • BCA for IO published • Concept white papers for JIP and AJC2 published • Unified Vision 2001 • Workshops and LOEs 	<ul style="list-style-type: none"> • Concept white paper for IO published • Unified Vision 2002 • Millennium Challenge 2002 • Workshops and LOEs

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(U) **Focused Logistics Enabling Early Decisive Operations.** Integrates advanced technologies with logistics management to effectively support early force deployment and continued force employment

Focused Logistics: Enabling Early Decisive Operations (FLEEDO)	FY00 \$1,115	FY01 \$100	FY02 \$3,350
Initiate	<ul style="list-style-type: none"> • Participation in: <ul style="list-style-type: none"> Exercise Foal Eagle Exercise Bright Star Deployment and Sustainment workshops Joint Logistics Information Study Technology Symposium Millennium Challenge 00 Deployment and Sustainment wargame Reduced Logistics Footprint Study • Information Collection and Decision Support Tools concept • Deployment/Forward Presence Planning and Execution concept • Agile Sustainment and Delivery concept • Joint Theater Logistics Management concept 	<ul style="list-style-type: none"> • Unified Vision 2001 experiment in preparation for Millennium Challenge 2002 • Joint Reception, Staging, Onward Movement and Integration/Joint Theater Logistics Management (JRSOI/JTLM) Seminar • Concept Workshop • Focused Logistics Wargame (FLOW) • Focused Logistics Limited Objective Experiment (LOE) 	<ul style="list-style-type: none"> • Unified Vision 2002 in preparation for Millennium Challenge/Olympic Challenge 2004 and 2006 • Millennium Challenge 2002 • Focused Logistics Wargame (FLOW) • Focused Logistics Limited Objective Experiment (LOE) • Concept Workshop

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<p>Continue</p>	<ul style="list-style-type: none"> • BCA planned • Technology focus: <ul style="list-style-type: none"> ➤ Logistics Asset Visibility ➤ Collaborative and Automated Logistics Planning Toolset ➤ Cognitive Logistics Support and Decision Aids ➤ Advancements in Transportation Assets ➤ Precision Guided Munitions ➤ Alternate Fuels and Power Sources 	<ul style="list-style-type: none"> • Information Collection and Decision Support Tools concept • Deployment/Forward Presence Planning and Execution concept • Agile Sustainment and Delivery concept • Joint Theater Logistics Management concept • Leverage Army's Force Projection/Sustainment Wargame • Leverage PACOM's Force Deployment/Sustainment Reception, Staging, Onward Movement and Integration (RSOI) Wargame • Technology focus: <ul style="list-style-type: none"> ➤ Logistics Asset Visibility ➤ Collaborative and Automated Logistics Planning Toolset ➤ Cognitive Logistics Support and Decision Aids ➤ Advancements in Transportation Assets ➤ Precision Guided Munitions ➤ Alternate Fuels and Power Sources 	<ul style="list-style-type: none"> • Technology focus: <ul style="list-style-type: none"> ➤ Logistics Asset Visibility ➤ Collaborative and Automated Logistics Planning Toolset ➤ Cognitive Logistics Support and Decision Aids ➤ Advancements in Transportation Assets ➤ Precision Guided Munitions ➤ Alternate Fuels and Power Sources
<p>Complete</p>	<ul style="list-style-type: none"> • Concept white paper published • Base Case Assessment Published • Millennium Challenge 2000 	<ul style="list-style-type: none"> • Refined concept for FLEEDO published • Unified Vision 2001 • Workshops and LOEs 	<ul style="list-style-type: none"> • Refined concept for FLEEDO published • Unified Vision 2002 • Millennium Challenge 2002 • Workshops and LOEs

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(U) **Assured Access (formerly Forcible Entry Operations).** Examines how a Joint Force Commander can rapidly deploy and penetrate an adversary's territory to conduct further operations.

Assured Access	FY00 \$250	FY01 \$100	FY02 \$3,110
Initiate	<ul style="list-style-type: none"> • Draft concept white paper • Baseline Case Assessment • Conduct initial seminar • Participation in Millennium Challenge 00 	<ul style="list-style-type: none"> • Assured Access concept development • Unified Vision 2001 experiment in preparation for Millennium Challenge 2002 	<ul style="list-style-type: none"> • Refined Assured Access concept development • Unified Vision 2002 in preparation for Millennium Challenge/Olympic Challenge 2004 and 2006
Continue	<ul style="list-style-type: none"> • BCA planned • Concept white paper under development 		
Complete		<ul style="list-style-type: none"> • BCA published • Concept white paper published • Unified Vision 2001 	<ul style="list-style-type: none"> • Refined Assured Access concept development • Unified Vision 2002 in preparation for Millennium Challenge/Olympic Challenge 2004 and 2006

(U) **Strategic Deployment.** Provide significantly improved strategic deployment forces capable of projecting joint forces by sea, land and air, along with sustainment for these forces, across strategic distances in order to support Rapid Decisive Operations.

Strategic Deployment (SD)	FY00 \$450	FY01 \$100	FY02 \$8,350
Initiate	<ul style="list-style-type: none"> • Focused Logistics Wargame (FLOW 99) • Baseline Collection Assessment 	<ul style="list-style-type: none"> • Unified Vision 2001 experiment in preparation for Millennium Challenge 2002 	<ul style="list-style-type: none"> • Unified Vision 2002 in preparation for Millennium Challenge/Olympic Challenge 2004

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	<ul style="list-style-type: none"> • Mobility Requirements Study 05 • Strategic Deployment Concept White Paper • Strategic Deployment Wargame • Millennium Challenge 00 	<ul style="list-style-type: none"> • Joint Reception, Staging, and Onward Movement and Integration/Joint Theater Logistics Management (JRSOI/JTLM) Seminar • Focused Logistics Wargame (FLOW) • Focused Logistics Limited Objective Experiment (LOE) 	<p>and 2006</p> <ul style="list-style-type: none"> • Millennium Challenge 2002 • Focused Logistics Wargame (FLOW) • Focused Logistics Limited Objective Experiment (LOE)
<p>Continue</p>	<ul style="list-style-type: none"> • Baseline Collective Assessment (BCA) planned • Concept white paper coordination 	<ul style="list-style-type: none"> • Information Collection and Decision Support Tools concept • Deployment/Forward Presence Planning and Execution concept • Agile Sustainment and Delivery concept • Joint Theater Logistics Concept • Leverage Army's Force Projection /Sustainment Wargame • Leverage PACOM's Force Deployment/Sustainment Reception, Staging, Onward Movement and Integration (RSOI) Wargame • Technology focus: <ul style="list-style-type: none"> ➢ Logistics Asset Visibility ➢ Collaborative and Automated Logistics Planning Toolset ➢ Cognitive Logistics Support and Decision Aids ➢ Advancements in Transportation Assets 	<ul style="list-style-type: none"> • Technology focus: <ul style="list-style-type: none"> ➢ Logistics Asset Visibility ➢ Collaborative and Automated Logistics Planning Toolset ➢ Cognitive Logistics Support and Decision Aids ➢ Advancements in Transportation Assets ➢ Precision Guided Munitions ➢ Alternate Fuels and Power Sources

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		<ul style="list-style-type: none"> ➤ Precision Guided Munitions ➤ Alternate Fuels and Power Sources 	
Complete	<ul style="list-style-type: none"> • Stand up Integrated Concept Team 	<ul style="list-style-type: none"> • Baseline Capability Assessment (BCA) published • Concept white paper for Strategic Deployment published • Unified Vision 2001 • Workshops and LOEs 	<ul style="list-style-type: none"> • Refined Concept white paper for Strategic Deployment published • Unified Vision 2002 • Millennium Challenge 2002 • Workshops and LOEs

(U) **Millennium Challenge.** Is a coordinated joint experimentation JFCOM exercise involving participation by all the Military Services battle laboratories and concept development organizations. This exercise will permit integration of the overarching Rapid Decisive Operations (RDO) supporting concepts with future warfighting concepts being developed by each of the services.

Millennium Challenge Major Joint Experiment	FY00 \$22,300	FY01 \$25,250	FY02 \$58,647
Initiate	<ul style="list-style-type: none"> • Army's Joint Contingency Advanced Warfighting Experiment (JCF-AWE) • Navy Fleet Battle Experiment - Hotel (FBE-H) • Air Force's Joint Expeditionary Field Experiment (JEFX) • Marine's Millennium Dragon (MD) Experiment provide venue for the joint exercise 	<ul style="list-style-type: none"> • Unified Vision 2001 experiment in preparation for Millennium Challenge (MC) 2002 	<ul style="list-style-type: none"> • MC 2002 is a major field experiment in Rapid Decisive Operation, using 2004-2007 forces to conduct decisive joint strike operations. MC 2002 will be used to validate the potential of various government-owned training ranges to support major joint experiments. • Unified Vision 2002 experiment in preparation for Millennium/Olympic Challenge experiments in 2004 and 2006

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Continue	<ul style="list-style-type: none"> • Concept development for Precision Engagement, Joint Deployment, and Information Superiority 	<ul style="list-style-type: none"> • Concept development for Precision Engagement, Joint Deployment, and Information Superiority • Refinement of RDO concept and supporting functional concepts 	<ul style="list-style-type: none"> • Concept development for Precision Engagement, Joint Deployment, and Information Superiority • Refinement of RDO concept and supporting functional concepts
Complete	<ul style="list-style-type: none"> • Millennium Challenge 2000 	<ul style="list-style-type: none"> • Unified Vision 2001 	<ul style="list-style-type: none"> • Millennium Challenge 2002 • Unified Vision 2002

(U) **Advanced Concept Technology Demonstrations (ACTDs).** Programs listed below are OSD sponsored ACTDs, which are under the sponsorship of JFCOM. They are being coordinated and integrated into joint warfighting experimentation concepts.

Advance Concept Technology Demonstrations (ACTD)	FY00 \$120	FY01 \$120	FY02 \$250
Initiate	<ul style="list-style-type: none"> • Link16/Variable Message Format (VMF) Interface Rosetta Technology 		
Continue	<ul style="list-style-type: none"> • Multi-Link Antenna System (MLAS) • Content Based Information Security (CBIS) • Joint Theater Logistics (JTL) • Force Medical Protection (FMP) 	<ul style="list-style-type: none"> • Link16/Variable Message Format (VMF) Interface Rosetta Technology • MLAS • CBIS • JTL • FMP • TMDI 	<ul style="list-style-type: none"> • MLAS • CBIS • JTL • FMP • TMDI • HAE UAV • JMLS

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	(FMP) <ul style="list-style-type: none"> Theater Missile Defense Interoperability (TMDI) High Altitude Endurance Unmanned Aerial Vehicle (HAE UAV) Joint Modular Lighter System (JMLS) Integrated Collection Management (ICM) Navigation Warfare (NAVWAR) 	<ul style="list-style-type: none"> HAE UAV JMLS ICM NAVWAR 	<ul style="list-style-type: none"> ICM
Complete	<ul style="list-style-type: none"> Joint Logistics (JL) Battlefield Awareness and Data Dissemination (BADD) complete and in final report coordination 	<ul style="list-style-type: none"> Link16 ACTD to concepts 	<ul style="list-style-type: none"> Link16 ACTD to concepts

(U) **Limited Objective Experiments.** Short term experiments supporting specific, tightly focused future warfighting concepts.

Limited Objective Experiments (LOEs)	FY00 \$2,000	FY01 \$1,500	FY02 \$12,792
Initiate	<ul style="list-style-type: none"> Non-Kinetic Technologies (NKT), Unified Vision (UV) 00 Attack Operations Against Critical Mobile Targets Theater Missile Defense Joint Suppression of Enemy Air Defenses 	<ul style="list-style-type: none"> Non-Kinetic technologies (NKT) integrated in to exercise Unified Endeavor 01-03 Unified Vision 2001 experiment in preparation for Millennium Challenge(MC 2002 	<ul style="list-style-type: none"> Unified Vision 2002 experiment in preparation for Millennium/Olympic Challenge (OPC) experiments in 2004 and 2006

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Complete	<ul style="list-style-type: none"> • Non-Kinetic Technologies (NKT) • Unified Vision 2000 • Information Superiority LOEs 	<ul style="list-style-type: none"> • Non-Kinetic Technologies (NKT) • Information Superiority LOEs • Focused Logistics LOE 	<ul style="list-style-type: none"> • Non-Kinetic Technologies (NKT) • Information Superiority LOEs • Focused Logistics LOE

(U) **Innovation and Transformation (Futures)**. Activities to evaluate the military potential of emerging technologies in the 2020-2030 timeframe.

Innovation and Transformation (Futures)	FY00 \$500	FY01 \$500	FY02 \$5,600
Initiate	<ul style="list-style-type: none"> • Bio-mimetics, nano-technology, and compact power • Autonomous/automated decision-making and joint command and control, enhancing human performance, learning and training, space-based capabilities in support of joint operations. • Innovation and Transformation Workshops • Industry Day Program 	<ul style="list-style-type: none"> • United States Marine Corps (USMC) Project Ellis: Homeland Defense Working Group • Space-Based Support for Joint Operations Seminar • USMC Project Ellis: Alternate Fueled Vehicles Workshop • Preventing Strategic and Operational Surprise • USMC Project Ellis: Sea-Based Logistics Working Group 	<ul style="list-style-type: none"> • Same level of effort, conducting seminars and quarterly workshops on topics listed in FY00 and 02
Continue		<ul style="list-style-type: none"> • Leverage United States Air Force (USAF's) Future Capabilities Wargame • Leverage Navy's Global Wargame • Leverage USMC's Warrior Wargame • Leverage Army's Transformation Wargame 	<ul style="list-style-type: none"> • Leverage USAF's Future Capabilities Wargame • Leverage Navy's Global Wargame • Leverage USMC's Warrior Wargame • Leverage Army's Transformation Wargame

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		<p>Wargame</p> <ul style="list-style-type: none"> • Leverage Science and Technology (S&T) 	<ul style="list-style-type: none"> • Leverage S&T
Complete	<ul style="list-style-type: none"> • Innovation and Transformation Center established • Information and Transformation Workshops • Industry Day Program 		

(U) Integration with other CINC, Services and DoD Agencies

Integrate CINC/Services/Agencies (C/S/As)	FY00 \$150	FY01 \$500	FY02 \$2,192
Initiate			
Continue	<ul style="list-style-type: none"> • Stand Off Precision Air Drop, • Non-lethal, Non-kinetic Capabilities • UAVs, • Force Protection • C2 Centers, • Global Positioning Systems (GPS) • Mobility, Warfighter Forces, Deployability Issues • Communications 	<ul style="list-style-type: none"> • European Command (EUCOM) partnership in National Alliance Treaty Organization (NATO) Concept Development and Experimentation (CDE) process • Southern Command (SOCOM) Joint Experimentation Office partnership • PACOM Joint Mission Force Concept development • SOUTHCOM Disaster Relief and Humanitarian Assistance proposal • U.S. Space Command (SPACECOM) Computer Network Defense work 	<ul style="list-style-type: none"> • Engagement with agencies and organizations outside DoD accomplished primarily through the S&T community. The S&T Division focuses on identifying individuals, forums, and products key to affect change in the DoD S&T communities. Some of the key organizations actively engaged are Office of Secretary of Defense (OSD), Director, Defense Research and Engineering (DDR&E), Deputy Under Secretary of Defense (DUSD), Assistant Secretary of Defense (ASD), Joint Chiefs of Staff (JCS)

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	<p>Infrastructure in Support of Command, Control, Communications, Computer (C4) and Intelligence, Surveillance and Reconnaissance (C4ISR)</p> <ul style="list-style-type: none"> • Coalition Issues • Theater Early Warning Multi-Spectral Imagery, Concept of Operations (CONOPs) for Secure and Aerial Port of Debarkation (APOD)/Base in an Expeditionary Area of Responsibility (AOR). 	<p>Computer Network Defense work</p> <ul style="list-style-type: none"> • U.S. Strategic Command (STRATCOM) C2 Modernization and Integration Lab partnership • U.S. Transportation Command (TRANSCOM) involvement in Joint Deployment Process Initiative in Millennium Challenge • S&T academic Workshop • ACTD Management Board • Industry Day Conference • Technology Area Review and Assessment Panels Conference • Summer Science Board Studies WorkingGroup/Seminar 	<p>(ASD), Joint Chiefs of Staff (JCS), Defense Advanced Research Project Agency (DARPA), Service Research Laboratories, Science Advisory Boards, Chief Scientists, and Service and Commander in Chief (CINC) Experimentation offices. The Defense Science and Technology Board receives particular focus.</p>
<p>Complete</p>	<ul style="list-style-type: none"> • Alliance of All Service Battle Laboratories (AASBL) • PACOM Joint Mission Force Concept test in RDO Analytical Wargame 	<ul style="list-style-type: none"> • Workshops and Seminars 	<ul style="list-style-type: none"> • Workshops and Seminars

(U) Multi-national and Coalition Concept Development

<p>Multi-national Concept Development and Experimentation (MN CDE)</p>	<p>FY00 \$150</p>	<p>FY01 \$500</p>	<p>FY02 \$1,000</p>
<p>Initiate</p>	<ul style="list-style-type: none"> • Theater Engagement Plans • Multi-national Information Sharing Integrated Concept Team (ICT) 	<ul style="list-style-type: none"> • Multi-national Experimentation Forum 2001 Seminar • NATO Concept Development and Teaming Event (Germany) • NATO Concept and 	<ul style="list-style-type: none"> • Multi-national Experimentation Forum 2002 Seminar • Partnership with future coalition nations: e.g. Norway. United Kingdom, France, Argentina,

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	<ul style="list-style-type: none"> • Multi-national Logistics ICT • NATO Concept Development and Experimentation Integrated Event Team (IET) in support of Allied Command Atlantic 	<p>Experimentation Teaming Event (Albania)</p> <ul style="list-style-type: none"> • APTX 2001 Teaming Event 	Singapore
Continue	<ul style="list-style-type: none"> • Partnership with Foreign Liaison Officers (FLOs) NATO member states, Australia, Japan, South Korea, Argentina, Singapore, and the Gulf Cooperation Council states. 	<ul style="list-style-type: none"> • Theater Engagement Plans • Support to Services Multi-national Experimentation efforts • NATO Concept Development and Experimentation effort in support of Allied Command Atlantic (ACLANT) 	<ul style="list-style-type: none"> • Memorandum of Understanding with the Governments of Australia, United Kingdom and Canada
Complete	<ul style="list-style-type: none"> • International Experimentation Branch created 	<ul style="list-style-type: none"> • Concept Report and Paper 	<ul style="list-style-type: none"> • Concept Report and paper

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(U) PROGRAM CHANGE FOR TOTAL PE:

	FY 2000	FY 2001	FY 2002
FY 2001 President's Budget	43,498	49,506	53,660
Appropriated Value:			
Adjustments from FY 2000 President's Budget:			
SBIR/STTR Transfer	-1,028		
Congressional Adjustments	-170	-361	
Congressional Plus-Up		+2,000	
NWCF Adjustment			-38
Non-Pay Adjustment			+146
Gov't Wide Rescission		-112	
Adjustment to Program (MC02)			65,142
FY 2002 President's Submission	42,300	51,033	85,502

(U) Schedule: Not Applicable.

(U) Technical: Not Applicable.

(U) OTHER PROGRAM FUNDING SUMMARY: The Navy's 6.1 program contributes to this effort.

(U) NAVY RELATED RDT&E:

- (U) 0601152N In-house Lab Independent Research
- (U) 0601153N Defense Research Sciences
- (U) 0602114N Power Projection Applied Research
- (U) 0602123N Force Protection Applied Research
- (U) 0602131M MC Landing Forces Tech
- (U) 0602235N Common Picture Applied Research
- (U) 0602236N Warfighter Sustainment Applied Research
- (U) 0602271N RF Systems Applied Research
- (U) 0602435N Ocean Warfighting Environment Applied Research
- (U) 0602747N Undersea Warfare Applied Research
- (U) 0602782N Mine & Expeditionary Warfare Applied Research
- (U) 0603114N Power Projection Advanced Technology

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- (U) 0603123N Force Protection Advanced Technology
- (U) 0603235N Common Picture Advanced Technology
- (U) 0603236N Warfighter Sustainment Advanced Technology
- (U) 0603271N RF Systems Advanced Technology
- (U) 0603640M Marine Corps Advanced Technology
- (U) 0603729N Warfighter Protection Advanced Technology
- (U) 0603747N Undersea Warfare Advanced Technology
- (U) 0603758N Naval Warfighting Experiments and Demo
- (U) 0603782N Mine & Expeditionary Warfare Advanced Technology
- (U) 0603750D Advanced Concept Technology Demonstration
- (U) 0603727D Joint Warfighting

(U) SCHEDULE PROFILE: Not applicable.

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