

## UNCLASSIFIED

<b>Exhibit R-2, RDT&amp;E Budget Item Justification</b>				<b>DATE:</b> February 2005				
<b>APPROPRIATION/BUDGET ACTIVITY</b> RDT&E, Defense-Wide/05				<b>R-1 ITEM NOMENCLATURE</b> Joint Command and Control /PE 0303158K				
<b>COST (in Millions)</b>	<b>FY04</b>	<b>FY05</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>
Joint Command and Control (JC2)/JC01	0	3.905	14.580	19.674	25.802	26.288	26.940	27.760

A. Mission Description & Budget Item Justification: Joint Command and Control (JC2) is the next generation of command and control for the Department of Defense (DoD). JC2 is the follow-on to the Global Command and Control System (GCCS) Family of Systems including the DISA-provided GCCS-J, the current C2 system of record for the Department. JC2 is a key DoD Transformation effort that will provide a wide range of strategic, operational and theater-level Command, Control and Intelligence (C2I) capabilities to the warfighter based on a more net-centric, web-based, open system standards architecture. It will leverage the technologies and Core Enterprise Services provided by the Net-Centric Enterprise Services (NCES) and other net-centric providers. JC2 is based on the Joint Requirements Oversight Council (JROC)-approved Operational Requirements Document (ORD), dated 22 August 2003, and the JC2 Capabilities Development Document (CDD) that is currently in JROC staffing. JC2 will provide capabilities in eight Mission Capability Packages: Situational Awareness, Force Readiness, Force Projection, Intelligence, Force Protection, Force Employment (Air/Space Operations), Force Employment (Land Operations), and Force Employment (Maritime/Littoral Operations). Additionally, JC2 will provide the software component for the Navy's Deployable Joint Command and Control (DJC2) program. The requested RDT&E funding is critical to supporting DoD Transformation in the area of strategic and operational command and control. Accordingly, this program element is under Budget Activity 05.

In accordance with DoD goals, next generation C2I efforts are consolidated into JC2 in FY 2006 and beyond. This project supports JC2 major milestone activities to include concept exploration, acquisition documentation, and technology risk reduction through prototyping, development, integration, testing and limited operational use for evaluation. Two FY 2005 DISA projects are consolidated into JC2, Net-Centric Capabilities Pilot (NCCP) (PE 0604764K, AITS-JPO/Project T26) and C2 Community of Interest (COI) Services/User Defined Operational Picture (UDOP) (PE 0303149K, C4I For the Warrior/Project T55). JC2 will use the NCES Core Enterprise Services (CES) and/or NCES Evaluation Capability Modules (ECM) as they become available. These components will support Global Information Grid (GIG) requirements of the Combatant Commanders (COCOM) and the Joint Task Forces (JTF).

DISA sponsored Net-Centric Capabilities Pilot (NCCP) beginning in FY 2004. NCCP starts a discovery process and a dialogue with the warfighting, development and acquisition communities on how to build, test, certify and operate effective, robust, and secure net-centric warfighting capabilities. NCCP is consistent with DODD 5000.1. NCCP activities support JC2 concept exploration, technology risk reduction, and will help validate JC2 Technology Development Strategy (TDS) and Test and Evaluation Strategy (TES) that are being developed in FY 2005 as part of DISA's JC2 pre-milestone A responsibilities. NCCP includes periodic demonstration events to showcase selected mission threads

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to COCOMs, DoD senior leadership, and others such as coalition partners.

Accomplishments/Planned Program:

	<u>FY 04</u>	<u>FY 05</u>	<u>FY 06</u>	<u>FY 07</u>
Subtotal Cost	0.000	3.905	5.000	5.100

**JC2 Development and Strategic Planning** - The current GCCS-J system is scheduled for development through Block V. JC2 will build upon and expand the capabilities developed and integrated in the GCCS era, and migrate capabilities to a more modern, net-centric architecture. FY 2005 activities are focused on several JC2 pre-Milestone A tasks for DISA. These include preparing the JC2 TDS and TES. DISA is also supporting the ASD(NII)-led JC2 Analysis of Alternatives (AoA) which is scheduled for completion in late FY 2005. In FY 2006 DISA expects to participate in several forecasted JC2 pre-Milestone B activities. These include: 1) strategic planning to identify net-centric C2 capability gaps that must be mitigated by suitable government development and/or other risk reduction activities, 2) an economic analysis to identify and mitigate total life cycle cost to DoD, 3) selected system engineering and architectural analysis, and 4) technical risk reduction pilots. Activities will assist in refining AoA options, provide the initial steps of the technical development, and help guide operational users engaged in developing operational tactics, techniques, and procedures for employing net-centric C2 capabilities.

	<u>FY 04</u>	<u>FY 05</u>	<u>FY 06</u>	<u>FY 07</u>
Subtotal Cost	0.000	0.000	9.580	14.574

**Next Generation C2I Capabilities** - Provides net-centric warfighting mission capabilities for the C2 Community of Interest (COI) based on Combatant Commander approved Joint Mission Threads (JMT) and a services oriented (web-based) architecture. JMT is a JFCOM-led effort that will develop comprehensive descriptions of architectural elements (including associated operational requirements and the systems engineering approach) that define how the joint force will execute key warfighting mission threads. FY 2005 funding will refine JC2-related pilot capabilities that were demonstrated in FY 2004, the USSTRATCOM-sponsored Global Strike capability, the JFCOM-sponsored Situational Awareness capability. Intelligence/Targeting Support services for enhanced time-sensitive targeting, and a Force Projection capability that supports an improved joint deployment process are FY 2005 candidate capabilities. New capabilities will be added in FY 2006 and FY 2007 based on a collaborative management decision by JFCOM, other COCOMs, OSD, and

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Joint Staff.

- Mature UDOP capabilities will provide a tailorable relevant operational context that enables users to share a common understanding, improve their situational awareness, and conduct mission threads more effectively. Capabilities will be realized within a services-oriented architecture that leverages GIG Enterprise Services (GES) such as NCES (e.g., discovery services) and the Global Information Grid-Bandwidth Expansion (GIG-BE) to provide improved timely situational awareness, planning, collaboration and execution. Each user or aggregation of users will be able to define and use an operational context tailored to meet their needs by composing multiple net-centric data sources and services using a producer/consumer or publish/subscribe model that supports raw and processed data for Task, Post, Process and Use (TPPU) paradigm as well as smart push. JC2's situational awareness capabilities will be more flexible and extensible than the currently deployed client-server based GCCS Family of Systems' (FOS) Common Operational Picture (COP). The UDOP will provide increased agility for the user by generating an operational context from net-centric sources and services using a variety of web-based situational awareness tools as opposed to a hierarchical COP generated by a single command authority.

- JC2-related capabilities are being developed, integrated, tested and certified in a joint, distributed, collaborative development environment. Mission thread capabilities demonstrated in NCCP are composed from many Combatant Command/Service/Agency web-enabled data sources and services (e.g., DISA to include available NCES Core Enterprise Service (CES) pilot services and some C2 COI UDOP services, Service development and research commands, other agencies, ACTDs, Programs of Record, and industry). Pilot/demonstration capabilities are made available to users on the classified network for evaluation, maturation and limited operational use per ASD(NII) direction.

B. Program Change Summary:

	<u>FY 04</u>	<u>FY 05</u>	<u>FY 06</u>	<u>FY 07</u>
Previous President's Budget	0.000	3.000	0.000	0.000
Current Submission	0.000	3.905	14.580	19.674
Total Adjustments	-	+0.905	+14.580	+19.674

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**Change Summary Explanation:**

The FY 2005 changes are due to support for a Navy Internet Protocol v.6 testbed project and undistributed Congressional reductions to the Defense-Wide RDT&E appropriation.

The FY 2006 and FY 2007 changes extend the initial JC2 funding to support the ASD(NII) Acquisition Decision Memorandum tasking for DISA to take the lead in developing the Test and Evaluation Strategy (TES) and Technology Development Strategy (TDS) for JC2. The proposed funding stream is based on the OSD-approved Concept Decision that directed DISA to support pre-Milestone A efforts including an Analysis of Alternatives and other DoDD 5000 activities in anticipation of a successful Milestone B decision in FY 2007.

**C. Other Program Funding Summary:**

	<u>FY 04</u>	<u>FY 05</u>	<u>FY 06</u>	<u>FY 07</u>	<u>FY 08</u>	<u>FY 09</u>	<u>FY 10</u>	<u>FY 11</u>
O&M, DW	0.000	0.000	0.575	2.032	3.412	4.631	4.802	4.920

**D. Acquisition Strategy:** DISA will use existing contract vehicles to carry out the pre-Milestone A activities. These include development of the JC2 Technology Development Strategy (TDS), the Test and Evaluation Strategy (TES), and conducting market research. The post-Milestone A acquisition strategy is still to be determined. It is contingent on the completion of pre-Milestone A activities to include the JC2 Analysis of Alternatives. Performance based contracts will be used when applicable. DISA Next Generation contractual vehicle will be used.

**E. Performance Metrics:** JC2 supports several DISA Balanced Scorecard measures including net-centric compliance and providing Community of Interest (COI) capabilities to the warfighter. An internal project level Earned Value Management System has been implemented. Project managers will exercise oversight of contractor performance relative to established project cost, schedule, and performance milestones. Monthly reports are used to provide timely information on contractor expenditures. Routine status will also be provided through the OSD Integrated Product Team (IPT) structure.

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Net-Centric Capabilities Pilot (NCCP) and C2 Communities of Interest (COI) capabilities are developed using a spiral methodology, with incremental demonstrations, limited utility assessments of the demonstrated capabilities, and refinement of future capabilities based on the feedback. These next generation C2I capabilities support several DISA Balanced Scorecard measures including delivery of Net-Centric Enterprise Services (NCES) core services and COI capabilities to the warfighter. An internal project level Earned Value Management System has been implemented. Project managers exercise oversight of contractor performance relative to established project cost, schedule, and performance milestones. Monthly reports provide timely information on contractor expenditures. Several web-based financial management tools are used to obtain budget and execution information.

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Exhibit R-3 Cost Analysis						DATE: February 2005						
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NAME AND NUMBER					
RDT&E, Defense-Wide/05			Joint Command and Control/ PE 0303158K				Joint Command and Control/JC01					
Cost Category	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY07 Cost	FY07 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Congressional Add Navy Internet Protocol v6	TBD	TBD		1.000	TBD							
JC2 Technical Risk Reduction & Piloting	TBD	TBD				3.500	TBD	3.600	TBD	Contg	Contg	7.100
JC2 Acquisition Documentation	TBD	TBD				1.500	TBD	1.500	TBD	Contg	Contg	3.000
System Engineering	OTF&O	MITRE, FFRDC McLean, VA		1.595	Mar-05	0.950	Oct-05	0.700	Oct-06	Contg	Contg	3.245
JC2 Acquisition Documentation	F&O	BAH Arlington, VA		0.830	Jun-05					0	0.830	0.830
JC2 Acquisition Documentation	F&O	KeyLogic Systems Columbia, MD		<u>0.480</u>	Mar 05					0	0.480	0.480
Engineering Support	MOA	JPL, FFRDC San Diego, CA				0.300	Jan-06	0.300	Jan-07	Contg	Contg	0.600
NCCP / UDOP Pilot Integration	TBD	SAIC-APEX-968 McLean, VA				1.425	Mar-06	0.200	Mar-07	Contg	Contg	1.625
C2IM UDOP Testing	MOA	SSC-SD GOVT San Diego, CA				0.240	Feb-06	0.500	Feb-07	Contg	Contg	0.740
UDOP SW Dev & Tech Suppt	F&O	NGMS, FGM, Rolexis Reston, VA				3.275	Oct-05	11.034	Oct-06	Contg	Contg	14.309
NCCP C2 Visualization/Portal	F&O	NGMS, FGM, Rolexis Reston, VA				0.540	Oct-05	0.500	Oct-06	Contg	Contg	1.040
NCCP SW Svs Orchestration	F&O	NextGen-Solers, Rosslyn, VA				0.891	Mar-06	0.000	N/A	0	0.891	0.891
UDOP Engineering Support	F&O	NextGen-FGM Reston, VA				0.750	Mar-06	0.000	N/A	0	0.750	0.750
UDOP Architecture/Engineering		S&T Assoc., Arlington, VA				0.675	Mar-06	0.000	N/A	0	0.675	0.675
Engineering/Tech Svcs	MOA	SSC-CH GOVT MOA/MIPR Suitland, MD				<u>0.534</u>	Oct-05	<u>1.340</u>	Oct-06	Contg	Contg	1.874
	Total			3.905		14.580		19.674				



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Exhibit R-4 Schedule Profile													Date: February 2005																									
Appropriation/Budget Activity RDT&E, Defense-Wide/05													Program Element Number and Name Joint Command and Control (JC2)/ PE 0303158K													Project Number and Name Joint Command and Control/ JC01												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011									
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4						
<b>Architecture /Integ./ Dev.</b>																																						
NCCP Integration									△	△	△	△	△	△	△	△																						
Situational Awareness ECM V2									△	△	△																											
NCCP Portal v2									△	△	△	△																										
NCCP SW Services orchestration										△	△	△																										
<b>Pilots / Demonstrations</b>																																						
NCCP Spring 06 Demonstration											△	△	△																									
NCCP Fall 06 Demonstration												△	△	△	△																							
NCCP Spring 07 Demonstration														△	△	△	△																					
NCCP Fall 07 Demonstration																△	△	△	△																			

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<b>Exhibit R-4a Schedule Detail</b>		<b>DATE:</b> February 2005
<b>APPROPRIATION/BUDGET ACTIVITY</b> RDT&E, Defense-Wide/05	<b>PROGRAM ELEMENT</b> Joint Command and Control (JC2) / PE 0303158K	<b>PROJECT NAME AND NUMBER</b> Joint Command and Control / JC01

<u>Schedule Profile</u>	<u>FY2004</u>	<u>FY2005</u>	<u>FY2006</u>	<u>FY2007</u>	<u>FY2008</u>	<u>FY2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
<b>JC2 Capability Development</b>								
Contract Preparation			3Q					
Contract Competition			4Q					
Contract Award			4Q					
Technical Risk Reduction & Piloting		3Q-4Q	1Q-2Q	3Q-4Q	1Q-2Q			
Acquisition Documentation		1Q-4Q		1Q-4Q				
<b>Architecture / Integration &amp; Dev</b>								
NCCP Integration			1Q-4Q	1Q-4Q	1Q			
Situational Awareness ECM V2			1Q-3Q					
NCCP Portal V2			1Q-4Q					
NCCP SW Services Orchestration			2Q-4Q					
<b>Pilots / Demonstrations</b>								
NCCP Spring 06 Demonstration			3Q-4Q	1Q				
NCCP Fall 06 Demonstration			4Q-	1Q-3Q				
NCCP Spring 07 Demonstration				2Q-4Q	1Q			
NCCP Fall 07 Demonstration				4Q	1Q-3Q			
<p>Note: Only displays currently planned milestones; details of future efforts will be driven by JC2 Milestone A decision planned for third quarter FY05.</p>								

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