Exhibit R-2, RDT&E Budget Item Justification				Date: February 2005				
Appropriation/Budget Activity RDT&E Defense-Wide, BA 6				R-1 Item Nomenclature: Support to Networks and Information Integration PE 0605170D8Z				
Cost ($ in millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost		37.304	10.706	10.819	11.333	11.348	11.670	11.869
Command Information Superiority Architecture		6.048	5.314	5.411	5.661	5.650	5.794	5.930
Defense Architecture Repository		1.134	1.208	1.230	1.285	1.285	1.316	1.347
Integrated Planning and Management		1.843	1.966	2.002	2.096	2.091	2.143	2.195
Support to NII Mission Requirements		28.279	2.218	2.176	2.291	2.322	2.417	2.397

A. Mission Description and Budget Item Justification:

This program element supports studies in the areas of networks, information integration, defense-wide command and control (C2), and communications. This program is funded under Budget Activity 6, RDT&E Management Support because it includes studies and analysis in support of RDT&E efforts.

Program Accomplishments and Plans:

FY 2005 Plans: ($28.279 million)

- Pursue research on new approaches to command and control suitable for 21st Century operations.
- Continue to fund the Edge Institute at the Navy Post Graduate School (NPS) and expand this virtual institute to other universities.
- Initiate research on implications of coalition and civil-military operations for command and control, military operations, and organizations.
- Continued development of metrics and conceptual framework suitable for assessing network-centric operations.
- Continue to work with the DoD community and international partners to improve the understanding of Information Age command and control related concepts, technologies, and experiments.
- Conduct 10th International Command and Control Research and Technology Symposia.
- Conduct workshops to explore command and control related issues.
- Continue C2 publications and outreach program.

- Complete a study of advanced shipboard Acoustical Communications.
- Conduct research to improve voice and speech clarity in noisy environments, specifically, target the chaotic climate found within a Combat Operations Center (COC) and Unit Operations Centers (UOC) with operators wearing headsets for voice communications.
- Study the potential capability to augment existing and planned IED detection devices with new technology that would improve the operators' ability to detect, analyze, identify, and localize IED devices more quickly and efficiently.
- Investigate, research, and analyze the high impulse noise operating environment existing on aircraft carrier (CV/N) flight decks. Document the factors which impede effective transmitted human speech communications which contribute to unsafe flight deck operations and define those critical elements for which Perfect Wave Independent Component Analysis (ICA) technology would benefit.
- Develop an improved flight deck communications system which incorporates the Independent Component Analysis (ICA) technology in order to mitigate ambient and machinery induced environmental noises introduced into human speech processing communications systems. Test, evaluate, demonstrate and validate the effectiveness of ICA in improved operation of flight deck voice communication systems.

Pacific Disaster Center

- Continue to expand the capabilities and development of an integrated distributed information network in the Asian-Pacific Region. Work with, and propose to, major regional support entities (World Bank, Asian Development Bank, etc) to develop natural hazard mitigation strategies and enabling policies in the development plans of emerging nations.
- Continue to expand the PDC presence in the Asia-Pacific Region capitalizing on the existing efforts being undertaken by the East-West Center, US State Department and other international entities concerned with the rising cost, both in human lives and property, of natural and man-made disasters.
- Continue to support the US Military Commands, DOD Homeland Defense, State and Federal Agencies, and regional organizations with unique products critical to decision-makers in managing risks posed by, and emergencies caused by, nature and/or mankind. Work more closely with other stakeholders, including planners, to plan for and mitigate the effects of these events and make communities more resilient.
- In partnership with the NII Directorate, Contingency Support and Migration Planning, continue to expand the Community of Interest for Stabilization and Reconstruction efforts after a major event (war, natural disaster, refugees) with a focus on net-centric information flow and distributed information systems.

FY 2006 Plans: ($2.218 million)

- Pursue research on new approaches to command and control suitable for 21st Century operations.
- Continue support for the Edge Institute at the NPS and expand this virtual institute to other universities.
- Continue research on implications of coalition and civil-military operations for command and control, military operations and organizations.
- Assess metrics and conceptual framework suitable for assessing network-centric operations.
- Continue to work with the DoD community and international partners to improve the understanding of Information Age command and control related issues.
- Continue C2 publications and outreach programs.

FY 2007 Plans: ($2.176 million)

- Continue research on new approaches to command and control suitable for 21st Century operations.
- Continue research on implications of coalition and civil-military operations for command and control, military operations, and organizations.
- Assess metrics and conceptual framework suitable for assessing network-centric operations.
- Continue to work with the DoD community and international partners to improve the understanding of Information Age command and control related concepts, technologies, and experiments.
- Conduct symposia and workshops to explore command and control related issues.
- Continue C2 publications and outreach programs.

B. **Program Change Summary:** (Show total funding, schedule, and technical changes for the program element that have occurred since the previous President's Budget Submission)

	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget		11.490	11.483	11.703
Current President's Budget		37.304	10.706	10.819
Total Adjustments		25.814	-0.777	-0.884
Congressional program reductions				
Congressional rescissions, Inflation Adjustments		-1.286	0.323	0.316
Congressional increases		27.100		
Reprogrammings				
Transfer			-1.100	-1.200

Program Change Summary:
FY2005: Congressional Adds 27.100 million; IT reduction -0.395 million; Management Improvements -0.117 million; General Reduction -0.235 million; FFRDC Reduction -0.169 million; CAAS Reduction -0.370 million
FY 2006: ITMA Database Transfer to PA&E –1.100 million; Non-pay Purchase Inflation 0.370 million; Contract Support -0.047 million
FY 2007: ITMA Database Transfer to PA&E –1.200 million; Non-pay Purchase Inflation 0.366 million; Contract Support -0.050 million

C. Other Program Funding Summary: N/A

D. Acquisition Strategy. N/A

E. Performance Metrics:

- Community participation in command and control research program (CCRP) events.
- Number of requests for CCRP publications.
- Number of international countries engaged in net centric discussions and collaborative efforts.
- Successfully sponsored symposia/workshops to discuss command and control research initiatives.

Exhibit R-2a, RDT&E Project Justification						Date: February 2005		
Appropriation/Budget Activity RDT&E, Defense-Wide, BA 7				Project Name and Number: Command Information Superiority Architectures (CISA)/PE 0605170D8Z				
Cost ($ in millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Name: Command Information Superiority Architectures		6.048	5.314	5.411	5.661	5.650	5.794	5.930

A. Mission Description and Budget Item Justification:

The CISA program continues to be a leader in the transformation of the Department of Defense (DoD). Using a common architecture planning process, CISA products have provided decision makers at all levels of the department with the knowledge and tools to make intelligent, cost effective decisions on key transformational elements and policies, to include Net-Centric Operations and Warfare (NCOW), and the Global War on Terrorism (GWOT). CISA is the prime catalyst for transforming the COCOMs to a net-centric environment. The program is focusing on architecture deliverables that focus on Net-Centric Transition Plans for the COCOMs and integrating Portfolio Management into the COCOMs information technology and capital planning processes. The CISA architecture products results will be used to determine the future DoD CIO IT issues and investment strategies for the COCOMs. In addition, the results will provide direct inputs into the COCOM Integrated Priorities Listings (IPLs), and provide rationale for Program Objective Memorandum (POM) decisions by identifying critical capability shortfalls. The CISA information technology (IT) architectures products; the tactics, techniques, and procedures (TTPs) documents; and the architecture reference models have earned an enviable reputation throughout DoD as the "ground truth". Several have resulted in directly impacting critical shifts in DoD policies which include the new capabilities process for Capital Planning and Investment under the Joint Staff Instruction 3170.01; the Unified Command Plan 2 (directs the standup of USNORTHCOM and the re-structuring of USSTRATCOM); expansion of the GWOT focusing on USSOCOM as the lead developer of a global two-tier net-centric approach; coalition interoperability through the use of USCENTCOM Combined Enterprise Regional Information Exchange System (CENTRIXS) world-wide architecture which links 60 nations in a unified effort; and lastly, Net-Centric Operations and Warfare (NCOW) through the Global Information Grid (GIG) architecture and the NCOW Reference Model (RM). CISA is a leader in supporting the DoD CIO focus on initiatives defined in the Information Technology Management Reform Act (ITMRA), (Clinger-Cohen Act) in the development of the GIG, the Department wide IT architecture. The GIG is considered the essential enabler of Information Superiority and Net-Centricity requirement expressed in the Department's Joint Vision 2020. The inputs include GIG Architecture V1.0 – the DoD baseline "as is" architecture; and GIG 2.0 approved by the DoD CIO on 9 Dec 2003 as the objective architecture for 20XX embedding NCOW transformational concepts. The NCOW RM represents the key compliance mechanism for evaluating IT-related capability, and mapping DoD acquisition programs to implement NCOW.

B. Accomplishments/Planned Program

	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/ Effort/Subtotal Cost		6.048	5.314	5.411
RDT&E Articles Quantity *(as applicable)				

FY 2004 Accomplishments : N/A

FY 2005 Plans: ($6.048 million)

- Continue development of GIG NCOW Reference Models to include information assurance and data management strategies
- Continue to develop Net-Centric assessment checklists for DoD Program Managers
- Continue net-centric implementation of GIG architecture.
- Continue development of executable COCOM architectures impacting operations, budget and transitions
- Develop COCOM Net-Centric Transition Plans and processes
- Link COCOM Net-Centric Transition Plans with key initiatives such as GIG Bandwidth Expansion (BE), Joint Tactical Radio System (JTRS), Net-Centric Enterprise Services (NES), Information Assurance (IA)
- Continue to expand and integrate COCOM Net-Centric transition assessment criteria
- Continue to develop and implement Portfolio Management criteria based on architecture data
- Continue to develop POM assessment criteria for information technology based on architecture data
- Investigate new ways of integrating COCOM architecture data with Portfolio Management for POM inputs, and Integrated Priority Listings (IPLs)
- Provide COCOM Net-Centric Assistance to integrate DoD programs within COCOM enterprise environment and link to COCOM inputs with DoD Enterprise Architecture Reference Models (DODEA RM) for OMB form 300 preparation.

FY 2006 Plans: ($5.314 million)

- Investigate and expand COCOM Net-Centric Transition plans
- Expand the integration of COCOM Portfolio Management and Net-Centric Transition plans
- Continue expansion of Net-Centric compliance assessments of DoD Acquisitions
- Expand and refine COCOM Net-Centric transition assessments
- Fully integrate COCOM Net-Centric transition plans and assessments into IT capital planning and acquisitions for COCOMs and OMB form 300 preparation

FY 2007 Plans: ($5.411 million)

- Implement second round of COCOM Net-Centric transition plans and assessments integrated with other DoD Program Net Centric assessments to ensure smooth "plug and play" capabilities
- Develop and provide integrated set of COCOM Net-Centric assessment capabilities for implementing transition plans
- Expand Implementation executable architecture capabilities within COCOM architectures and assessments of alternatives (AOA)
- Expand interactive use of architecture data for dynamic assembly of COCOM architectures to meet mission demands and changes for Unified Command Plans (UCPs)
- Continue expansion and integration with COCOM IT Capital Planning and Investments, and acquisitions

C. Other Program Funding Summary:

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
O&M, DW (PE0902198D8Z)		5.769	4.885	5.004	5.019	5.122	5.202	5.342	37.343

D. Acquisition Strategy: N/A

E. Performance Metrics: Performance is based on the number of initiatives that transition to the net-centric environment to support operations.

Measures include:

- Requirements: Business products identified in need of change

Business products impacted or changed due to architecture analysis or products • Acquisitions: Number of system(s) or system functions identified as duplicate Number an/or type of system identified as necessary to complete capability Number of system(s) and/or applications impacted by architecture analysis • Portfolio Management: Number of systems included in portfolio Cost estimates provided for portfolio Number of duplicate systems identified in portfolio analysis Funds obtained as a result of portfolio analysis

Exhibit R-2a, RDT&E Project Justification							Date: February 2005	
Appropriation/Budget Activity RDT&E, Defense-Wide, BA 7				Project Name and Number: Defense Architecture Repository System (DARS)/PE 0605170D8Z				
Cost ($ in millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Name: DARS		1.134	1.208	1.230	1.285	1.285	1.316	1.347

B. Mission Description and Budget Item Justification:

DARS is the enterprise wide repository to store, retrieve, and use DoD architecture data. DARS provides two different types of architecture data- unstructured and structured along with key reference data. The architecture data is available to all DoD users once they have registered. Currently versions exist on both the NIPRNET (unclassified) and SIPRNET (Collateral Classified). Plans are also underway to implement DARS on the Joint World Wide Intelligence Communications System (JWICS). Key features of the DARS program focus on: (1) reuse of common validated architecture data to build integrated architectures; (2) conducting architecture analysis; and, (3) integration architecture data into the DoD mainstream decision-making processes. The DARS data structure is based on the Core Architecture Data Model (CADM), and its data structure is fully CADM compliant. This data structure is under full configuration management, and has the goal of transporting architecture data between and among diverse enterprise architecture and other tools (tool agnostic capability), allowing collaboration among users. By using a standard universal applications process interface (API) CADM XML, DARS works with multiple tool vendors to achieve the collaborative tool agnostic environment. The FY 2005 DARS program will follow the results of the FY 2004 pilot effort to prove that the CADM XML XSD will be the standard Universal API, and allow COTS tool vendors to integrate this into their tool capabilities. DARS will additionally add additional architecture products to the structured capability which may include the OV 6 a,b,c products along with SV 4,5,6,9, and 10A,b,c. Also data exchange capabilities will include the Joint Resource Allocation Module (JRAM), and other executable or modeling and simulation tools. DARS goals for FY 05 are aggressive and include implementing DARS 3.0 in Feb 05. DARS will also support the transfer of CADM XML to the international data exchange standard AP 233 using the CADM XML XSLT as the core driver for the transformation. The Department of the Air Force, Army, and Navy CIO's are collaborating in the development of DARS to ensure the success of all. New DARS releases are scheduled for every six months during FY 2005 (DARS 5.0 and 4.0).

B. Accomplishments/Planned Program

	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/ Effort/Subtotal Cost		1.134	1.208	1.230
RDT&E Articles Quantity *(as applicable)				

FY 2004 Accomplishments: N/A

FY 2005 Plans: ($1.134 million)

- Continue expansion of implementing architecture products for the structured capability using CADM XML
- Continue to explore the integration of CADM XML into an international data exchange standard by combining AP 233 (international data exchange standard for systems engineering and CADM XML)
- Expand data exchange capabilities between DARS and other data repositories
- Explore the capability to make architectures executable by providing data exchange capabilities with decision support and modeling and simulation systems such as Joint Resources Allocation Module (JRAM)
- Explore capabilities to authenticate authoritative data sources for architecture data
- Implement Net-Centric services within DARS and explore options for including DARS data as part of the Core Enterprise Services
- Implement capability for DoD program managers and others to build OMB form 300s from DARS architecture data
- Integrate both NCOW Reference Models and the DoD Enterprise Architecture Reference Models into the DARS and CADM data structures
- Implement two new DARS versions (4.0 and 5.0) based on new user requirements
- Implement ‘data harvesting” capabilities required to build integrated architecture packages, coupled with portfolio management and analytical capabilities for decision making regarding architecture data usage
- Explore and develop capability for architecture data reuse to dynamically assemble architectures or to build “tailorable” data sets based on architecture data to assist decision makers
- Initiate exploration of a “Federated DARS” Capability for architecture data exchange
- Initiate concept of “Earned Value” for architectures through establishment of a business rules model
- Initiate exploration of integration of a “Core Architecture Data Model (CADM) Business Rules

FY 2006 Plans: ($1.208 million)

- Demonstrate capabilities to operations by supporting both in garrison and deployed forces to move and analyze architecture data
- Implement changes required to DARS from the new DoD Architecture Framework requirements to include executable architectures, Net-Centric impacts on architecture products, new executive formats, portfolio management requirements in DARS 6.0
- Complete ability for DoD Program managers to use DARS data to build OMB form 300s and 53s
- Implement new international data exchange architecture standard based on CADM XML
- Expand DARS data exchange capabilities to modeling and simulation systems, decision support systems and budgetary systems
- Continue the exploration and expansion DARS as part of a "Federated Net-Centric" environment for data exchange
- Continue exploration of DARS integration into the "Core Enterprise Services" of Net-Centric Enterprise Services (NCES)
- Continue expansion of the "rules based model" to establish "earned value" for architecture data and architectures
- Continue to expand "authoritative data sources" processes and policies

FY 2007 Plans: ($1.230 million)

- Continue to implement capabilities required to meet changes to the DoD Architecture Framework (DoDAF) that will include capabilities to expand the "dynamic" assembly of architectures based on mission or process requirements or "tailorable packages based on architecture data for assistance in decision making (DARS 7.0)
- Continue integration of DARS data services into "Core Enterprise Services"
- Fully integrate DARS data harvesting capabilities into a Federated Data-Centric environment

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: N/A

E. Performance Metrics:

- Getting key service program managers to use DARS to store and retrieve architecture data to include Future Combat System (FCS), Command and Control Constellation (C2C), FORCENET.
- Obtaining Intelligence Community Agencies such as National Security Agency (NSA), Defense Intelligence Agency (DIA),

National Geospatial Agency (NGA) architects and program managers to store and retrieve architecture data from DARS

- Participation from leading COTS enterprise architecture vendors to use and maintain currency with CADM XML with their version releases
- Acceptance of CADM XML as the basis for an international data exchange standard

Exhibit R-2a, RDT&E Project Justification							Date: February 2005	
Appropriation/Budget Activity RDT&E, Defense-Wide, BA 7				Project Name and Number: Integrated Planning and Management/PE 0605170D8Z				
Cost ($ in millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Name: Integrated Planning & Management		1.843	1.966	2.002	2.096	2.091	2.143	2.195

A. Mission Description and Budget Item Justification:

Provide a single integrated C2 structure across the Department of Defense supporting every echelon of command from national to tactical. Transform the existing set of dedicated, single purpose command and control (C2) systems into an integrated framework to support the flow of information into the command structure and enhance decision. Assure policies and a strategy for a unified, flexible, and adaptable full-spectrum command and control capability for warfighters and senior leaders within a globally connected common information environment (CIE). Support the Joint Staff, JFCOM, and STRATCOM in development of an information integration and decision portfolio of services and applications that will decompose existing C2 programs of record into essential capabilities supporting Joint Operating Concepts and Joint Mission Essential Functions.

B. Accomplishments/Planned Program

	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/ Effort/Subtotal Cost		1.843	1.966	2.002
RDT&E Articles Quantity *(as applicable)				

FY 2004 Accomplishments: N/A

FY 2005 Plans: ($1.843 million)

- Produce Converged C2 Capabilities, C2 Vision, DoD C2 Policy and C2 Operational Concept
- Development, coordination and implementation of C2-related ontologies, taxnonomies, and registries.
- Development, coordination and implementation of policy and directives necessary to achieve the converged C2 capabilities.
- Development, evaluation and application of C2 metrics criteria to guide C2 convergence from national through Tactical levels of C2.
- Specify overarching system engineering process
- Development of Initial Capabilities Document (ICD)
- Development of global C2 applications and services information integration framework.

FY 2006 Plans: ($1.966 million)

- Continue all efforts initiated in FY 2005.
- Developing overarching policies to integrate or migrate C2 systems for senior leadership into a net-centric environment.
- Assist the COCOMS/Services in articulating C2 net-centric concepts and top level requirements that must be addressed by the JCIDS process.
- Work with Joint Staff, Services and COCOMs on the development of Net-centric C2 Functional Area Analysis (FAA/Functional Needs Analysis (FNA)/Functional SolutionAnalysis (FSA) as appropriate.

FY 2007 Plans: ($2.002 million)

- As the net-centric environment evolves, update published C2 policies and concepts.
- Build on all previous efforts to accomplish C2 capability gap, shortfall, and overlap assessments and institutionalize the process.
- Influence Programs of Record based on identified gaps and overlaps

C. Other Program Funding Summary:

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
O&M, DW (PE0902198D8Z)		3.000	3.000	3.000	3.000	3.000	3.000	3.000	21.000

D. Acquisition Strategy: N/A

E. Performance Metrics:

- Successfully develop, coordinate, and publish DOD C2 policies and operational concepts.
- Establishment of an information integration and decision portfolio of C2 services and applications to demonstrate selected capabilities.
- Development of Dynamic Operational Communities of Interest services based on the capabilities provided by the NCES Program.
- Establishment of an ontological framework and XML data model to permit the meta-tagging of information integration decision portfolio data at the strategic and national C2 level in a manner consistent with other DoD data strategies and modeling efforts.