

<b>Exhibit R-2, RDT&amp;E Budget Item Justification</b>		Date: May 2009		
Appropriation/Budget Activity RDT&E Defense-Wide, BA 6		R-1 Item Nomenclature: Support to Information Operations Capabilities PE 0303166D8Z		
Cost (\$ in millions)	FY 2008	FY 2009	FY 2010	
Total PE Cost	33.736	34.966	30.604	
IO Capability Activities	3.470	4.565	4.700	
IO Range	10.339	10.848	11.162	
VisION	14.006	14.457	14.742	
Enhanced Simulation for Information Operations Capabilities	5.921	5.096	0	
<b>A. Mission Description and Budget Item Justification:</b>				
<p>These programs are each part of the Defense Department's coordinated effort to integrate Information Operation (IO) test and evaluation capability to assess IO technologies and tactics in a representative operational environment against realistic targets. The IO Roadmap identified the need for a suite of automated data analysis and decision support software tools to facilitate joint-IO planning enabling users to accomplish Intelligence Preparation of the Battlespace (IPB), develop IO strategy and candidate IO campaign targets, plan IO missions, and monitor and assess execution. The objectives of the programs are to create a flexible, seamless and persistent environment enabling combatant commanders to achieve the same level of confidence and expertise in employing IO weapons that they have in kinetic weapons; to lead the development of a joint IO analysis, planning, and targeting capability for Service and COCOM IO operational execution; and to transform intelligence support to IO and joint IO training, education, and exercises.</p>				
<ol style="list-style-type: none"> <li>1. Information Operations Capability Activities – Develops IO Capabilities, emphasizing those that fulfill critical requirements for Combatant Commanders' IO planners and operators.</li> <li>2. Information Operations Range (IOR) - IOR establishes a secure, flexible, and seamless environment for the Services and Joint warfighters to test, train, develop tactics, and exercise selected IO capabilities. This environment enables the COCOM's warfighters to visualize non-kinetic weapons effects, understand the intricate and interactive effects generated by kinetic and non-kinetic weapons and achieve the same level of confidence and expertise in employing IO weapons that they have with kinetic weapons.</li> <li>3. Virtual Integrated Support for the Information Operations eNvironment (VisION) is the future joint IO planning and analysis system, which will integrate and synchronize IO analysis, planning, execution and assessment. VisION will support operations at multiple security levels, including coalition operations, across all Services and communities. Additionally, it will reduce duplication of effort, minimize training, speed up processes, and ensure unity of efforts throughout the DoD.</li> <li>4. Enhanced Simulation for Information Operations Capabilities will provide a software architecture that can bring network management</li> </ol>				

to the Deputy Secretary of Defense Chartered Information Operations Range and VisION initiatives. The IO Range and VisION programs require the transfer of large amounts of data to accomplish their mission and must mitigate or overcome latency and bandwidth limitation inherent in all networks. These network limitations are especially prevalent in field operations where connectivity to networks is erratic. The DoD leadership recognizes the need to improve efficiency in utilizing non-kinetic weapons. Currently, however, the ability to create and operate the realistic operational environment required to support effective integration of these systems is limited because data transfer requirements exceed real world bandwidth limitations. The software architecture will support IO Range and VisION objectives to provide analysis, planning, rehearsal, and execution environments for US and coalition forces by enabling large-scale data transfer and providing a central integration point with new standards, and enhancing simulation capabilities. This will save considerable time and money by eliminating rewrites of existing simulations and filtering of critical data thus providing a mission critical solution that is needed by DoD now.

Program Accomplishments and Plans:

FY 2008 Accomplishments: Continued development and expansion of the IO Range, spiral development VisION, and other IO capabilities.

FY 2009 Plans: Continue development and expansion of the IO Range, spiral development of VisION, and other IO capabilities.

FY 2010 Plans: Continue development and expansion of the IO Range, spiral development of VisION, and other IO capabilities.

**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)

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Previous President's Budget	34.590	30.039	30.825
Current President's Budget	33.736	34.966	30.604
Total Adjustments	-.854	4.927	-.221
Congressional program reductions		-.193	
Congressional increases		5.120	
Department adjustments		-.070	-.221

Change Summary Explanation:

FY 2008: SBIR/STTR and department decrease.

FY 2009: Congressional increase, Congressional program reduction.

FY 2010: Department decrease.

**C. Other Program Funding Summary:** N/A

**D. Acquisition Strategy:** N/A

**E. Performance Metrics:** Performance metrics are measured through internal management controls and external assessments. Performance metrics include, but are not limited to time, money, realism, and fidelity as defined below:

- Time – Will the effort enable the warfighter to speed up processes faster than current capabilities allow?
- Money – Will the effort enable the warfighter to reduce duplication of effort and to prepare and execute events at a more effective and efficient cost than current capabilities allow?
- Realism – Will the effort enable the warfighter to create an environment that is closer to the real world environment than current capabilities allow?
- Fidelity – Will the effort ensure unity of efforts throughout the IO Community?

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>			May 2009
Appropriation/Budget Activity RDT&E,DW BA 6		Project Name and Number: IO Capability Activities	
Cost (\$ in millions)	FY 2008	FY 2009	FY 2010
IO Capability Activities	3.470	4.565	4.700
RDT&E Articles Quantity	N/A	N/A	N/A
<b>A. Mission Description and Budget Item Justification:</b>			
<p>This capability contains classified programs. Facilitates the development of IO capabilities that support COCOMs and Services executing IO during current and future conflicts. Supports the development of IO capabilities, particularly critical emerging IO needs that support IO planners and operators.</p>			
<b>B. Accomplishments/Planned Program</b>			
	FY 2008	FY 2009	FY 2010
Accomplishment/ Effort/Subtotal Cost	3.470	4.565	4.700
RDT&E Articles Quantity	N/A	N/A	N/A
<p>FY 2008 Accomplishments: The project contains classified efforts. Developed IO capabilities that support COCOMs and Services executing IO during current and future conflicts. Developed IO capabilities, particularly critical emerging IO needs that support IO planners and operators.</p> <p>FY 2009 Plans: The project contains classified efforts. Funds the development of IO capabilities that support COCOMs and Services executing IO during current and future conflicts. Supports the development of IO capabilities, particularly critical emerging IO needs that support IO planners and operators.</p> <p>FY 2010 Plans: The project contains classified efforts. Funds the development of IO capabilities that support COCOMs and Services executing IO during current and future conflicts. Supports the development of IO capabilities, particularly critical emerging IO needs that support IO planners and operators.</p>			
<b>C. Other Program Funding Summary:</b> N/A			
<b>D. Acquisition Strategy:</b> N/A			
<b>E. Major Performers:</b> N/A			

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>			May 2009
Appropriation/Budget Activity RDT&E,DW BA 6			Project Name and Number: IO Range
Cost (\$ in millions)	FY 2008	FY 2009	FY 2010
IO Range	10.339	10.848	11.162
RDT&E Articles Quantity	N/A	N/A	N/A

**A. Mission Description and Budget Item Justification:**

The National Military Strategy of the United States stresses the importance of integrating Information Operations (IO) capabilities for the success of Joint Operations and Decision Superiority. “Assuring information systems in the face of attack and conducting effective Information Operations” was one of the six critical operational goals in DoD’s transformation efforts (2001 Quadrennial Defense Review). The 2003 Department of Defense Information Operations (IO) Roadmap, dated 30 Oct 2003, established a requirement for an integrated range supporting “exercises, testing, and development of IO capabilities.” Further direction by OSD identified the need for an “integrated IO test and evaluation capability to assess IO technologies and tactics in a representative operational environment against realistic targets.” The FY04-09 Defense Planning Guidance (DPG) stated the need to expand IO training and education for the developing cadre of IO professionals and provide an environment for analysis, testing, training, combat assessments, and measures of effectiveness for more reliable IO capabilities. Deputy SECDEF Memorandum on the IO Range signed 18 Nov 2005 established the requirement for creating a cooperative information operations range among military services under the leadership of USJFCOM. In FY 2006, USJFCOM completed three use cases (two Service and one COCOM) and achieved initial operating capability August 2006. In FY 2007, USJFCOM completed the final use case (for U.S. Pacific Command) and began actual range testing of CNO capabilities, while preparing for expansion to accommodate EW capabilities in FY 2008.

The Information Operations (IO) Range establishes a secure, flexible, and seamless environment for the Services and Joint warfighters to test, train, develop tactics, and exercise selected IO capabilities. The basis of the functional structure of the IO Range is the integration of existing ranges, laboratories, information warfare centers, and other Government facilities that currently support IO test, training, exercise, and experimentation events. Capabilities at the selected sites will be securely connected and integrated into the IO Range. A key feature of this concept is the persistent, secure connection that links the sites together, allowing the exchange of data and the visualization of effects as we employ capabilities. Creation of a “virtual range” based on persistent connections significantly reduces the amount of lead-time required to set up each new warfighter event. The long-term goal for the IO Range is to be a full spectrum IO Range comprising: operational security, computer network operations, electronic warfare, psychological operations, and military deception. This environment enables the COCOM’s warfighters to visualize non-kinetic weapons effects, understand the intricate and interactive effects generated by kinetic and non-kinetic weapons and achieve the same level of confidence and expertise in employing IO weapons as they have with kinetic weapons.

Note: Funds allocated for IO Range development were transferred from PE 0603757D8Z in FY08 to support USJFCOM, the Lead

Agent for the IO Range.

**B. Accomplishments/Planned Program**

	FY 2008	FY 2009	FY 2010
Accomplishment/ Effort/Subtotal Cost	10.339	10.848	11.162
RDT&E Articles Quantity	N/A	N/A	N/A

FY 2008 Accomplishments:

- Expanded IOR capabilities to support Computer Network Operations (CNO), Electronic Warfare (EW), Psychological Operations (PSYOP), Deception, and integrated Computer Network Attack (CNA)/Computer Network Defense (CND)
- 29 IO Range nodes in place and operational  
Processes in place to facilitate ease of use of IOR in accordance with all security policies and procedures
- Approval to operate in place up to Top Secret, Sensitive Compartmented Information (TS SCI) /Special Access Required (SAR) in accordance with Director of Central Intelligence Directives (DCID) and Joint Air Force, Army Navy (JAFAN) at Protection Level 3 (PL3)
- Standing Joint Chiefs of Staff (JCS) Exercise Order (EXORD) signed for exercising and training with CNO capabilities
- IO Range Classification Guidance published
- Range available for support to CNO (CNA, CNE,CND), EW, Deception, and other related events
  - 70 current and numerous emerging requirements (FY08, FY09)
  - Requirements process and execution strategy in place
- Active support/integration of Joint Information Operations Warfare Command (JIOWC)/Joint Electronic Warfare Command (JEW) Red Team provided targets and capabilities (wireless and telephony systems)
- Support to EW gap analyses based on results of U.S. Pacific Command (PACOM) Ops Analysis and U.S. Strategic Command (STRATCOM) EW Capability Based Analysis (CBA)
  - Increased EW foundational capability on IO Range (open air, chambers, live/virtual/constructive)
  - Concept of dedicated transportable node focused on EW events (for use at unclassified locations such as Academia and/or Industry)
  - IOR provides a live, virtual, and constructive environment to improve EW training and EW materiel solutions as part of the Doctrine, Organization, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) process
- Integrate coalition partners with a persistent connection

- Develop improved instrumentation and visualization for IO capabilities
- Develop a Cross Domain Security Solution (CDSS) for processing information at multiple levels of security

FY 2009 Plans:

- Increase EW foundational capability on IO Range (open air, chambers, live/virtual/constructive)
- Explore concept of dedicated TSDP focused on EW events (for use at UNCLASS locations such as Academia and/or Industry)
- Potentially provide a live, virtual, and constructive environment to improve EW training and EW materiel solutions as part of the DOTMLPF process
- Continue the implementation of IO capabilities at the Range sites. This continuing effort supports progress toward reaching full capability in which more than 50 persistent IO Range sites will be connected and integrated for IO Range use.

FY 2010 Plans:

- Develop, test and evaluate IO Range concepts during events based on a list of prioritized requirements and available funding.
- Development toward full spectrum IO will continue to evolve with the addition of a CNO (CNA, CNE, CND), EW, Deception, and other related targets.
- Continue the implementation of IO capabilities at the Range sites. This continuing effort supports progress toward reaching full capability in which more than 70 persistent IO Range sites will be connected and integrated for IO Range use.

**C. Other Program Funding Summary:** N/A

**D. Acquisition Strategy:** N/A

**E. Major Performers:** Northrop Grumman, Booz-Allen Hamilton

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>			May 2009
Appropriation/Budget Activity RDT&E,DW BA 6			Project Name and Number: VisION
Cost (\$ in millions)	FY 2008	FY 2009	FY 2010
VisION	14.006	14.457	14.742
RDT&E Articles Quantity	N/A	N/A	N/A
<b>A. Mission Description and Budget Item Justification:</b>			
<p>National Military Strategy stresses the importance of integrating Information Operations (IO) capabilities for the success of Joint Operations and Decision Superiority. “Assuring information systems in the face of attack and conducting effective Information Operations” was one of the six critical operational goals in DoD’s transformation efforts (2001 Quadrennial Defense Review). In a memo signed 15 Nov 2006, the Deputy Secretary of Defense designated Commander USJFCOM the DoD Lead Component for the development, integration and sustainment of as the department's primary IO mission planning and assessment capability. In FY-08, USD(I) directed the merger of IOPC-J with the Joint Integrative Analysis and Planning Capability (JIAPC) program. The combined analysis, planning, and assessment program was named the Virtual Integrated Support for the Information Operations Environment (VisION). The first VisION Senior Leader Team meeting occurred in February 2008 followed by the first Joint Integrated Product Team meeting in June 2008.</p> <p>Virtual Integrated Support for the Information Operations eNvironment (VisION) is the developmental DoD IO Planning and analysis system, which will integrate, and synchronize IO analysis, planning, execution and assessment. VisION will support operations at multiple security levels, including coalition operations, across all Services and communities. Additionally, it will reduce duplication of effort, minimize training, speed up processes, and ensure unity of efforts throughout the DoD.</p>			
<b>B. Accomplishments/Planned Program</b>			
	FY 2008	FY 2009	FY 2010
Accomplishment/ Effort/Subtotal Cost	14.006	14.457	14.742
RDT&E Articles Quantity	N/A	N/A	N/A
FY 2008 Accomplishments:			

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- Merged JIAPC and IOPC-J into one program (called VisION).
- Initiated development of closed Research and Development network on the IO Range to further refine VisION utility and facilitate rapid development of new/improved capabilities.
- Developed VisION baseline capability with initial IO analysis and assessment capabilities.
- Supported USEUCOM during exercise Austere Challenge. EUCOM will serve as developmental partner in spiral development of VisION capabilities to ensure warfighter utility.
- Created Integrative Analysis (InA) methodologies and processes to provide requested input to the planning process.
- Established initial InA community of interest to bring intelligence information and tools from existing organizations together in collaborative forum. This will provide additional awareness of processes/capabilities in other organizations and, therefore, reduce duplicative efforts.

FY 2009 Plans:

- Integrate and synchronize planning, analysis, execution and assessment capabilities into VisION in support of validated COCOM/Service/Agency requirements.
- Test and perform limited fielding of technical demonstration version of VisION capability (IOPC-X). IOPC-X is the risk reduction effort designed to transform from the baseline client-server based system to a web-based system. The web-based system will reduce deployment and sustainment costs while allowing more rapid improvements/additions to VisION capabilities.
- Apply existing net enabled architectures to enhance IO planning, analysis, execution and assessment.
- Continue to develop integrative analysis methodology, with USPACOM and other organizations, and integrate with IO planning and assessment processes and capabilities.
- Continue expansion/maintenance of InA community of interest.

FY 2010 Plans:

- Achieve initial operational capability (IOC).
- Initiate fielding of VisION to COCOMs/Services/Agencies.
- Continue integration/development of planning, analysis, execution and assessment capabilities into VisION to meet emergent COCOMs/Services/Agencies requirements.
- Integrate integrative analysis methodology and capabilities into VisION environment..
- Continue expansion/maintenance of InA community of interest.

**C. Other Program Funding Summary: N/A**

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**D. Acquisition Strategy:** The VisION risk reduction technology demonstration will be extended in duration and expanded in scope to meet the requirements of the risk reduction technology demonstration. This short-term approach will be in addition to the formal acquisition process to develop VisION initial and full operational capability. This will include a short “bridging contract” to provide IWPC 4.2 sustainment until VisION baseline capability is ready. To aid in the VisION development, USEUCOM will serve as a developmental partner with USJFCOM in support of the VisION program. This relationship will ensure constant operator input and assessment and facilitate eventual testing efforts. In FY08, VisION initiated support to USPACOM to advance the development of integrative analysis processes and procedures. This effort is expected to continue throughout FY09 and will ensure warfighter validation of VisION’s new capabilities.

Concurrently, the IO JMO will initiate the formal acquisition process to mature and harden the baseline capability for deployment of the Initial Operational Capability in FY10 and Full Operational Capability in FY12. The VisION Capabilities Development Document (CDD) has been endorsed by the Services and the Command and Control Functional Capabilities Board and is scheduled for approval by the Command and Control Joint Capabilities Board in December 2008. Milestone B decision is expected in 2Q FY09.

**E. Major Performers:** N/A

Exhibit R-2a, RDT&E Project Justification			May 2009
Appropriation/Budget Activity RDT&E,DW BA 6		Project Name and Number: Enhanced Simulation for Information Operations Capabilities	
Cost (\$ in millions)	FY 2008	FY 2009	FY 2010
Enhanced Simulation for Information Operations Capabilities (Congressional add)	5.921	5.096	0
RDT&E Articles Quantity	N/A	N/A	N/A
<b>A. Mission Description and Budget Item Justification:</b>			
Enhanced Simulation for IO Capabilities is a Congressional add providing a software architecture that can bring network management to the Deputy Secretary of Defense Chartered Information Operations Range and VisION initiatives. The IO Range and VisION programs require the transfer of large amounts of data to accomplish their mission and must mitigate or overcome latency and bandwidth limitation inherent in all networks. These network limitations are especially prevalent in field operations where connectivity to networks is erratic. The DoD leadership recognizes the need to improve efficiency in utilizing non- kinetic weapons. Currently, however, the ability to create and operate the realistic operational environment required to support effective integration of these systems is limited because data transfer requirements exceed real world bandwidth limitations. The software architecture will support IO Range and VisION objectives to provide analysis, planning, rehearsal, and execution environments for US and coalition forces by enabling large-scale data transfer, and providing a central integration point with new standards, and enhancing simulation capabilities. This will save considerable time and money by eliminating rewrites of existing simulations and filtering of critical data thus providing a mission critical solution that is needed by DoD now.			
<b>B. Accomplishments/Planned Program</b>			
	FY 2008	FY 2009	FY 2010
Accomplishment/ Effort/Subtotal Cost	5.921	5.096	0
RDT&E Articles Quantity	N/A	N/A	N/A
<p>FY 2008 Accomplishments: Purchased WARP appliances, enterprise software licenses and engineering support for integration of the WARP technology into all VisION and IOR network sites.</p> <p>FY 2009 Plans:</p>			

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- Enhance simulation capabilities on the IO Range.
- Deploy, test, and integrate WARP enterprise software licenses and hardware to fully implement WARP across the IO Range network enterprise.
- Obtain formal approval to install WARP across the Range enterprise as part of the IO Range accredited baseline configuration.

FY 2010 Plans: N/A

**C. Other Program Funding Summary:** N/A

**D. Acquisition Strategy:** N/A

**E. Major Performers:** Circadence, Inc.