

Exhibit R-2, RDT&E Budget Item Justification						Date: February 2008	
Appropriation/Budget Activity RDT&E DW/BA 05			R-1 Item Nomenclature: Common Joint Tactical Information/0604771D8Z				
Cost (\$ in millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	7.946	16.384	20.600	20.757	21.078	21.414	21.741
Link-16 Tactical Data Link (TDL) Transformation/P771	7.946	16.384	20.600	20.757	21.078	21.414	21.741
<b>A. Mission Description and Budget Item Justification:</b>							
<p>The P771 program was developed to transform Joint Tactical Data Links (TDLs) (primarily the J Series of Link 16, Link 22, and the Variable Message Format) to comply with the Department's Net-Centric Operations Warfare (NCOW) vision. The program encapsulates the Department's needs for joint and combined network-enabled capabilities for TDLs and is being expanded to assess and transform other data link communications, such as the Common Data Link (CDL) and Weapons Data Link (WDL), to the NCOW standards, as deemed appropriate. The implementation of these network capabilities into the data link environments will enhance the decision cycle between sensor-to-shooter; providing an information-superior, shared environment that will enhance combat power by increasing speed of command, higher tempo of operations, greater lethality, increased survivability, and self synchronization. This transformation must balance the needs of the warfighter communities with the standards of NCOW. For example, the future stealth platforms have Low Observable (LO) data links in development, thus there is a need to address Joint LO data link capabilities in the NCOW migration strategy.</p> <p>The funds provided by this budget request were used in 2007 to ensure the timely implementation of the NCOW by incorporating these network-enabling capabilities into the Joint Tactical Data Enterprise Services (TDES) Migration Plan (JTMP). This update of the JTMP to include network-enabling capabilities was also staffed and approved by the Joint Requirements Oversight Council (JROC), Allied/Coalition partners and the NATO C3 Board as critical to transformation of the data links. Starting this funding period, the JTMP will be used as a baseline to support the Office of the Secretary of Defense (OSD) in further analyzing the validated warfighter capability needs for the primary TDL and CDL communications across the full set of mission areas in order to identify possible solutions to meet those needs across the range of Doctrine, Organization, Training, Material, Leadership, Personnel and Facilities (DOTMLPF) and assess the synchronization planning and capability delivery management activities to support the Joint NCOW and Joint Net-Centric Operations (JNO) objectives. This will include assessing the integrated joint airborne architecture, conducting risk assessments of NCOW programs, assessing NCOW program dependencies, and ensuring adherence to the GIG enterprise wide technical baseline. The JNO will work with the Services in this near-term analysis and with our Allied/Coalition partners in future analysis to validate the acquisitions and fielding plans needed to obtain the Department's NCOW objectives. In addition, the current assessment will incorporate the CDL family of tactical Intelligence, Surveillance, and Reconnaissance (ISR) communications systems, including the systems in used with Unmanned Aerial Vehicles (UAVs) and the Integrated Broadcast Service (IBS), with subsequent year's funding being used to expand the JTMP to include the results of this CDL analysis. A final area to be added will focus on the development of network-enabled weapons.</p> <p>The program will continue to fund the development of spectrum management and oversight for the TDES systems, and to fund for the coordination of these development efforts with the Services and other US and International spectrum management agencies, including the Federal Aviation Agency (FAA) and National Telecommunications and Information Administration (NTIA), to obtain Link 16 spectrum certification. In</p>							

## UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification		Date: February 2008
Appropriation/Budget Authority RDT&E DW/BA 05	R-1 Item Nomenclature Common Joint Tactical Information/0604771D8Z	
<p>addition, funding will continue to be used to support the Defense Information System's Agency's (DISA) and Services' interoperable improvement efforts and processes in the development of common NCOW standards and protocols. This effort includes initiating the Joint Interoperability Enhancement Process (IEP) that allows operators, engineers, and program managers to verify capabilities and identify issues in a design with Joint /Allied units prior to system fielding, or with fielded systems to identify required systems changes for systems upgrade planning. DISA will lead the effort to transform the current standards and interoperability management tools to a common set of Joint network-enabled standards to ensure adherence to the GIG enterprise wide technical baseline and for implementation of future TDES capabilities. These joint standards, protocols, and processes will be used for implementation and testing to ensure the TDES capabilities are synchronized with the development and integration timelines of other planned network-enabled Global Information Grid (GIG) initiatives. The threats to the networking waveforms and the Joint NCOW migration will also be looked at in cooperation with the Intelligence agencies.</p> <p>The associated P773 program previously supported the RDT&amp;E of MIDS-LVT. The last year of funding, FY 2005, supported the close out of the MIDS-LVT development as DoD began the migration to the Joint Tactical Radio System (JTRS). Both the P773 and P771 were and are funded under BA-5, System Development and Demonstration, because the programs encompass engineering, manufacturing development, and demonstration of new end-items prior to production approval decision.</p> <p>FY 2007 Accomplishments (\$7.946 million):</p> <ul style="list-style-type: none"> <li>- Finalized update of the 2006 JTMP for publication in early 2008 <ul style="list-style-type: none"> <li>- Updated TDL migration plan</li> <li>- Updated to include integration and synchronization of NCOW and JNO capabilities</li> <li>- Updated TDL gateways and the JINTACCS process</li> <li>- Initiated analysis to evaluate expanded data link communities and their possible migration to NCOW and incorporation into the JTMP <ul style="list-style-type: none"> <li>- Initiated analysis on the warfighter capabilities of the Common Data Link (CDL) and Integrated Broadcast System (IBS) environments to guide the net-centric migration of Joint Intelligence, Surveillance, and Reconnaissance (ISR) and Joint Intelligence Broadcast assets</li> <li>- Initiated work to incorporate Low Observable (LO) data links to address stealth platform requirements</li> </ul> </li> </ul> </li> <li>- Implemented the Interoperability Enhancement Process (IEP) with DISA to: <ul style="list-style-type: none"> <li>- Populate and maintain a database of Joint TDES implementations and interoperability assessments</li> <li>- Identify NCOW program dependencies and integration points</li> <li>- Ensure adherence to the GIG enterprise-wide technical baseline</li> </ul> </li> <li>- Established policy, provided oversight, and developed net-centric architectures which will address the wireless and mobility aspects of IP</li> <li>- Initiated the building of a NCOW integrated architecture; developed an initial airborne architecture</li> <li>- Assessed cross-program engineering, integration, and testing for NCOW / JNO programs and capabilities</li> <li>- Conducted initial risk assessments and Independent Program Assessments for NCOW and JNO programs and capabilities</li> </ul>		

UNCLASSIFIED

R-1 Line-Item No. 107

Page 2 of 7

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification		Date: February 2008
Appropriation/Budget Authority RDT&E DW/BA 05	R-1 Item Nomenclature Common Joint Tactical Information/0604771D8Z	
<ul style="list-style-type: none"> <li>- Assisted PEO C4I&amp;S in executing the:                             <ul style="list-style-type: none"> <li>- Agreements and conditions identified in the Department of Transportation (DoT) and DoD for sharing the 960 to 1215 Mhz band</li> <li>- Link 16 Spectrum Support Certification</li> </ul> </li> </ul> Technical assistance for the JTIDS/MIDS Multinational Working Group and other international forums related to ensuring spectrum access		
FY 2008 Planned (\$16.384 million):		
<ul style="list-style-type: none"> <li>- Publish update of the 2006 Joint Tactical Data Enterprise Services (TDES) Migration Plan (JTMP)</li> <li>- Continue analysis to evaluate expanded data link communities and their possible migration to NCOW and incorporation into the JTMP                             <ul style="list-style-type: none"> <li>- Initiate analysis on the warfighter capabilities of the Common Data Link (CDL) and Integrated Broadcast Service (IBS) environments to guide the net-centric migration of Joint Intelligence, Surveillance, and Reconnaissance (ISR) and Joint Intelligence Broadcast assets</li> <li>- Initiate work to incorporate Low Observable (LO) data links to address stealth platform requirements for Low Probability of Intercept (LPI) and Low Probability of Exploitation (LPE) digital communications</li> </ul> </li> <li>- Continue implementation and maintenance of the Interoperability Enhancement Process (IEP) with DISA to:                             <ul style="list-style-type: none"> <li>- Populate and maintain a database of Joint TDES implementations and interoperability assessments</li> <li>- Identify NCOW program dependencies and integration points</li> <li>- Ensure adherence to the GIG enterprise-wide technical baseline</li> </ul> </li> <li>- Continue to assist PEO C4I&amp;S in executing the:                             <ul style="list-style-type: none"> <li>- Agreements and conditions identified in the Department of Transportation (DoT) and DoD for sharing the 960 to 1215 Mhz band</li> <li>- Link 16 Spectrum Support Certification</li> <li>- Technical assistance for the JTIDS/MIDS Multinational Working Group and other international forums related to ensuring spectrum access</li> </ul> </li> <li>- Finalize the airborne architecture portion of the NCOW integrated architecture</li> <li>- Initiate the integration of Allied participants in the JTMP starting with the United Kingdom (UK)</li> <li>- OSD/NII and the JNO will continue to provide technical oversight, planning, and coordination of Joint TDL interoperability and transformation initiatives                             <ul style="list-style-type: none"> <li>- Act as Joint TDL subject matter experts and participate with GIG End-to-End Systems Engineering and related teams</li> <li>- Continue development of approved standards, protocols, and processes for implementation and testing across programs from end-to-end</li> <li>- Continue to assess cross-program engineering, integration, and test for NCOW / JNO programs and capabilities</li> <li>- Continue risk assessments and Independent Program Assessments for NCOW and JNO programs</li> <li>- Provide insight into operationally driven, technical functionalities needed to meet tactical data exchange requirements within a critical and/or warfighting environment.</li> </ul> </li> </ul>		

Exhibit R-2, RDT&E Budget Item Justification		Date: February 2008
Appropriation/Budget Authority RDT&E DW/BA 05	R-1 Item Nomenclature Common Joint Tactical Information/0604771D8Z	
<ul style="list-style-type: none"> <li>- Conduct analytic evaluations to define and plan implementation of key technologies to include tactical information integration and configuration management</li> <li>- Establish policy, provide oversight, and develop net-centric architectures which will address the wireless and mobility aspects of IP</li> <li>- Develop policy-based network management preferred system concept and methodology for enterprise situational awareness.</li> <li>- Evaluate need for a common interface and visualization approach for Programs of Record that are currently developed autonomously</li> <li>- Develop an ad hoc mobile net-centric tactical wireless architecture for 2020 that interfaces with the GIG</li> <li>- Develop JNO integrated architecture and Capability Delivery Plan</li> <li>- Support incorporation of data links into the Functional Solution Analyses (FSA) and FSA Integration efforts</li> <li>- Develop Strategic Plan and Portfolio Guidance for APOM 09 and POM10</li> <li>- Ensure the Single Integrated Air Picture (SIAP), the airborne portion of the Joint Theater Air and Missile Defense (JTAMD) Family of Systems, progresses from being net-ready to being net-centric, in compliance with the NCOW and as part of the 2008 JNO focus on airborne networking</li> <li>- Provide oversight to ensure the stages of development across the Integrated Air and Missile Defense roadmap encompass the tenets of NCOW and incorporate or interoperate with net-centric data links               <ul style="list-style-type: none"> <li>- Provide oversight for the integration of relevant architectures under development by IAMD stakeholders</li> </ul> </li> <li>Ensure the accuracy and completeness of the operations concept which will serve as an integrating structure for future IAMD operational               <ul style="list-style-type: none"> <li>- employment, capability development, and force integration efforts across air, cruise, and ballistic missile defense for theaters, regions, and the homeland.</li> <li>- Participate in a group effort to consider the transport path/program milestones and way ahead the Department should consider providing the sensor net defined for the 2020+ time period. Radio requirements would be defined and compared to potential Joint Tactical Radio System (JTRS) data link capabilities, determining if and when JTRS will be able to provide the needed capability. Additionally, the group will address the information path requirements necessary to perform the Air and Missile Defense mission.</li> </ul> </li> <li>- Assess and provide oversight of Global Positioning System (GPS) planning activities to address transforming the data link programs of record to comply with the Department's Net-Centric Operations Warfare (NCOW) vision, to include:               <ul style="list-style-type: none"> <li>- Integration, as appropriate, into the National Five-year Plan</li> <li>- Supervising studies and analyses</li> <li>- Updating and publishing the Federal Radionavigation Plan and the GPS Security Policy, as required</li> <li>- Providing GPS performance standards, spectrum defense and international strategy briefing and presentation support</li> </ul> </li> </ul>		

<b>Exhibit R-2, RDT&amp;E Budget Item Justification</b>		Date: February 2008
Appropriation/Budget Authority RDT&E DW/BA 05	R-1 Item Nomenclature Common Joint Tactical Information/0604771D8Z	
FY 2009 Planned (\$20.600 million):		
<ul style="list-style-type: none"> <li>- Integrate Allied participants in the JTMP with United Kingdom (UK) for the 2010 publication</li> <li>- Expand the integration of Allied participants in the JTMP with Australia</li> </ul> <p>Expand the Joint Interoperability Enhancement Process (IEP) with DISA maintaining a database of Joint TDES implementations and interoperability assessments and integrating all TDES data links beyond the initial demonstration effort</p> <ul style="list-style-type: none"> <li>- Lead Joint team with OSD, JCS, DISA, Services, and Agencies for TDES migration to include integration and synchronization of NCOW and JNO capabilities</li> <li>- Lead TDES teams to address transformation of the tactical gateways and the JINTACCS process</li> <li>- Act as the Joint subject matter experts for Joint, Allied, and Coalition Tactical Near-Term Interoperability and Net-Centric Transformation Initiatives</li> <li>- Provide technical oversight, planning, and coordination of Joint TDL interoperability and transformation initiatives</li> <li>- Act as Joint TDL subject matter experts and participate with GIG End-to-End Systems Engineering and related teams</li> <li>- Identify transformational solutions for dissemination of tactical data within the GIG Enterprise</li> <li>- Provide insight into operationally driven, technical functionalities needed to meet tactical data exchange requirements within a critical and/or warfighting environment</li> <li>- Conduct analytic evaluations to define and plan implementation of key technologies to include tactical information integration and configuration management</li> <li>- Demonstrate TDES being accessible to other web servers/systems via XML translation for Advanced Waveforms initiatives</li> <li>- Continue development of approved standards, protocols, and processes for implementation and testing across programs from end-to-end</li> <li>- Establish policy, provide oversight, and develop net-centric architectures which will address the wireless and mobility aspects of IP</li> <li>- Develop policy-based network management preferred system concept and methodology for enterprise situational awareness. Current Programs of record are developed autonomously and need a common interface and visualization approach.</li> <li>- Develop an ad hoc mobile net-centric tactical wireless architecture for 2020 that interfaces with the GIG</li> <li>- Update the Joint NCOW / JNO integrated architecture</li> <li>- Assess cross-program engineering, integration, and test for NCOW and JNO programs and capabilities</li> <li>- Conduct risk assessments and Independent Program Assessments for NCOW and JNO programs and capabilities</li> <li>- Identify NCOW and JNO programs and capabilities dependencies and integration points and their ensure adherence to the GIG enterprise-wide technical baseline.</li> </ul>		

Exhibit R-2, RDT&E Budget Item Justification		Date: February 2008	
Appropriation/Budget Authority RDT&E DW/BA 05		R-1 Item Nomenclature Common Joint Tactical Information/0604771D8Z	
<b>B. Program Change Summary:</b>			
	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Previous Presidents Budget	8.130	16.527	20.495
Current Presidents Budget	7.946	16.384	20.600
Total Adjustments	-0.184	-0.143	0.105
Congressional program reductions			
Congressional rescissions			
Congressional increases			
Reprogrammings			
SIBR/STTR Transfer			
Program Adjustment	-0.184	-0.143	0.105
Program Change Explanation:			
FY 2007: Rounding Adjustment at the Department level -\$0.184 million.			
FY 2008: FFRDC -\$0.038 million, Contractor efficiencies -\$0.027 million, Economic assumptions -\$0.078 million.			
FY 2009: Program adjustments of \$0.105 million due to inflation.			
<b>C. Other Program Funding Summary:</b> N/A			
<b>D. Acquisition Strategy:</b> In executing JTDL tasking, existing cost-plus contracts will be utilized.			
<b>E. Performance Metrics:</b>			
<b>Enterprise-Wide Alignment:</b> Accelerate DoD information age transformation to increase the effectiveness and efficiency of the warfighting, intelligence and business missions.			
Measures:			
- Timely development and issuance of policy and guidance			
- Instantiation of enterprise-wide system engineering for the Global Information Grid across DoD			
<b>Portfolio Management:</b> Provide for the timely and effective delivery of key Net-Centric capabilities through portfolio management Measures:			
- Key milestones completed for major net-centric acquisitions			
- Number of major systems through net-centric event-driven reviews in support of the JCIDS, acquisition and PPBE processes			

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis									Date: February 2008			
Appropriation/Budget Activity RDT&E DW/BA 05				Program Element: 0604771D8Z					Project Name and Number: Link-16 Tactical Data Link (TDL) Transformation - P771			
Cost Categories (\$ in millions)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
<b>Product Development</b>												
Spectrum Support	Various	Various	13.357	0.900	Various	1.618	Various	2.029	Various	Continuing	Continuing	Continuing
Data Link Migration Engineering Support	Various	Various	14.227								14.227	
Net-Centric Engineering	Various	Various	3.770	1.703	Various	3.061	Various	3.839	Various	Continuing	Continuing	Continuing
GIG Engineering Support	Various	Various	9.530	3.162	Various	5.686	Various	7.130	Various	Continuing	Continuing	Continuing
Enhancements	Various	Various	0.918									
JICO Toolset (JSS) Development	Various	Various	0.529									
Joint Initiatives	Various	Various	3.099	0.220	Various	2.021	Various	2.533	Various	Continuing	Continuing	Continuing
Joint TDES Migration and Technology Insertion Plan	Various	Various	6.812	1.090	Various	1.827	Various	2.334	Various	Continuing	Continuing	Continuing
Joint and International Engineering	Various	Various	4.726	0.366	Various	1.272	Various	1.595	Various	Continuing	Continuing	Continuing
Joint Interoperability Enhancement Process	Various	Various	0.477	0.505	Various	0.909	Various	1.140	Various	Continuing	Continuing	Continuing
Weapons Networks	Various	Various	1.403									
Web Enabled Cockpit	Various	Various	1.280									
<b>Subtotal Product Development</b>			<b>60.128</b>	<b>7.946</b>		<b>16.384</b>		<b>20.600</b>				
<b>Total Cost</b>			<b>60.128</b>	<b>7.946</b>		<b>16.384</b>		<b>20.600</b>				