Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*				R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	91.448	89.955	81.257	-	81.257	49.709	44.766	41.347	45.048	Continuing	Continuing
0486.: *Tactical Support Center*	11.596	15.972	12.993	-	12.993	6.550	6.243	6.262	6.305	Continuing	Continuing
0709: *GCCS-M Maritime Applications*	19.926	28.216	17.580	-	17.580	-	-	-	-	0.000	65.722
2009: *OSIS Evolutionary Development (OED)*	1.295	-	-	-	-	-	-	-	-	0.000	1.295
2213: *Mission Planning*	18.366	16.345	20.468	-	20.468	7.234	7.400	7.383	7.393	Continuing	Continuing
2307: *Shipboard LAN/WAN*	2.387	0.464	0.308	-	0.308	0.315	-	-	-	0.000	3.474
2351: *MDA*	19.485	19.630	-	-	-	-	-	-	-	0.000	39.115
3032: *NTCSS (Naval Tactical Command Spt Sys)*	5.971	3.661	18.524	-	18.524	12.639	7.974	5.050	0.928	Continuing	Continuing
3320: *TRIDENT Warrior*	-	-	3.712	-	3.712	3.582	3.037	3.075	2.285	Continuing	Continuing
3323: *Maritime Tactical Command & Control (MTC2)*	-	-	0.003	-	0.003	9.716	10.800	12.401	21.832	Continuing	Continuing
3324: *Navy Air Operations Command and Control (NAOC2)*	-	-	2.283	-	2.283	4.987	4.297	2.184	1.136	Continuing	Continuing
9123: *FORCEnet*	6.049	5.667	5.386	-	5.386	4.686	5.015	4.992	5.169	Continuing	Continuing
9999: *Congressional Adds*	6.373	-	-	-	-	-	-	-	-	0.000	6.373

Note

Project 0709 Global Command & Control System Maritime (GCCS-M) Applications: Beginning in fiscal year 2013, the Navy Command Control Air Planning Capability effort will be realigned from GCCS-M Applications (Project Unit 0709) to the Navy Air Operations Command and Control (NAOC2) program (Project Unit 3324).

Project 2351 Maritime Domain Awareness (MDA): MDA RDTEN funding was realigned to DCGS-N PE 0305208N in FY12 and out.

Project 3320 Trident Warrior (TW): Funding transferred from Project 9123 FORCEnet into Project 3320 beginning in FY12.

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Project 3323 Maritime Tactical Command & Control (MTC2): Beginning in fiscal year 2013, the development of maritime tactical command and control capabilities will be realigned from Global Command and Control System Maritime (GCCS-M) Maritime Applications (Project Unit 0709) to the Maritime Tactical Command and Control (MTC2) program (Project Unit 3323).

A. Mission Description and Budget Item Justification

The Tactical Command System upgrades the Navy's Command, Control, Computer and Intelligence (C3I) systems and processes C3I information for all warfare mission areas including planning, direction and reconstruction of missions for peacetime, wartime and times of crises.

Global Command and Control System - Maritime (GCCS-M): GCCS-M is a part of the GCCS Family of Systems (FoS). As such and responding to Congressional direction (Section 247 of Fiscal Year 2010 National Defense Authorization Act (NDAA)), it will form the basis for the evolution of new command and control capabilities and Maritime Tactical Command and Control (C2) capabilities within the Department of Defense (DoD). While sustaining and synchronizing currently fielded operations, the Navy will modernize and enhance current capabilities to support both the Service and Joint war fighter as a part of a synchronized, orchestrated DoD-wide effort that will transition the current GCCS FoS into a more agile, net-centric, services-oriented environment. These efforts will take advantage of both streamlined processes within the requirements community, such as the "IT Box" and ongoing changes in the information technology acquisition process, as described in chapter 6 of the March 2009 Report of the Defense Science Board (DSB) Task Force on DoD Policies and Procedures for the Acquisition of Information Technology (Section 804 of Fiscal Year 2010 NDAA).

Mission Planning: The Joint Mission Planning System (JMPS) is the CNO's designated automated mission planning system for the Navy. JMPS enables weapon system employment by providing the information, automated tools, and decision aids needed to rapidly plan aircraft, weapon, or sensor missions, load mission data into aircraft and weapons, and conduct post-mission analysis. JMPS is a mission critical system which is a co-development effort between the United States Navy (USN) and United States Air Force (USAF). Common requirements are identified and capabilities are developed and prioritized in an evolutionary approach. An individual JMPS mission-planning environment (MPE) is a combination of the JMPS framework, common capabilities, and the necessary system hardware required to satisfy mission planning objectives. Most Tactical Naval Aviation platforms are dependent solely on JMPS to plan precision guided munitions, sensor systems, tactical data links, secure voice communications, and basic Safety of Flight functions. The following type/model/series naval aircraft are supported by JMPS: F/A-18 A-F, E-2C, EA-6B, S-3, MV-22, EA-18G, AV-8B and VH-3/VH-60. Future JMPS platforms include: CH-46E, CH-53, MH-53E, H-60B/F/H, UH-1N, P-3, KC-130T/J, C-2, AH-1W/Z, H-60 R/S, follow-on version of VH3/VH-60, P-8, E-2D, UH-1Y, H-53K, and C-130. As directed via the CNO's Navy Enterprise Architecture and Data Strategy (NEADS) policy, the next JMPS architecture version (Framework V 1.4) will support net-centric goals by providing route "publish and subscribe" capabilities.

Tactical Support Center: The Tactical Mobile program provides evolutionary systems and equipment upgrades to support the Maritime Component Commanders (Expeditionary Ashore) and Maritime Patrol and Reconnaissance Force Commanders with the capability to plan, direct and control the tactical operations of Joint and Naval Expeditionary Forces and other assigned units within their respective area of responsibility. These operations include littoral, open ocean, and over land surveillance, anti-surface warfare, over-the-horizon targeting, counter-drug operations, power projection, antisubmarine warfare, mining, search and rescue, and special operations. The missions are supported by the Tactical Operations Centers (formerly Tactical Support Centers), the Mobile Tactical Operations Centers (formerly Mobile Operations Control Centers), and the Joint Mobile Ashore Support Terminal. TacMobile C2 systems are based on the Global Command and Control System - Maritime architecture which is Defense Information Infrastructure Common Operating Environment compliant.

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Trusted Information Systems: Radiant Mercury is a secure information platform that provides an automated means to sanitize, downgrade, guard, and transliterate formatted data at various classifications, compartments and reliabilities. With the aid of a reliable human reviewer, RM can process nonstandard messages, such as messages with National Imagery Transmission Format products and other non/semi-formatted file types. It enables combat commanders and operational commanders, afloat and ashore, to disseminate and receive critical operational and intelligence information with coalition and allied forces.

Shipboard Local Area Network (LAN)/Wide Area Network (WAN) : Integrated Shipboard Network System (ISNS): ISNS provides Navy ships with reliable, high-speed SECRET and UNCLASSIFIED LANs, providing the network infrastructure (switches and drops to the PC), Basic Network Information Distribution Services and access to the Defense Information Systems Network WAN, Secure and Nonsecure Internet Protocol Router Network (SIPRNET and NIPRNET) which are used by other hosted applications or systems such as Naval Tactical Command Support System, Global Command and Control System - Maritime, Defense Messaging System. Navy Standard Integrated Personnel System, Naval Mission Planning System, Theater Battle Management Core Systems, and Tactical Tomahawk Weapons Control System. It enables real-time information exchange within the ship and between afloat units, Component Commanders, and Fleet Commanders, and is a key factor in the implementation of the Navy's portion of Joint Vision 2020. Funding supports the design, development, and testing of the ISNS LAN for surface ships. ISNS includes integrated core services to provide a Service Oriented Architecture also known as Afloat Core Services (ACS) which is the mechanism to deliver the FORCEnet interface to the warfighter. ACS provides a composeable warfighting environment enabling dynamic configuration of capabilities tailored to meet specific warfighting missions. As the warfighting mission changes, the capabilities or services can be re-configured on the fly to meet the new warfighting requirement. This dynamic reconfiguration of services also known as "plug and fight" meets the composeable services vision of FORCEnet. ACS also provides the common core enterprise services and framework to allow organizations ubiquitous access to reliable, decision-quality information through a net-based services infrastructure and applications to bridge real-time and near-real-time Communities of Interest. The ACS will empower the end user to pull information from any available source, with minimal latency, to support the mission. Its capabilities will allow Department of the Navy as well as Global Information Grid users to task, post, process, use, store, manage, and protect information resources on demand for warfighters, policy makers, and support personnel. ACS will utilize a spiral process for delivering capability to the warfighter. The ISNS Inc 1, Sensitive Compartmented Information (SCI) Networks and Combined Enterprise Regional Information Exchange System (CENTRIXS) programs began migration to ISNS Inc 2/Consolidated Afloat Networks and Enterprise Services (CANES) in FY09. ISNS Inc 2/CANES will serve to transition numerous Fleet networks to a single, adaptive, available, secure computing network infrastructure while delivering enhanced technologies in: Integrated Voice, Video and Data; Common Computing Environment: ACS; and Multi-Level Security /Cross Domain Solutions. The program began development transition to CANES in FY2010.

Combined Enterprise Regional Information Exchange System (CENTRIXS): The CENTRIXS program provides US Navy ships with secure, reliable, high-speed Local Area Network (LAN) with access to the Coalition WAN to include CENTRIXS Four-Eyes, Global Counter Terrorism Task Force, North Atlantic Treaty Organization Information Data Transfer System, Multinational Coalition Force - Iraq, bilateral networks such as CENTRIXS-J (Japan) and CENTRIXS-K (Korea), and Communities Of Interest virtual networks such as Coalition Naval Forces - U.S. Central Command (CENTCOM) (CNFC), and Cooperative Maritime Forces - Pacific. The CENTRIXS system provides real-time tactical and operational information sharing at the SECRET and SECRET REL (Releasable) level between naval afloat units, Component Commanders, Fleet Commanders, Numbered Fleet Commanders and Coalition Forces/Allies. When the CENTRIXS network is combined with other subsystems (Radio/Satellite Communications), it delivers an end-to-end network centric warfighting capability. The CENTRIXS program is comprised of Block 0, I, and II systems fielded across the Fleet, and Increment 1 which provides a network infrastructure that allows simultaneous access to multiple Coalition WAN and incorporates the Common PC Operating System Environment which provides a server and client operating system environment for other applications and collaborative tools such as

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Same time Chat, Domino and Command and Control PC as means to share a Common Operational Picture and exchange information using Collaboration At Sea. The CENTRIXS program uses both Commercial off the Shelf hardware and software and Open Standards to maximize commercial technology and support. In-service engineering and technical support ensures existing systems are upgraded and modified to keep pace with current technology and industry.

Combined Enterprise Regional Information Exchange System (CENTRIXS) funding supports the design, development and testing of the CENTRIXS LAN for surface and subsurface platforms and the CENTRIXS Network Operations Center (NOC). The goal of the CENTRIXS program is to provide a cost-efficient, operationally effective network that dramatically reduces current infrastructure requirements while maximizing operational flexibility and war fighter utility in a coalition environment. Multi-Level Thin Client (MLTC) architecture support shipboard Space, Weight and Power (SWAP) reductions and include initiatives for server virtualization (ability to run multiple servers on a single server), drop scalability leveraging existing Secure Internet Protocol Router Network (SIPRNET) drops, remote authentication and remote system management. Additionally funding will provide design, development and testing for a Unit Level MLTC system (provides a compressed shipboard rack/client footprint) and initiatives to include Language Translation, Communities of Interest (COI) and Network Enclave Agility (ability to dynamically shift between all coalition networks and COIs) and Multi-Level Chat (a Cross Domain Solution (CDS) chat capability). The CENTRIXS program began migration to Integrated Shipboard Network Systems Increment 2 (ISNS Inc 2)/Consolidated Afloat Networks and Enterprise Services (CANES) in FY09. ISNS Inc 2/CANES will serve to transition numerous Fleet networks to a single, adaptive, available, secure computing network infrastructure while delivering enhanced technologies in: Integrated Voice, Video and Data; Common Computing Environment (CCE); Service Oriented Architecture (SOA); and Multi-Level Security (MLS)/CDS. Full transition to CANES began in FY 2010.

Submarine Local Area Network (SubLAN): The SubLAN program provides Navy submarines with reliable, high-speed Mission Critical SECRET and Mission Essential UNCLASSIFIED Local Area Networks (LANs). When the SubLAN network is combined with other subsystems, it will deliver an end to end network-centric warfare capability. The SubLAN program provides network infrastructure including an Unclassified Wireless Local Area Network (UWLAN), servers, and the Common Personal Computer Operating System Environment (COMPOSE) which provides the operating system, office automation, security, and other basic network services used by all hosted applications. Funding supports the design, development, and testing of SubLAN for addition of capabilities in support of migration to the CANES program effort.

Naval Tactical Command Support System (NTCSS) Enterprise Database and Maritime Logistics Data Network (MLDN): The NTCSS is a multi-function program designed to provide standard tactical support information systems to various afloat and associated shore-based fleet activities. The mission is to provide the Navy and Marine Corps with an integrated, scalable system that supports the management of logistical information, personnel, material and funds required to maintain and operate ships, submarines, and aircraft.

Maritime Tactical Command and Control (MTC2) provides Navy with the ability to deliver maritime domain-unique tactical Command and Control (C2) capabilities from Maritime Operations Centers down to the lowest tactical unit of operations. MTC2 supports alignment and provides interoperability of Navy Command and Control with the DoD Joint Command and Control way-forward. It will fully align with Joint C2 data and service exposure and consumption goals, architectures, and Net-Centric Enterprise Service efforts. These resources support the evolutionary acquisition, materiel solution analysis, technology development, engineering and software development of these capabilities.

Navy Air Operations Command and Control (NAOC2) integrates and tests Air Force produced systems that provide for an integrated and scalable planning system that provides standardized, secure, automated decision support for Air Force, Joint, and Allied commanders worldwide. These programs provide automated air operations

planning, execution management and intelligence capabilities at the Force level to include Fleet Commanders, Numbered Fleet Commanders, Commander Carrier Strike Group, Commander Expeditionary Strike Group, Commander Landing Force, and Joint Task Force Commanders. NAOC2 includes Theater Battle Management Core System (TBMCS), Command and Control Air and Space Operations Suite (C2AOS), plus Command, Control and Information Services (C2IS). C2AOS and C2IS are being developed as Service Oriented Architecture (SOA) services to allow for scalability and integration with Common Computing Environments (CCE). Continuation of these efforts will significantly enhance the Joint Force Air Component Commander (JFACC) and Combined Air Operations Center (CAOC) personnel to plan daily air operations including strike, airlift, offensive and defensive air, and tanker missions in support of combat operations, addressing the requirement of war fighter of distributed planning and execution processes and significantly improving Joint interoperability. TBMCS continues a hardware transition to CCEs such as Consolidated Afloat Networks and Enterprise Services (CANES). Currently, TBMCS is the key system that is used to conduct real world air planning in the Joint and Navy environment. C2AOS and C2IS will replace TBMCS in a SOA environment while bringing more flexibility to the war fighter, planner, and executor. In FY2012, the program will continue efforts previously funded by Global Command and Control System Maritime (GCCS-M) to migrate Air Force delivered TBMCS software to the Navy unique CANES environment.

FORCEnet: Initiative's mission is to (a) accelerate the transformation to a Distributed, Networked force; (b) achieve interoperability based on Architectures and Standards; and (c) Experiment with, evaluate and employ the enabling technologies. Effort is a non-acquisition program that is the operational instantiation of FORCEnet. The end-state is a distributed network of weapons, sensors, Command and Control (C2), platforms and warriors. Trident Warrior (TW): From FY12 forward, funding transferred from Project 9123 FORCEnet into new Project 3320.

Maritime Domain Awareness (MDA): MDA is the effective understanding of anything associated with the global maritime domain that could impact the security, safety, economy or environment. MDA objectives include the persistent monitoring of and ability to access and maintain data on vessels, cargo, people, and infrastructures; and the ability to collect, fuse, analyze, and disseminate information to decision makers to facilitate effective understanding. This initiative will identify, develop and transition data fusion and mining, replication, sharing and assessment tools to achieve MDA across the non-classified, unclassified and classified enclaves. Additionally, MDA will ensure capability integration with related activities and sites (both technologies and facilities). This warfighting enhancement is designed to achieve an all-source MDA capability, leveraging existing MDA initiatives in the developmental phase and ensuring the best products transition to strategic, operational and tactical users within the DCGS-N Increment 2 Program of Record. This includes the enhanced and future fusion and analysis capabilities defined in the Maritime Fusion and Analysis Services Initial Capabilities Document (MFAS ICD), DCGS Enterprise ICD, and the DCGS-N Increment 2 Gap Analysis. The products support all-source data fusion, development and replication of MDA and Intelligence Surveillance and Reconnaissance(ISR) related data gathered in various operations such as Expanded-Maritime Intercept Operations, sharing information with allies, and developing subject matter expertise and assessment tools to achieve MDA and enhance operational decision making.

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B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	92.379	89.955	89.967	-	89.967
Current President's Budget	91.448	89.955	81.257	-	81.257
Total Adjustments	-0.931	-	-8.710	-	-8.710
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	0.975	-			
• SBIR/STTR Transfer	-1.130	-			
• Program Adjustments	-	-	-7.797	-	-7.797
• Section 219 Reprogramming	-0.758	-	-	-	-
• Rate/Misc Adjustments	-	-	-0.913	-	-0.913
• Congressional General Reductions Adjustments	-0.018	-	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2010	FY 2011
Project: 9999: *Congressional Adds*		
Congressional Add: *Shipboard Wireless Network*	2.390	-
Congressional Add: *ISR Enhancements*	3.983	-
Congressional Add Subtotals for Project: 9999	6.373	-
Congressional Add Totals for all Projects	6.373	-

Change Summary Explanation

Technical: Not applicable.

Schedule:
TACTICAL SUPPORT CENTER (Project 0486):
MSC decision is scheduled for 4th Qtr FY11. Operational Test is scheduled for 2nd Qtr FY12. FRP is scheduled for 4th Qtr FY12.

Global Command and Control System - Maritime (GCCS-M) (Project 0709):

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In August 2009, the Milestone Decision Authority approved an alternate material solution of GCCS-M Increment 2 to support the requirements of Group Level ships, Unit Level ships, and submarines. This solution is based on the Office of Naval Research (ONR)-funded project eXtensible Common Operational Picture (XCOP). GCCS-M Increment 2 conducted a successful GATE 6 review for its Milestone C on 29 April 2010.

Radiant Mercury (RM) (Project 2009):
Schedule slip of RM Version 5.0 from 3QFY10 to 4QFY10 due to delay in NSA certification.

Mission Planning (Project 2213):
From/To:
System Development:
JMPS V1.4 Software Development - Details added to the schedule Effort runs from 2Q FY11- 2Q FY12/1Q FY12-2Q FY12
Due to Congressional mark against USAF Increment IV (PE 0208006F) which led to Critical Change Review in accordance with Weapon Systems Acquisition Reform Act (WSARA).

JMPS V1.4 OTRR 4Q FY11/3Q FY12
Due to Congressional mark against USAF Increment IV (PE 0208006F) which led to Critical Change Review in accordance with Weapon Systems Acquisition Reform Act (WSARA).
Test and Evaluation

JMPS V1.4 OT 1Q-2Q FY12/4Q FY12-1Q FY13
Due to Congressional mark against USAF Increment IV (PE 0208006F) which led to Critical Change Review in accordance with Weapon Systems Acquisition Reform Act (WSARA).

JMPS 1.4 MPE Integration/Valid. 1Q FY11-4Q FY15/1Q FY12-4Q FY16
Due to Congressional mark against USAF Increment IV (PE 0208006F) which led to Critical Change Review in accordance with Weapon Systems Acquisition Reform Act (WSARA).

JMPS V1.4 FQT 1Q FY 11/1Q FY 12
Due to Congressional mark against USAF Increment IV (PE 0208006F) which led to Critical Change Review in accordance with Weapon Systems Acquisition Reform Act (WSARA).

JMPS V1.4 DT 1Q FY10-4Q FY11/1QFY12 -2Q FY 12
Due to Congressional mark against USAF Increment IV (PE 0208006F) which led to Critical Change Review in accordance with Weapon Systems Acquisition Reform Act (WSARA).

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JMPS V1.3.5 DT - Details added to the schedule. Effort runs from 2Q FY11-3Q FY11
In order to accommodate the mission planning environment (MPE) and platform operational flight program (OFP) development schedules of EA-6B, V-22 and F/A 18, which also require the use and testing of Windows OS 7, the program needs to acquire FW Version 1.3.5 because this is the only version that will offer the correct operating system without significantly delaying the MPE and platform OFP development and test schedules.

JMPS V1.3.5 MPE Integration/Valid - Details added to the schedule. Effort runs from 4Q FY11-4Q FY13
In order to accommodate the mission planning environment (MPE) and platform operational flight program (OFP) development schedules of EA-6B, V-22 and F/A 18, which also require the use and testing of Windows OS 7, the program needs to acquire FW Version 1.3.5 because this is the only version that will offer the correct operating system without significantly delaying the MPE and platform OFP development and test schedules.
Production Milestones

JMPS V1.4 IOC 3QFY12/3Q FY13
Due to Congressional mark against USAF Increment IV (PE 0208006F) which led to Critical Change Review in accordance with Weapon Systems Acquisition Reform Act (WSARA).

CENTRIXS (Project 2307):
COMPOSE 4.0 Software deliveries changed from 2Q FY10 to 3Q FY11 to reflect the current software fielding schedule. Full transition to CANES occurred in FY10.

ISNS (Project 2307):
Development transition to CANES began in FY 2010.

SubLAN (Project 2307):
Multi Level Security requirements have been removed from SubLAN POR.

Maritime Domain Awareness (MDA) (Project 2351):
MDA program schedule has been modified to reflect the transition of MDA capabilities as defined in the Maritime Fusion and Analysis Services (MFAS) Initial Capabilities Document (ICD) into the Distributed Common Ground System - Navy (DCGS-N) Program of Record (PoR) under DCGS-N Increment 2. Previously identified funding in FY 2012 and beyond has been realigned to DCGS-N RDTEN PE 0305208N.

Naval Tactical Command Support System (NTCSS) (Project 3032):
Increasing requirements in information security and functional capability have required shifts in the approach for systems design and development. The updated schedule reflects a more integrated plan to accomplish refined requirements, fact-of-life changes, and modernization of the NTCSS system. As development approaches and build requirements are solidified, changes to the schedule will reflect more accurate time frames for multiple NTCSS system builds.

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COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
0486.: *Tactical Support Center*	11.596	15.972	12.993	-	12.993	6.550	6.243	6.262	6.305	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Tactical/Mobile program provides evolutionary systems and equipment upgrades to support Maritime Component Commanders (Expeditionary Ashore) and Maritime Patrol and Reconnaissance Force Commanders with the capability to plan, direct, and control the tactical operations of Joint and Naval Expeditionary Forces and other assigned units within their respective area of responsibility. These operations include littoral, open ocean, and over land all-sensor surveillance, anti-surface warfare, over-the-horizon targeting, counter-drug operations, power projection, antisubmarine warfare, mining, search and rescue, and special operations.

The missions are supported by the Tactical Operations Centers (TOCs), the Mobile Tactical Operations Centers (MTOCs), and the Joint Mobile Ashore Support Terminals (JMASTs). Services provided include analysis and correlation of diverse sensor information; data management support; command decision aids; rapid data communication; mission planning, evaluation and dissemination of surveillance data and threat alerts to operational users ashore and afloat. Tactical/Mobile Command and Control systems are based on the Global Command and Control System - Maritime (GCCS-M) architecture, which is Defense Information Infrastructure Common Operating Environment compliant.

TOCs and MTOCs provide Command, Control, Communications, Computers and Intelligence (C4I) capability, air-ground, satellite and point-to-point communications systems; sensor analysis capabilities; avionics and weapons system interfaces and facilities equipment. MTOCs are scalable and mobile versions of the TOC for operations from airfields that do not have TOC support. This program assures that existing TOCs and MTOCs are modernized to fulfill their operational requirements. TOC/MTOC will continue to provide the ground Command and Control capabilities and C4I interfaces for the MPRF Family of Systems aircraft and systems evolution including P-3C aircraft updates to sensors and weapons systems, such as the Anti-Surface Warfare Maritime Improvement Program (AMIP), and the Command Control Communications Computers for Anti-Submarine Warfare (C4 for ASW) P-3C aircraft upgrades, P-8A Multi mission Aircraft (MMA) Increment 1, as well as development of emergent, ground C4I support capabilities for the P-8A MMA Increment 2 and the Broad Area Maritime Surveillance Unmanned Aerial System (BAMS UAS).

JMAST supports the Fleet Commanders, Naval Component Commanders, and other military commanders from forward deployed bases or operational sites ashore that are not equipped with C4I facilities. It provides the Navy Component, and other military commanders with flexible, mobile, organic response, to command, control and communicate with assigned forces via voice, video, and data media forms, during all aspects of military operations, including joint, combined, and coalition operations.

The TacMobile program was designated as an Acquisition Category (ACAT) III weapons system program July 2004 and is no longer directly associated with the GCCS-M program. The TacMobile program follows an Evolutionary Acquisition approach, which provides a mechanism for adding a series of future capabilities that maintain and enhance the operational relevance of the systems provided, as well as augments improvements in airborne networking. Transformation of the TOC/MTOC Force to a more mobile, scalable, and Network-centric Services Oriented Architecture (SOA) configuration, convergence of TOC, MTOC to a single configuration, and as an integral component of the Maritime Patrol and Reconnaissance Force (MPRF) Family of Systems, operational Command, Control, Communications, Computers and

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Intelligence (C4I) integration support for new and upgraded Maritime Patrol and Reconnaissance Aircraft (MPRA) such as MMA, Aircraft Improvement Program, BAM UAS as well as other Command and Control and fighter aircraft are primary objectives.

FY12: Funding supports TacMobile systems development to achieve interoperability with P-8A Multi mission Aircraft (MMA) Increment 2 and the Broad Area Maritime Surveillance Unmanned Aerial System (BAMS UAS), increased modularity, support for additional security enclaves, and enhancing flexibility and mobility, to offset the size/weight/cube of additional required aircraft interfaces developed to support P-8A MMA operations. Network-centric Services Oriented Architecture (SOA) and airborne C4I integration efforts continue as improvements to airborne and Intelligence/Surveillance/Reconnaissance networking technologies are matured. Will achieve interoperability with emerging Maritime Patrol and Reconnaissance Force (MPRF) Aircraft and Sensors while reducing TacMobile footprint enhancing Mobility capability.
The DARK FUSION JCTD will provide intelligence analysts, joint warfighters, Combatant Commanders (COCOM) and other interagency senior decision makers significant maritime domain awareness (MDA) improvement, aimed at increased awareness of certain vessels and "dark" targets (e.g., smaller vessels, "fast movers/go fasts", semi-submersibles, non-emitting vessels, etc.) not being detected by current means, using newly developed and under-utilized data sources. These vessels may not be emitting their normal complement of maritime signals (e.g., not participating in the electro-magnetic spectrum).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Net Ready	2.182	0.900	0.789	-	0.789
Articles:	0	0	0		0
FY 2010 Accomplishments: Communications: Continued Integration of Wide Band Line of Sight (LOS) and Beyond Line of Sight (BLOS) Tactical Edge Networking Waveforms to meet migration of Defense Information Systems Agency (DISA) interoperability standards, incorporating Cipher text (Black Core) Routing to support Internet Protocol (IP) connected end-to-end Net Centric USW communications between TacMobile units, Maritime Patrol and Reconnaissance Aircraft (MPRA) and supported commanders and other external agencies (Tech Refresh). Researched and coordinated with appropriate Communities of Interest to implement data strategies (open-source extensible markup language (XML) metadata or schemas) to enable data visibility, accessibility, understanding and trustworthiness (Increment 2.1).					
FY 2011 Plans: Communications: Investigate technology readiness and overall maturity level of Joint Tactical Radio System (JTRS) and other software definable radio options for applicability to TacMobile communications architecture (Increment 3). Conduct Developmental Test and Evaluation of Cipher Text Routing Wide Band BLOS IP solutions (Tech Refresh). Begin integration of Converged IP interoperability standards to the Wide Band BLOS					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 0486.: *Tactical Support Center*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
networking systems (Increment 3). Investigate requirements for Range of Warfare Command and Control reach-back IP connectivity options (Increment TBD). ***FY 2012 Base Plans:*** Communications: Conduct Operational Test and Evaluation of Cipher Text Routing, Automated Digital Network System (ADNS) Architecture and Routing, Wide Band BLOS IP capabilities. Begin analysis of alternatives of identified Joint Tactical Radio System (JTRS) and other software definable radio options for incorporation into TacMobile communications architecture. Continue investigation of requirements for Range of Warfare Command and Control (ROWC2) reach-back Internet Protocol (IP) connectivity options for communications continuity					
Title: Tactical Mobile Acoustic Support System (TACMASS) ***Articles:*** ***FY 2010 Accomplishments:*** Analysis: Continued Integration of Advanced Multi-static Acoustic Analysis Capabilities into TACMASS. Continued integration of Non-Acoustic Electro Optical/Infrared (EO/IR) Analysis capabilities. Continued development/integration of auto detection, tracking and screening capabilities to reduce acoustic analyst workload and increase Anti Submarine Warfare (ASW) probability of detection. Developed concurrent processing enhancements to increase processing capacity and reduce processing time to support increased volume of recorded MPRA ASW acoustic data. Integrated advanced Joint and Common display formats to enhance system Operator Machine Interface. (Increment 2.1) ***FY 2011 Plans:*** Analysis: Conduct Developmental Test and Evaluation of capabilities to support data standards and media interfaces for P-8A Multi mission Aircraft (MMA) Increment 1 Intelligence/Surveillance/reconnaissance (ISR) and Anti Submarine Warfare (ASW) sensor systems(Increment 2.1). Assess and evaluate advanced multi static, digital and concurrent processing capabilities, automation capabilities, and advanced display formats(Increment 3). Complete development/integration of auto detection, tracking and screening capabilities to reduce acoustic analyst workload and increase ASW probability of detection(Increment 2.1). Begin development of enhanced broadband processing capabilities. Integrate Acoustic Intercept System updated screeners. Integrate analysis capabilities to support evolving data standards and media interfaces for Maritime Patrol Aircraft ISR and ASW sensor systems. Begin development and integration of Improved and Advanced Multi-Static Acoustic Analysis	0.951 0	0.745 0	0.736 0	-	0.736 0

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
capabilities required to support fielding of P-8A MMA Increment 2. Begin development and integration of High Altitude ASW capabilities. (Increment 3) ***FY 2012 Base Plans:*** Conduct Operational Test and Evaluation of capabilities to support data standards and media interfaces for P-8A MMA Increment 1 ISR and ASW sensor systems (Increment 2.1). Continue development of enhanced broadband processing capabilities. Continue Integration of Acoustic Intercept System updated screeners. Continue integration of analysis capabilities to support evolving data standards and media interfaces for Maritime Patrol Aircraft ISR and ASW sensor systems. Continue development and integration of Improved and Advanced Multi-Static Acoustic Analysis capabilities required to support fielding of P-8A MMA Increment 2. Continue development and integration of High Altitude ASW capabilities. (Increment 3)					
Title: NORAD-NORTHCOM Surveillance ***Articles:*** ***FY 2011 Plans:*** NORAD-NORTHCOM Surveillance Tactical Command Systems	-	7.029 0	-	-	-
Title: Aircraft Interfaces ***Articles:*** ***FY 2010 Accomplishments:*** Media: Began integration of new ground support capabilities to support capabilities being developed for Maritime Patrol and Reconnaissance Aircraft (MPRA) incorporating P-8A MMA Increment 1 upgrades (Increment 2.1). Continued to evaluate and assess those interfaces required to support Broad Area Maritime Surveillance Unmanned Aerial System (BAMS UAS) and other Maritime Patrol and Reconnaissance Aircraft (MPRA) aircraft to ensure platform Warfighting wholeness (Increment 3). Began identification, evaluation, and assessment of interfaces required for network-centric operations with various air platforms involved in airborne networks. Continued development of discovery-search and storage services capable of providing persistent and reliable searchable access and storage as a proxy for the P-8A Multi-mission Maritime Aircraft (MMA) Increment 1 produced data that satisfies the data sharing and data visibility tenets of the DoD Net-Centric Data Strategy. (Increment 2.1). ***FY 2011 Plans:*** Media: Conduct Developmental Test and Evaluation of new ground support capabilities to support capabilities being developed for MPRA incorporating P-8A MMA Increment 1 upgrades (Increment 2.1). Continue to	0.864 0	0.643 0	0.583 0	-	0.583 0

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
evaluate and begin design for those interfaces required to support Broad Area Maritime Surveillance Unmanned Aerial System (BAMS UAS) to ensure platform Warfighting wholeness. Continue to evaluate and assess network-centric interfaces. Begin review and analysis of integration requirements for P-8A MMA Increment 2. (Increment 3) ***FY 2012 Base Plans:*** Media: Conduct Operational Test and Evaluation of new ground support capabilities to support capabilities being developed for MPRA incorporating P-8A MMA Increment 1 upgrades (Increment 2.1). Continue to evaluate and design for those interfaces required to support Broad Area Maritime Surveillance Unmanned Aerial System (BAMS UAS) to ensure platform Warfighting wholeness. Continue to evaluate and assess network-centric interfaces. Continue analysis of integration requirements for P-8A MMA Increment 2 . Begin development of those interfaces required to support P-8A MMA Increment 2 upgrades. (Increment 3)					
Title: Tactical Data Links	0.210	0.169	0.158	-	0.158
Articles:	0	0	0		0
FY 2010 Accomplishments: Tactical Data Links: Continued Integration and testing of Link-16 portable capability(Tech Refresh). Began investigation of future Tactical Data Link (TADIL) requirements that transition from legacy systems to support emerging and evolving Maritime Patrol and Reconnaissance Aircraft (MPRA) interface requirements while maintaining support for NATO Standardization Agreement (STANAG) defined minimum capabilities(Increment TBD). ***FY 2011 Plans:*** Continue to explore emergent TADIL standards and MPRA interface requirements, and develop alternatives for TacMobile TADIL transition roadmap(Increment TBD). Conduct integrated developmental testing of TADILs in conjunction with P-8A MMA Increment 1 upgrades (Increment 2.1). Review and assess potential Link-11 sundown replacement options(Increment TBD). ***FY 2012 Base Plans:*** Conduct Operational Test and Evaluation of TADIL capabilities to support data standards and media interfaces for P-8A MMA Increment 1 and legacy P-3C Orion Intelligence/Surveillance/reconnaissance and Anti Submarine Warfare tactical data exchange(Increment 2.1). Evaluate, assess, prioritize and down select alternatives options for TacMobile TADIL transition roadmap(Increment TBD).					
Title: Enterprise Solutions	1.301	1.040	0.380	-	0.380

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Articles:	0	0	0		0

FY 2010 Accomplishments:
Began investigation into modern navy networking infrastructure appropriate for a tactical and mobile environment that comply with net ready, Defense Information Systems Agency (DISA) and Navy Net-Centric Operating standards that support evolutionary transition to a Services Oriented Architecture with Cross Domain accessibility. Began design and development of network infrastructure to meet increased Intelligence Surveillance Reconnaissance (ISR) data volume, provide redundant back-up and disaster recovery Quality of Service (QOS). (Increment 2.1) Continued integration of architectural updates to maintain evolving information assurance standards (Tech Refresh).

FY 2011 Plans:
Begin design of tactical mobile networking infrastructure to comply with net ready, DISA and Navy Net-Centric Operating standards that support evolutionary transition to a Services Oriented Architecture with Cross Domain accessibility. Integrate, test and evaluate network infrastructure to meet increased ISR data volume, provide redundant back-up and disaster recovery QOS.(Increment 2.1) Continue investigation into modern navy networking infrastructure appropriate for a tactical and mobile environment that comply with net ready, Defense Information Systems Agency (DISA) and Navy Net-Centric Operating standards that support evolutionary transition to a Services Oriented Architecture with Cross Domain accessibility. Study data at rest storage, data content management and security requirements for P-8A Multi mission Aircraft (MMA) Increment 2 and Broad Area Maritime Surveillance Unmanned Aircraft System mission data (Increment 3). Assess available options for incorporation of appropriate Distributed Common Ground System Navy (DCGS-N) capabilities (Increment TBD). Conduct developmental testing and evaluation of network infrastructure to meet increased ISR data volume, provide redundant back-up and disaster recovery QOS, and architectural updates to maintain evolving information assurance standards (Increment 2.1).

FY 2012 Base Plans:
Continue design and begin development of tactical mobile networking infrastructure to comply with net ready, DISA and Navy Net-Centric Operating standards that support evolutionary transition to a Consolidated Afloat Network Enterprise Services (CANES) compliant Services Oriented Architecture with Cross Domain accessibility (Increment 3). Conduct Operational Test and Evaluation of network infrastructure to meet increased ISR data volume, provide redundant back-up and disaster recovery QOS (Increment 2.1). Begin development of data

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
at rest storage, data content management and security requirements for P-8A Increment 2.0 and Broad Area Maritime Surveillance Unmanned Aircraft System mission data(Increment 3).					
Title: Command and Control (C2) ***Articles:*** ***FY 2010 Accomplishments:*** Command and Control (C2): Began integration of Global Command and Control System - Maritime (GCCS-M) 4.0.1 follow on GCCS-M 4.0.3 to provide Intelligence Preparation of the Battle Space capabilities, access to Signal Intelligence (SIGINT), Electronic Warfare (EW), and General Military Intelligence database products, into TacMobile systems architecture and provides Common Operational Picture (COP) management, display, and processing capabilities that meet information assurance and interoperability standards (Tech Refresh). ***FY 2011 Plans:*** Continue integration and conduct Developmental Test and evaluation of Global Command and Control System - Maritime (GCCS-M) 4.0.3 to provide Intelligence Preparation of the Battle Space capabilities, access to Signal Intelligence (SIGINT), Electronic Warfare (EW), and General Military Intelligence database products, and COP management, display, and processing capabilities that meet information assurance standards and maintain interoperability (Tech Refresh). Identify and prepare to begin integration of follow on Command and Control (C2) prototype (Increment 3). Investigate and study Maritime Patrol and Reconnaissance Force (MPRF) Commander Task Force (CTF) C2 requirements(Increment TBD). Investigate and identify C2 track data correlation and fusion tool options (Increment 3). ***FY 2012 Base Plans:*** Conduct Operational Test and evaluation of GCCS-M 4.0.3 to provide Intelligence Preparation of the Battle Space capabilities, access to SIGINT, EW, and General Military Intelligence database products, and COP management, display, and processing capabilities that meet information assurance standards and maintain interoperability (Tech Refresh). Beging integration of follow on C2 prototype (Increment 3). Develop alternative options for capabilities to support Maritime Patrol and Reconnaissance Force Commander Task Force C2 requirements an C2 track data correlation and fusion tool options (Increment TBD).	0.258 0	0.202 0	0.202 0	-	0.202 0
Title: Mission Planning ***Articles:*** ***FY 2010 Accomplishments:***	1.878 0	1.383 0	-	-	-

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Began integration of overarching Maritime Patrol Anti-Submarine Warfare (ASW) mission planning user environment to operate with Joint Collaborative distributed networks that interface to existing Multistatic, Acoustic and Non Acoustic ASW mission planning Tactical Decision Aids (TDA) as well as ASW Decision Support Systems and TDA's under development. Integrated Maritime Patrol weapons planning environment for weapons such as Stand Off Land Attack Missile - Extended Range (SLAM-ER). Integrated mission planning outputs to Maritime Patrol and Reconnaissance Aircraft (MPRA) flight, mission, and sensor systems for development of Aircraft Pre-flight Insertion Data and participation in coordinated ASW mission rehearsal. Increment 2.1) ***FY 2011 Plans:*** Conduct developmental test and evaluation of Maritime Patrol ASW mission planning user environment, Maritime Patrol weapons planning environment, and TacMobile systems Aircraft Pre-flight Insertion Data outputs (Increment 2.1). Study and evaluate P-8A Multi mission Aircraft (MMA) Increment 2 and Broad Area Maritime Surveillance Unmanned Aerial System (BAMS UAS) mission planning, and begin prototype development of alternatives(Increment 3). For FY12, Mission Planning activities continue as part of the Maritime Patrol and Reconnaissance Force (MPRF) Interoperability focus area.					
Title: Maritime Patrol and Reconnaissance Force (MPRF) Interoperability/TacMobile Footprint Reduction ***Articles:*** ***FY 2010 Accomplishments:*** Architecture Engineering: Assessed and analyzed TacMobile systems for opportunities to enhance flexibility and mobility offsetting additional aircraft interface device size/weight/cube by developing and incorporating increased modularity to transition from hardware independent solutions (Increment 3). Analyzed convergence of Tactical Operations Center (TOC) and Mobile Tactical Operations Center (MTOC) architecture toward common baseline to reduce platform unique training requirements and duplicative life cycle logistics costs. Explored automation of system functionality to reduce operator to operator and operator to machine interactions, to offset increasing workload as additional Maritime Patrol and Reconnaissance Aircraft (MPRA) platforms and capabilities are introduced that require TacMobile systems support (Increments 2.1 & 3). Explored solutions to minimize/ consolidate MPRA media interface devices and streamline data transfer rates (Increment 3). ***FY 2011 Plans:***	3.952 0	3.861 0	3.663 0	-	3.663 0

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Architecture Engineering: Begin design for integration of modular and hardware independent solutions to reduce mobile system architecture footprint. Begin design for convergence of TOC and MTOC architecture toward common baseline to reduce platform unique training requirements and duplicative life cycle logistics costs. Analyze and assess alternative courses of action for incorporating automation of TacMobile system functionality to reduce operator workload, to offset increasing MPRF Intelligence Surveillance and Reconnaissance (ISR) Mission/Function/Task growth. Begin design to achieve reduction and consolidation of MPRA media interface devices and to streamline data transfer rates. (Increment 3) ***FY 2012 Base Plans:*** Conduct operational test and evaluation of Maritime Patrol Anti-Submarine Warfare (ASW) mission planning user environment, Maritime Patrol weapons planning environment, and TacMobile systems Aircraft Pre-flight Insertion Data outputs (Increment 2.1). Continue development of P-8A Multi mission Aircraft Increment 2 and Broad Area Maritime Surveillance Unmanned Aerial System (BAMS UAS) mission planning interoperability upgrades (Increment 3). (Continued from Mission Planning focus area above) Continue design for integration of modular and hardware independent solutions to reduce mobile system architecture footprint. Continue design for convergence of TOC and MTOC architecture toward common baseline to reduce platform unique training requirements and duplicative life cycle logistics costs. Begin development of automated TacMobile system functionality to reduce operator workload, to offset increasing MPRF ISR Mission/Function/Task growth. Continue design to achieve reduction and consolidation of MPRA media interface devices and to streamline data transfer rates. Develop functionality that supports multiple security enclaves in an expeditionary operating environment (Increment 3).					
Title: Dark Fusion ***Articles:*** ***Description:*** Dark Fusion ***FY 2012 Base Plans:*** Integrate DARK Fusion capability into the ONI S2A system Technical demostrations, Operational demonstrations and formal assessments	-	-	6.482 0	-	6.482 0
Accomplishments/Planned Programs Subtotals	11.596	15.972	12.993	-	12.993

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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• 0204271N/2246: *MPRF Mission Support*	22.395	18.586	13.453	0.000	13.453	18.046	18.351	18.674	19.019	Continuing	Continuing
• 0204660N/2906: *TacMobile*	11.784	9.832	12.776	4.000	16.776	11.932	18.413	18.455	16.852	Continuing	Continuing

D. Acquisition Strategy

Evolutionary Acquisition - Increment 2.0 provided enhanced Beyond Line of Sight (BLOS) Global Information Grid (GIG) reach back capability, and supports Maritime Situational Awareness connectivity enhancements for data exchange with Maritime Patrol and Reconnaissance Force (MPRF) aircraft and with Coalition data networks. It incorporates Anti Submarine Warfare (ASW) acoustical analysis improvements and new P-3 aircraft ASW interfaces. Increment 2.1 will support migration to follow on Global Command and Control System - Maritime (GCCS-M) version 4.0.3 and introduction of the P-8A Multi-mission Maritime Aircraft (MMA) Increment 1. Increment 3 will support introduction of P-8A Multi-mission Maritime Aircraft (MMA) Increment 2, and the Broad Area Maritime Surveillance (BAMS) Unmanned Aerial System (UAS). Future increments will incorporate support for other Maritime Patrol and Reconnaissance Force (MPRF) Family of Systems (FOS) Aircraft and Systems.
(U//FOUO) The Dark Fusion Joint Capabilities Technical Demonstration (JCTD) acquisitions will be executed by the JCTD Technical Manager (TM). The TM is the Naval Research Laboratory (NRL). NRL has three general ways for acquisition supporting the effort including: (1) Military Interdepartmental Purchase Request (MIPR) - Used for Government-to-Government transfers outside of NRL. (2) NRL Inter-Divisional Transfers - Commonly referred to as COOPs, this mechanism provides for transfers between and/or among NRL divisions. (3) Industry Contracts - These consist of a variety of vendor or OMNIBUS contract types, e.g., Indefinite Delivery, Indefinite Quantity (IDIQ) or Task Order Contracts for a range of procurements related to consultants, industry partners, materials and services, and/or System Engineering and Technical Assistance (SETA) support which has several large omnibus contracts that they will be utilizing to execute the goals of the project. The TM works closely with the other two JCTD managers including NORAD/NORTHCOM who is the Operational Manager (OM) setting the primary goals and metrics of the project and the Office of Naval Intelligence (ONI) who is the Transition Manager (XM) responsible for transition of the JCTD capabilities to operations. There are two sources of funds for this JCTD, Office of the Secretary of Defense (OSD) and Navy. In each case funds will be sent to the TM for execution.

E. Performance Metrics

The primary metrics utilized by the TacMobile program development process include achieving/maintaining all required Interface Exchange Requirements (IER's) and successful achievement of 100% of Key Performance Parameters for incremental upgrade threshold capabilities, as observed by Commander Operational Test Force representatives during Operational Evaluation. TacMobile Inc 2.1 development in FY-09, FY-10 and FY-11 supports increased IER requirements of 486% from 112 to 544. Development to support these new IER's tapers off in FY-11 as the Increment enters the Operational Evaluation Phase. Development focus then shifts to TacMobile Increment 3 efforts required to retain fielded IER's and update IER's to comply with emerging and evolving standards associated with P-8A Multi-mission Maritime Aircraft (MMA) Increment 2, and the Broad Area Maritime Surveillance (BAMS) Unmanned Aerial System (UAS), and evolving operational employment concepts.
(U//FOUO) Critical Operating Issues (COIs) and Measures of Performance (MOPs) are outlined in the Dark Fusion JCTD Implementation Directive. The JCTD will be conducting User Juries (UJs) for SME and analyst feedback; Technical Demonstrations (TDs) where new capabilities are technically reviewed; and Operational Demonstrations (ODs) in which an independent assessor will conduct a formal Joint Operational Utility Assessment (JOUA).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WR	SSC LANT; Northrop Grumman; SAIC:Charleston; SC; Pax River, MD	3.714	1.670	Oct 2010	0.776	Oct 2011	-		0.776	Continuing	Continuing	Continuing
Systems Engineering	C/CPIF	SSC LANT; Northrop Grumman, SAIC, BAH, Solute:Charleston, SC; Pax River, MD; San Diego, CA	26.622	8.932	Oct 2010	0.480	Oct 2011	-		0.480	Continuing	Continuing	Continuing
Training Development	C/CPIF	SSC LANT; SAIC; Solute:Charleston, SC; Pax River, MD; San Diego, CA	0.977	0.384	Nov 2010	0.500	Nov 2011	-		0.500	Continuing	Continuing	Continuing
Tech Mgmt, Fusion, SOA, IT, Admin,Security	Various	NRL:Washington,DC	-	-		4.381	Oct 2011	-		4.381	0.000	4.381	
ACINT w/ demo support and leave behind	Various	NRL:Washington DC	-	-		1.296	Oct 2011	-		1.296	0.000	1.296	
NTM GEOINT data sources and support	Various	NRL:Washington DC	-	-		0.302	Oct 2011	-		0.302	0.000	0.302	
		Subtotal	31.313	10.986		7.735		-		7.735			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	C/CPIF	SSC LANT; Northrop Grumman; SAIC:Charleston, SC; Pax River, MD	43.914	2.085	Oct 2010	0.302	Nov 2011	-		0.302	Continuing	Continuing	Continuing
Integrated Logistics Support	C/CPIF	SSC LANT; SAIC:Charleston, SC; Pax River, MD	0.125	0.225	Nov 2010	0.225	Nov 2011	-		0.225	Continuing	Continuing	Continuing
Configuration Management	WR		0.100	0.175	Nov 2010	0.175	Nov 2011	-		0.175	Continuing	Continuing	Continuing

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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		SSC LANT; SAIC;:Charleston, SC; Pax River, MD											
Technical Data	WR	SSC LANT; Northrop Grumman; SAIC:Charleston, SC; Pax River, MD	0.160	0.220	Oct 2010	0.220	Oct 2011	-		0.220	Continuing	Continuing	Continuing
Studies & Analyses	C/CPIF	SSC LANT; Northrop Grumman; SAIC; Solute:Charleston, SC; Pax River, MD; San Diego, CA	0.325	0.100	Oct 2010	0.100	Nov 2011	-		0.100	Continuing	Continuing	Continuing
		Subtotal	44.624	2.805		1.022		-		1.022			

Remarks

^6.933M FY12 NORAD NORTHCOM Surveillance entered as System Engineering.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	C/CPIF	SSC LANT; SAIC:Charleston, NC; Pax River, MD	0.600	0.800	Nov 2010	0.250	Nov 2011	-		0.250	Continuing	Continuing	Continuing
Operational Test & Evaluation	MIPR	OPTEVFOR; SSC LANT; SAIC:Jacksonville, FL	3.986	0.250	Nov 2010	1.050	Nov 2011	-		1.050	Continuing	Continuing	Continuing
		Subtotal	4.586	1.050		1.300		-		1.300			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPIF	Northrop Grumman; SAIC; BAH; Solute:Pax River, MD; Charleston, SC; San Diego, CA	0.460	0.220	Oct 2010	1.522	Oct 2011	-		1.522	Continuing	Continuing	Continuing
Government Engineering Support	WR	SSC LANT:Charleston, NC	0.937	0.384	Nov 2010	0.384	Nov 2011	-		0.384	Continuing	Continuing	Continuing
Program Management Support	C/CPIF	SSC LANT; PMW750; BAH; SAIC; Solute:Charleston, NC; San Diego, CA	12.566	0.494	Oct 2010	0.494	Oct 2011	-		0.494	Continuing	Continuing	Continuing
Travel	WR	PMW750:San Diego, CA	0.097	0.033	Nov 2010	0.033	Nov 2011	-		0.033	Continuing	Continuing	Continuing
CONOPS/TTPs Demos & MGMT Plan	Various	NRL:Washington DC	-	-		0.161	Oct 2011	-		0.161	0.000	0.161	
Joint Operational Utility Assess. Reports	Various	NRL:Washington DC	-	-		0.198	Oct 2011	-		0.198	0.000	0.198	
Transition system engineering support	Various	NRL:Washington DC	-	-		0.144	Oct 2011	-		0.144	0.000	0.144	
		Subtotal	14.060	1.131		2.936		-		2.936			

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	94.583	15.972		12.993		-		12.993			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604231N: *Tactical Command System*	**PROJECT** 0486.: *Tactical Support Center*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604231N: *Tactical Command System*	**PROJECT** 0486.: *Tactical Support Center*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0486.L39				
Software Delivery (Quarterly)	1	2010	4	2016
Develop CONOPS/TTPS	1	2012	1	2013
Tech Refresh Delivery	1	2010	1	2013
Build and Test Fusion System & Sources	1	2012	1	2013
Conduct User Juries	3	2012	3	2012
Developmental Test (Increment 2.1)	1	2011	1	2011
Operational Assessment (Increment 2.1)	3	2011	3	2011
Technical Demonstrations	4	2012	4	2012
Operator Training	4	2012	4	2012
Milestone C (Increment 2.1)	3	2011	3	2011
Developmental Test (Increment 2.1 Tech Eval)	1	2012	1	2012
Operational Demonstrations & Assessments	4	2012	4	2012
Operational Test (Increment 2.1)	2	2012	2	2012
Joint Military Utility Assessment Reports	4	2012	4	2012
Full Rate Production (Increment 2.1)	3	2012	3	2012
Initial Operational Capability (Increment 2.1) (TOC/MTOC)	1	2013	1	2013
Developmental Test (Increment 3.0)	1	2013	1	2013
Operational Assessment (Increment 3.0)	4	2013	4	2013
Milestone C (Increment 3.0)	1	2014	1	2014
Developmental Test (Increment 3.0 Tech Eval)	2	2014	2	2014
Operational Test (Increment 3.0)	2	2014	2	2014

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 0486.: *Tactical Support Center*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Full Rate Production (Increment 3.0)	2	2015	2	2015
Initial Operational Capability (Increment 3) (TOC/MTOC)	2	2015	2	2015
Developmental Test (Increment 4)	1	2016	1	2016
Operational Assessment (Increment 4)	2	2016	2	2016
Milestone C (Increment 4)	4	2016	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 0709: *GCCS-M Maritime Applications*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
0709: *GCCS-M Maritime Applications*	19.926	28.216	17.580	-	17.580	-	-	-	-	0.000	65.722
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Beginning in fiscal year 2013, the Navy Command Control Air Planning Capability effort will be realigned from Global Command and Control System Maritime (GCCS-M) Maritime Applications (Project Unit 0709) to the Navy Air Operations Command and Control (NAOC2) program (Project Unit 3324).

A. Mission Description and Budget Item Justification

The Global Command and Control System Maritime (GCCS-M) system is the component of GCCS used in the afloat, ashore, and tactical/mobile maritime environments. GCCS-M meets the requirements of the tactical commander for a near real-time, fused common tactical picture with integrated intelligence services and databases. GCCS-M supports the Command, Control, Communication, Computers and Intelligence mission requirements of the Chief of Naval Operations, Fleet Commanders, Numbered Fleet Commanders, Officer in Tactical Command/Composite Warfare Commander, Type Commanders, Commander Submarine Operations Authority, Commander Task Force, Commander Amphibious Task Force, Commander Landing Force, Ship's Commanding Officer/Tactical Action Officer, and Joint Task Force Commanders, as well as other functional Maritime commanders. It also integrates both joint and service-unique Command and Control (C2) systems in order to support Joint task force and Navy afloat requirements. Efforts include design, integration, and test of Tactical Decision Aids, Navy status of Forces, mission planning and status update tools, and integration of GCCS-M baselines with weapons systems and Combat Direction Systems. These efforts will provide the strike group/force commanders with the information needed to enhance their war fighting capabilities. System scalability is addressed by developing modular capability and application sets that can be deployed based on the mission profile of a particular ship. Continuation of these efforts, especially in the area of undersea superiority, will significantly enhance tactical units' ability to perform precision engagements by consolidating the common operational, Tactical Data Link and undersea tactical pictures into a single comprehensive C2 picture, addressing the requirement of war fighters and significantly improving interoperability. GCCS-M continues a hardware transition to Common Computing Environments such as the Consolidated Afloat Networks and Enterprise Services along with a transition of capabilities into a Service Oriented Architecture. Currently, GCCS-M is a key system that is used to support real world operations afloat, ashore, and with tactical/mobile commanders. In fiscal year 2012, the program will test GCCS-M Increment 2 for group level ships and submarines. The program will continue integration efforts with other C2 / Command, Control, Communication and Computers systems within the Navy and Joint community, and will continue the development of maritime tactical command and control capabilities in support of fleet requirements.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: GCCS-M Increment 2	9.408	24.398	17.580	-	17.580
Articles:	0	0	0		0
FY 2010 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continued Global Command and Control System - Maritime (GCCS-M) Increment 2 integration and testing of interfaces. Developed and tested interfaces with Program Executive Office Integrated Warfare Systems (PEO IWS) Command and Control (C2) systems, Ship Self-Defense Systems (SSDS) and systems from other Services, Agencies, and traditional and non-traditional partners. Migrated and integrated Maritime Command, Control, Communication, Computers and Intelligence capabilities in Increment 2 for Force Level and Unit Level ships to the Common Computing Environment/Consolidated Afloat Networks and Enterprise Services (CCE/ CANES) environment and the Integrated Shipboard Network System environment, respectively. Investigated and adopted Service Oriented Architecture (SOA), opened standards-based design and data management methodologies, where appropriate. ***FY 2011 Plans:*** Continue Global Command and Control System Maritime (GCCS-M) Increment 2 integration and testing of interfaces. Transition GCCS-M Increment 2 for Force, Group and Unit Level ships to the CCE/CANES environment. Continue developing and testing interfaces with PEO IWS C2 systems, Ship Self-Defense Systems (SSDS) and systems from other Services, Agencies, and traditional and non-traditional partners. Investigate and adopt SOA, open standards-based design and data management methodologies, where appropriate. Fiscal Year (FY) 2011 program office will begin development of maritime tactical command and control capabilities in support of fleet requirements. ***FY 2012 Base Plans:*** Continue integration and testing of GCCS-M Increment 2 for Force, Group and Unit Level ships in the CCE/ CANES environment. Begin testing of GCCS-M Increment 2 for submarines. Continue developing and testing interfaces with PEO IWS C2 systems, SSDS and systems from other Services, Agencies, and traditional and non-traditional partners. Continue investigating and adopting SOA, open standards-based design and data management methodologies, where appropriate. Continue development of maritime tactical command and control capabilities in support of fleet requirements.					
Title: Undersea Superiority/Undersea Forcenet	10.518	2.089	-	-	-
Articles:	0	0			
FY 2010 Accomplishments: Finalized and completed the integration and testing of Undersea FORCEnet capabilities into the GCCS-M Increment 2 baseline. Started Composeable FORCEnet (CFn) migration to the Common Computing					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Environment, a precursor to Consolidated Afloat Network Enterprise System (CANES). These capabilities were integrated into the Force Level and Ashore baseline implementations. ***FY 2011 Plans:*** Finalize and complete CFn migration to the GCCS M Increment 2 Force Level baseline. Continue integration of additional data sources and interfaces as required to meet program objectives.					
Title: Navy C2 Air Planning Capability ***Articles:*** ***FY 2011 Plans:*** The Command and Control (C2) Air Planning Capability portion provides initial engineering for software application transition to an afloat Common Computing Environment (CCE) and requirements development to support increased Joint interoperability and enhanced capability including theater level planning plus distributed planning and execution processes. Beginning in fiscal year 2012, effort will realign to Navy Air Operations Command & Control (NAOC2), Program Element 0604231N, Project Unit 3324.	-	1.729 0	-	-	-
Accomplishments/Planned Programs Subtotals	19.926	28.216	17.580	-	17.580

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• OPN/2608: *Trusted Information Systems*	10.903	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	402,533.903
• OPN/2618: *Navy Command and Control System*	0.000	5.586	5.938	0.000	5.938	8.658	6.770	3.356	0.000	0.000	30.308

D. Acquisition Strategy

Increment 2 delivers two different materiel solutions: (1) Force Level, based on the Global Command and Control System-Joint (GCCS-J) 4.2 or higher software, and (2) Group and Unit Level, based on the Office of Naval Research (ONR) extensible Common Operational Picture (XCOP) software. This approach satisfies the current validated requirements, supports the accelerated retirement of legacy systems, and reduces overall risk to the program. Each solution will integrate maritime-specific capabilities and will be scalable to the ship class.

The Global Command and Control System-Maritime (GCCS-M) Program Office promotes full and open competition by competitively awarding software and Fleet support engineering services contracts. Additionally, the Program Office has awarded a Command and Control (C2) Indefinite Delivery Indefinite Quantity (IDIQ) Multi-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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Award Contract (MAC) from which task orders will be competitively awarded to one of the C2 IDIQ MAC awardees. Any contract awards for software development subsequent to the Milestone C will also be competitively awarded.

E. Performance Metrics

GCCS-M Increment 2 leverages software investments by Defense Information Systems Agency (DISA) and ONR to realize both the Force Level and Group/Unit Level material solutions. This greatly reduces the integration and testing costs associated with each software release. The Force Level solution will reside on Common Computing Environment/Consolidated Afloat Networks and Enterprise Services (CCE/CANES) architecture; the Group/Unit Level solution will be implemented on the current/future infrastructure. These Increment 2 software-only solutions eliminate the GCCS-M hardware procurement, installation and sustainment costs.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy			DATE: February 2011
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	SSC:SAN DIEGO, CA	36.994	12.710	Nov 2010	5.748	Nov 2011	-		5.748	0.000	55.452	55.452
Software Development	SS/CPFF	NGMS:SAN DIEGO, CA	82.881	9.898	Nov 2010	-		-		-	0.000	92.779	92.779
Software Development	C/CPIF	UNKNOWN:UNKNOWN	-	-		10.011	Nov 2011	-		10.011	0.000	10.011	10.011
		Subtotal	119.875	22.608		15.759		-		15.759	0.000	158.242	158.242

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	SSC:SAN DIEGO, CA	1.000	1.675	Nov 2010	0.706	Nov 2011	-		0.706	0.000	3.381	3.381
Operational Test & Evaluation	C/CPIF	COTF:NORFOLK, VA	4.030	1.675	Nov 2010	0.498	Nov 2011	-		0.498	0.000	6.203	6.203
		Subtotal	5.030	3.350		1.204		-		1.204	0.000	9.584	9.584

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPFF	SeaPort:SAN DIEGO, CA	3.923	-		-		-		-	0.000	3.923	3.923
Program Management Support	C/CPFF	SeaPort:SAN DIEGO, CA	18.981	2.258	Nov 2010	0.617	Nov 2011	-		0.617	0.000	21.856	21.856
Acquisition Workforce	Various	UNKNOWN:UNKNOWN	0.101	-		-		-		-	0.000	0.101	0.101
		Subtotal	23.005	2.258		0.617		-		0.617	0.000	25.880	25.880

	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	147.910	28.216		17.580		-		17.580	0.000	193.706	193.706

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604231N: *Tactical Command System*	**PROJECT** 0709: *GCCS-M Maritime Applications*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604231N: *Tactical Command System*	**PROJECT** 0709: *GCCS-M Maritime Applications*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0709				
Patrol Coastal (PC) - Software Delivery	1	2010	1	2010
Patrol Coastal - Developmental Test	1	2010	1	2010
Force Level/Patrol Coastal - Operational Assessment (OA)	1	2010	1	2010
Increment 2 Milestone C	3	2010	3	2010
Patrol Coastal - Operational Test (OT)	3	2010	3	2010
Unit Level (UL) - Software Delivery	3	2010	3	2010
Unit Level - Developmental Test	3	2010	3	2010
Unit Level - Operational Assessment	4	2010	4	2010
Increment 2 - Initial Operating Capability (IOC)	4	2010	4	2010
Full Deployment Decision (FDD)	4	2010	4	2010
Force Level - Operational Test	4	2010	4	2010
Unit Level - Operational Test	2	2011	2	2011
Force/Unit Level - Full Decision Review (FDR)	4	2011	4	2011
Group Level (GL) - Software Delivery (ED 1)	4	2011	4	2011
Group Level - Software Delivery (FINAL)	1	2012	1	2012
Group Level - Development Test	3	2012	3	2012
Group Level - Operational Assessment	4	2012	4	2012
Group Level - Operational Test	2	2013	2	2013
Group Level - Technical Evaluation	2	2013	2	2013
Group Level - Full Decision Review	4	2013	4	2013

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
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COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
2009: *OSIS Evolutionary Development (OED)*	1.295	-	-	-	-	-	-	-	-	0.000	1.295
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Resources were transferred from PE 0604231N to PE 0304231N beginning in FY11.

A. Mission Description and Budget Item Justification

Radiant Mercury (RM): Trusted Information System (TIS) RM is a system that successfully provides accredited Cross Domain Solutions (CDS) to the Navy, DoD, and intelligence Community. TIS RM is a critical component of network-centric warfare, supporting joint operations and coalition forces world-wide. The ability to pass sensitive, yet critical, data across security domains and to our Coalition partners in a timely fashion can only be met by accredited Cross Domain Solution (CDS) systems such as RM. RM enables US Navy to operate in a multi-national environment.

TIS RM provides automated, bi-directional sanitization, transliteration and guarding capability for formatted and unformatted data between security enclaves. RM helps ensure critical intelligence is provided quickly to operational decision-makers. TIS RM provides the capability to disseminate information for operating forces worldwide, including the operating forces of key allies in Pacific, Central and Europe Command regions. This capability to move all-source intelligence-derived track information into the realm of the operational community significantly improves the situational awareness of tactical operators and planners. Additionally, it assists in providing critical operational information to intelligence and cryptologic analysts. Unformatted data is handled by the Information Review Process. The system provides cross domain services to a wide variety of customers including Combatant Commanders, Air Force (Shared Early Warning program), Army (Blue Force Tracking program), Navy (Global Command and Control System - Maritime and Automatic Identification System), Maritime Operations Centers, Distributed Common Ground System-Navy, Tactical Ranges, and numerous other DoD and Intelligence agencies.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Radiant Mercury (RM)	1.295	-	-	-	-
Articles:	0				
FY 2010 Accomplishments: Investigated a follow-on update to version 5.0 to address emerging Cross Domain Solution requirements. Investigated and developed support for emerging communication mechanisms. Continued the development, integration and testing of emerging unformatted file types. Continued and investigated technologies related to					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
collaboration. Identified new requirements capabilities needed by the Navy programs and non-Navy customers post Radiant Mercury Version 5.0.					
Accomplishments/Planned Programs Subtotals	1.295	-	-	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• OPN/2608: *Trusted Information Systems-Radiant Mercury*	13.552	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	313.194

D. Acquisition Strategy

Trusted Information Systems (TIS) Radiant Mercury (RM) provides automated, bi-directional sanitization, transliteration and guarding capability for formatted and unformatted data between security enclaves. RM helps ensure critical Indications and Warning intelligence is provided quickly to operational decision-makers. RM is actively involved in the production and cross domain dissemination of information for operating forces worldwide, including the operating forces of key allies involved in the Overseas Contingency Operations (OCO), in Pacific Command (PACOM), Europe Command (EUCOM) and Central Command (CENTCOM) regions.

E. Performance Metrics

Provide and develop certified, accredited Cross Domain Solution (CDS) and transfer capabilities to the Department of Defense and Intelligence Community, and provide the capability to disseminate and receive operational and intelligence information for 100% of authorized sites.
Complete 100% of certification, system and security testing of Radiant Mercury (RM) version 5.x for release. Provide the capability to sanitize, downgrade, guard, and transliterate formatted data at various classifications, compartments and releasabilities to combat and operational commanders, coalition and allied forces at over 330 sites world wide.

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604231N: *Tactical Command System*	**PROJECT** 2009: *OSIS Evolutionary Development (OED)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2009				
Software Delivery RM Version 5.0	4	2010	4	2010

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 2213: *Mission Planning*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
2213: *Mission Planning*	18.366	16.345	20.468	-	20.468	7.234	7.400	7.383	7.393	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Mission Planning: The Joint Mission Planning System (JMPS) is the CNO's designated automated mission planning system for the Navy. JMPS enables weapon system employment by providing the information, automated tools, and decision aids needed to rapidly plan aircraft, weapon, or sensor missions, load mission data into aircraft and weapons, and conduct post-mission analysis. JMPS is a mission critical system which is a co-development effort between the United States Navy and United States Air Force. Common requirements are identified and capabilities are developed and prioritized in an evolutionary approach. An individual JMPS mission-planning environment is a combination of the JMPS framework, common capabilities, and the necessary system hardware required to satisfy mission planning objectives. Most Tactical Naval Aviation platforms are dependent solely on JMPS to plan precision guided munitions, sensor systems, tactical data links, secure voice communications, and basic Safety of Flight functions. The following type/model/series naval aircraft are supported by JMPS: F/A-18 A-F, E-2C, EA-6B, S-3, MV-22, EA-18G, AV-8B and VH-3/VH-60. Future JMPS platforms include: CH-46E, CH-53, MH-53E, H-60B/F/H, UH-1N, P-3, KC-130T/J, C-2, AH-1W/Z, H-60 R/S, follow-on version of VH3/VH-60, P-8, E-2D, UH-1Y, H-53K, and C-130. As directed via the CNO's Navy Enterprise Architecture and Data Strategy policy, the next JMPS architecture version (Framework V 1.4) will support net-centric goals by providing route "publish and subscribe" capabilities.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: JMPS Framework Version 1.2.4, V1.3.5 , V1.4 & CC	0.928	0.102	0.740	-	0.740
Articles:	0	0	0		0
Description: JMPS Framework (FW) Version 1.2.4 efforts add support of helicopter tool sets and transfer devices in addition to navigation. Due to the end of Microsoft support for Windows XP in April 2014, there is a requirement to change to Windows Operating System (OS) 7. FW Version 1.4 will incorporate Windows OS 7 and provide additional capabilities for all naval aircraft to include Service Oriented Architecture, air drop, air refueling and enhanced installation. Funding for FW 1.4 will be used to support system engineering processes, management interface controls, software architectural analysis, requirements management and a centralized website for Mission Planning Environment (MPE) developers. Due to a congressional mark against USAF Increment IV (PE 0208006F), which led to a Critical Change Review in accordance with Weapon Systems Acquisition Reform Act (WSARA), FW Version 1.4 was delayed. In order to accommodate the MPE and platform operational flight program (OFP) development schedules of EA-6B, V-22 and F/A-18, which also require the use and testing of Windows OS 7, the program needs to acquire FW Version 1.3.5 as an interim solution. Since MPE and platform OFP development may take up to 2 years to prepare for a new OS, FW Version 1.3.5 will incorporate the correct OS without significantly delaying the MPE and platform OFP development and					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
test schedules. Migration to .NET environment in FWs 1.3 and 1.4 will enable interoperability improvements through utilization of services and will be supported by the Global Information Grid-Enterprise Services. Common Capabilities software updates augment core mission planning capabilities across multiple aircraft. ***FY 2010 Accomplishments:*** Completed FW 1.4 Interim Design Review #2 and Beta Release #1. Beta Release #2 not completed due to USAF Critical Change Review which led to a stop work in FY10. ***FY 2011 Plans:*** JMPS FW 1.3.5 Development Test and JMPS FW 1.4 Development. ***FY 2012 Base Plans:*** JMPS Framework 1.4 Beta #2 and Development Test. JMPS Framework 1.4 Functional Qualification Test, Operational Test Readiness Review, and Operational Test.					
Title: JMPS Expeditionary (JMPS-E) ***Articles:*** ***Description:*** JMPS Expeditionary (JMPS-E): The goal of the JMPS-E team is to produce a scalable, tailorable, mission planning and execution monitoring tool for Amphibious Squadron staffs. The primary focus of this system is to provide an automated capability to assist planners with mission analysis, course of action development and automated creation of doctrinal orders based on planning data inputted into the system. Current expeditionary planning is done manually on paper charts. JMPS-E will provide a digital map enabling better response times to changing plans, easier distribution of planning artifacts and a reduction in human error during the planning process. The variety and geographically separated nature of forces involved with Ship to Shore Maneuver amplifies the need for web-based technologies to enable collaborative planning, improve overall situational awareness and enable the monitoring of mission execution from different locations. The primary outputs are tasking orders, route plans, battlespace geometries and decision briefs. The system will also incorporate modeling and simulation tools to rehearse and deconflict mission plans. This capability will be initially fielded using Framework Version 1.2.4. ***FY 2010 Accomplishments:*** Continued preparation for operation testing in Nov 2010. ***FY 2011 Plans:***	0.470 0	0.325 0	0.237 0	-	0.237 0

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Plan to initially field JMPS-E version 1.0.2 to PHIBRON 3 in Jan 2011. ***FY 2012 Base Plans:*** Full Operational Capability fielding to seven PHIBRONs.					
Title: MPE Integration and Test	16.968	15.918	19.491	-	19.491
Articles:	0	0	0		0
Description: Mission Planning Environment (MPE) Integration and Test efforts support the Navy's developmental testing/operational testing, integration and system of system testing for MPE fielding. Efforts consist of integration of components provided by various developers into a platform-centric MPE and testing of the integrated MPE. MPE integration and testing results in a consistent and repeatable system configuration that enables stability and reliability. Current budget supports the integration and testing of 30 MPEs in FY10. ***FY 2010 Accomplishments:*** Integration and test of thirty MPEs are planned: AV-8B H50 2.1.0, AV-8B H60 3.0, AV-8B H70 4.0, BAMS 1.0, C-130 1.0, C-2A 1.0, C-2A 2.0, CNATRA 1.0, CNATRA 1.1, E-2C 2.0, E-2C 3.0, E-2C 4.0, E-2D 1.0, EA-6B I3B4 (Rel 5), EA-6B I3B5 (Rel 6), F/A-18 H6E/23X (2.3), F/A-18 H8E/G (2.4), JMPS-E 1.0, Marine Helo 2.0, Marine Helo 2.1, Marine Helo 3.0, MH-60 R/S 1.0, MH-60 R/S 2.0, Maritime Patrol Reconnaissance Force 1.0, Navy Legacy Helo 1.0, P-3 2.0, P-3 3.0, V-22 1.2 and VH-3/VH-60 1.0. ***FY 2011 Plans:*** Integration and test of twenty-three (23) MPEs are planned: AV-8B H60 3.0, BAMS 1.0, C-2A 3.0, C/KC-130 1.0 & 2.0, E-2C 4.0 & 5.0, E-2D 1.0, EA-6B I3B5 6.0 and I3B6 7.0, F/A-18 H6E/23X and H8E/2.4.0 and 25X/2.4.X, marine Helo 2.1 and 3.0, MH-60 R/S 1.0 and 2.0 MPRF 2.0, NLH 2.0, V-22 1.2 and 2.0 VH-3/VH-60 2.0 P-3 3.0. ***FY 2012 Base Plans:*** Integration and test of 19 MPEs planned: AV-8B H61 4.0 and H70 5.0, BAMS 1.0, C-2A 3.0, C/KC-130 2.0 and 3.0, E-2C 5.0, E-2D 1.0 and 2.0, EA-6B I3B6 7.0, FA-18 H8E/2.4.0 and 25X/2.4.X and H10E/27X, Marine Helo 3.0, MH-60R/S 2.0, MPRF 2.0, NLH 2.0, V-22 2.0, VH-3/VH-60 2.0.					
Accomplishments/Planned Programs Subtotals	18.366	16.345	20.468	-	20.468

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• OPN/287600: *TAC A/C Mission Plng System*	9.074	9.098	8.941	0.000	8.941	4.346	4.500	5.648	5.614	Continuing	Continuing
• RDTE/3858: *A/P Mission Plng Support System*	81.577	83.554	74.172	0.000	74.172	76.036	82.732	96.123	0.000	Continuing	Continuing

D. Acquisition Strategy

Engineering Manufacturing Development efforts. The strategy entails a two-phased evolutionary approach to acquire the initial JMPS development effort. Phase I was a combined USAF/USN effort that obtained various studies, extensive joint requirements analysis, design to cost estimates, an architecture concept, and development statement of work. The Program's Phase I was planned to identify reduced costs strategies through software reuse from both USN Tactical Automated Mission Planning Systems and USAF Air Force Mission Support Systems (AFMSS) legacy mission planning programs. Additionally, this phase provided a risk reduction plan by identifying the most effective migration of existing mission planning systems. Phase I was awarded to two contractors, Post Phase I during the down select process, one contractor was selected to develop the JMPS architecture work and Version 1.0 basic flight planning components. Phase II focused on strike planning requirements (i.e., support Precision Guided Missions and other tactical data load intensive missions) in order to migrate platforms from legacy mission planning systems to JMPS. The USAF continued development of JMPS Version 1.3 and has contractual control of the program which is facilitated via a Mission Planning Enterprise Contract. The USN continued limited development in JMPS Version 1.2 which is focused on helicopter platform migrations. USN integration and fielding strategy changed to support a Mission Planning Environment focus, where framework and common components are integrated as bundled packages and fielded by airwings. The completion of Phase II is targeted for JMPS Version 1.4, which focuses on migration to a .net architecture and rejoins the multi-service enterprise to reduce costs through co-development. As platforms plan their migration to JMPS, the acquisition strategy, plan, and baseline will be updated in order to drive the retirement of legacy mission planning systems.

E. Performance Metrics

Average time to plan a flight: Threshold value is < 1 hour average time to plan a flight that includes a Military Training Route (MTR), routing to and from the MTR, kneeboard card production, Instrument Flight Rules (IFR) flight planning materials and a Data Transfer Device (DTD) Load.
Objective value is < 30 minutes average time to plan a flight that includes a MTR, routing to and from the MTR, kneeboard card production, IFR flight planning materials and a DTD Load.

Interoperability: Threshold value is 100% of top level Interoperability Exchange Requirements (IERs) designated critical will be satisfied.
Objective value is 100% of top level IERs will be satisfied.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Software Development/CC	MIPR	USAF:Hanscom AFB, MA	0.002	0.001	Mar 2011	0.001	Mar 2012	-		0.001	Continuing	Continuing	Continuing
Primary Software Development/FW	MIPR	USAF:Hanscom AFB, MA	21.318	-		0.739	Feb 2012	-		0.739	Continuing	Continuing	Continuing
Primary Software Development/JMPS-E	MIPR	USAF:Hanscom AFB, MA	4.281	0.343	Feb 2011	0.150	Feb 2012	-		0.150	Continuing	Continuing	Continuing
Award Fees 8%	MIPR	USAF:Hanscom AFB, MA	1.609	0.061	Feb 2011	0.074	Feb 2012	-		0.074	Continuing	Continuing	Continuing
Primary Software Development	Various	Various:Various	15.778	1.925	Jan 2011	2.325	Jan 2012	-		2.325	Continuing	Continuing	Continuing
No Longer Funded in FYDP	Various	Various:Various	83.882	-		-		-		-	0.000	83.882	
		Subtotal	126.870	2.330		3.289		-		3.289			

Remarks

PB11 was incorrectly titled Primary Hardware Development. Correction made to Primary Software Development. 6% award fees based on actual awards placed on various Hanscom AFB contracts.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support	C/FFP	Lockheed Martin:Marlton, NJ	0.946	0.400	Jan 2011	0.962	Jan 2012	-		0.962	2.538	4.846	4.846
Integrated Logistics Support	WR	NAWCWD:Point Mugu, CA	-	0.500	Jan 2011	0.453	Jan 2012	-		0.453	Continuing	Continuing	Continuing
No Longer Funded FYDP	WR	SPAWAR:Philadelphia, PA	11.538	-		-		-		-	0.000	11.538	
		Subtotal	12.484	0.900		1.415		-		1.415			

Remarks

Integrated Logistics Support Lockheed Martin was changed to the correct Contract Method C/FFP.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Eng Integration & Test	WR	NAWCWD:Point Mugu, CA	47.379	11.415	Dec 2010	13.214	Dec 2011	-		13.214	Continuing	Continuing	Continuing
Test & Evaluation	WR	COMOPTEVFOR:Norfolk, VA	0.851	0.150	Jan 2011	0.350	Jan 2012	-		0.350	Continuing	Continuing	Continuing
		Subtotal	48.230	11.565		13.564		-		13.564			

Remarks

System Eng Integration & Test (NAWCWD) increase in FY12 due to new MPE requirement for Operating System update.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	WR	NAWCAD:Patuxent River, MD	28.601	1.550	Dec 2010	2.200	Dec 2011	-		2.200	Continuing	Continuing	Continuing
		Subtotal	28.601	1.550		2.200		-		2.200			

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	216.185	16.345		20.468		-		20.468			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
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Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Mission Planning				
Acquisition Milestones: JMPS V1.4 Initial Operational Capability (IOC)	3	2013	3	2013
System Development: Software Development: JMPS V1.4 Software Development	2	2011	1	2012
System Development: Reviews: JMPS V1.4 Operational Test Readiness Review (OTRR)	3	2012	3	2012
Test and Evaluation: Technical Evaluation: JMPS V1.2.3 Mission-Planning Environment (MPE) Integration/Validation	1	2010	4	2010
Test and Evaluation: Technical Evaluation: JMPS V1.2.4 MPE Integration/Validation	1	2010	4	2013
Test and Evaluation: Technical Evaluation: JMPS V1.3.5 Development Test	2	2011	3	2011
Test and Evaluation: Technical Evaluation: JMPS V1.3.5 Mission-Planning Environment (MPE) Integration/Validation	4	2011	4	2013
Test and Evaluation: Technical Evaluation: JMPS V1.4 Functional Qualification Test (FQT)	1	2012	1	2012
Test and Evaluation: Technical Evaluation: JMPS V1.4 Development Test	1	2012	2	2012
Test and Evaluation: Technical Evaluation: JMPS V1.4 MPE Integration/Validation	1	2012	4	2016
Test and Evaluation: Operational Evaluation: JMPS V1.4 Operational Test (OT)	4	2012	1	2013

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
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COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
2307: *Shipboard LAN/WAN*	2.387	0.464	0.308	-	0.308	0.315	-	-	-	0.000	3.474
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Shipboard LAN / WAN / Integrated Shipboard Network System (ISNS) provides Navy ships, including submarines, and Ashore sites with reliable, high-speed SECRET and UNCLASSIFIED Local Area Networks (LAN)s and wireless network technologies. The LAN provides Basic Network Information Distribution Services (BNIDS) and access to the Defense Information Systems Network (DISN) Wide Area Network (WAN) (Secure and Nonsecure Internet Protocol Router Network -SIPRNet and NIPRNet). It provides the network infrastructure and services to enable real-time information exchange within the ship and between afloat units, Component Commanders, and Fleet Commanders. It is a key factor in the implementation of the Navy's portion of Joint Vision 2020 and the migration of existing legacy systems into the IT-21 strategy. Program funding supports the design, development and testing of the ISNS LAN for surface ships, shore sites, and SubLAN for submarines.

The ISNS program maximizes the use of both Commercial off the Shelf (COTS) software and hardware. Engineering and technical support is provided so that existing systems will keep pace with hardware and software that continues to be commercially supported. ISNS uses a combination of high speed wired and wireless switches, routers, access points, servers, workstations and operating system software technologies to provide network access to classified and unclassified applications for use by ship's force, embarked units, embarked commanders and their staffs. Under the Navy's information modernization strategy, full synchronization of shipboard networks, mission and information applications, radio/satellite communications, and shore data dissemination infrastructure are necessary to ensure end-to-end mission capability. The Integrated Shipboard Networking System program is closely synchronized on a ship by ship basis with over 460 different systems of application configurations including the following: Global Command and Control System Maritime (GCCS-M), Navy Tactical Command Support System (NTCSS), Navy Standard Integrated Personnel System (NSIPS), Theatre Medical Information Program - Maritime (TMIP-M), Defense Messaging System (DMS), Automated Digital Network System (ADNS), Global Broadcasting System (GBS), Tactical Tomahawk Weapons Control System (TTWCS) and Information Security (INFOSEC) programs. The ISNS program provides the infrastructure to support implementation/fielding of these programs. The LAN modernization rate must keep pace with hardware and software that is supported commercially in order to provide a supportable and secure FORCEnet infrastructure. ISNS includes Afloat Core Services (ACS) which is the mechanism to deliver the FORCEnet interface to the warfighter. ACS provides a composeable warfighting environment enabling dynamic configuration of capabilities tailored to meet specific warfighting missions. As the warfighting mission changes, the capabilities or services can be re-configured on the fly to meet the new warfighting requirement. This dynamic reconfiguration of services also known as "plug and fight" meets the composeable services vision of FORCEnet. ACS also provides the common core enterprise services and technical framework to allow organizations ubiquitous access to reliable, decision-quality information through a net-based services infrastructure and applications to bridge real-time and near-real-time communities of interest (COI). ACS will empower the end user to pull information from any available source, with minimal latency, to support the mission. Its capabilities will allow Department of the Navy as well as Global Information Grid (GIG) users to task, post, process, use, store, manage and protect information resources on demand for warfighters, policy makers and support personnel. ACS will utilize a spiral process for delivering capability to the warfighter.

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The ISNS Inc 1, Sensitive Compartmented Information (SCI) Networks and Combined Enterprise Regional Information Exchange System (CENTRIXS) programs began migration to ISNS Inc 2/Consolidated Afloat Networks and Enterprise Services (CANES) in FY09. ISNS Inc 2/CANES will serve to transition numerous Fleet networks to a single, adaptive, available, secure computing network infrastructure while delivering enhanced technologies in: Integrated Voice, Video and Data; Common Computing Environment (CCE); ACS; and Multi-Level Security (MLS)/Cross Domain Solutions (CDS). Development transition to CANES began in FY 2010.

The Combined Enterprise Regional Information Exchange System - Maritime (CENTRIXS-M) program provides US Navy ships and submarines with secure, reliable, high-speed Local Area Network (LAN) with access to the Coalition Wide Area Network (WAN) to include CENTRIXS Four-Eyes (CFE), Global Counter Terrorism Task Force (GCTF), NATO Information Data Transfer System (NIDTS), Multinational Coalition Force - Iraq (MCFI), bilateral networks such as CENTRIXS-U.S. Japan (J) and CENTRIXS-US. Korea (K), and Communities Of Interest (COI) virtual networks such as Coalition Naval Forces - CENTCOM (CNFC), and Cooperative Maritime Forces - Pacific (CMFP). The CENTRIXS system provides real-time tactical and operational information sharing at the SECRET and SECRET REL (Releasable) level between naval afloat units, Component Commanders, Fleet Commanders, Numbered Fleet Commanders and Coalition Forces/Allies. When the CENTRIXS network is combined with other subsystems (Radio/Satellite Comms), it delivers an end-to-end network centric warfighting capability. CENTRIXS is the primary means for sharing classified, but releasable, data with coalition partners to enable the Navy to mean the National Strategy for Maritime Domain Awareness. The CENTRIXS program is comprised of Block 0, I, and II systems fielded across the Fleet, and Increment 1 which provides a network infrastructure that allows simultaneous access to multiple Coalition WAN and incorporates the Common PC Operating System Environment (COMPOSE) which provides a server and client operating system environment for other applications and collaborative tools such as Same time Chat, Domino and Command and Control PC (C2PC) as means to share a Common Operational Picture (COP) and exchange information using Collaboration At Sea (CAS). The CENTRIXS program uses both Commercial Off The Shelf (COTS) hardware and software and Open Standards to maximize commercial technology and support. Engineering and technical support ensures existing systems are upgraded and modified to keep pace with current technology and industry.

Funding supports the design, development and testing of the CENTRIXS LAN for surface platforms and the CENTRIXS Network Operations Center (NOC). The goal of the CENTRIXS program is to provide a cost-efficient, operationally effective network that dramatically reduces current infrastructure requirements while maximizing operational flexibility and warfighter utility in a coalition environment. Multi-Level Thin Client (MLTC) architecture supports shipboard Space, Weight and Power (SWAP) reductions and includes initiatives for server virtualization (ability to run multiple servers on a single server), drop scalability leveraging existing SIPRNET drops, remote authentication and remote system management. Additionally, funding will provide design, development and testing for a Unit Level MLTC system (provides a compressed shipboard rack/client footprint) and initiatives to include Language Translation, COI and Network Enclave Agility (ability to dynamically shift between all coalition networks and COIs) and Multi-Level Chat (a Cross Domain Solution (CDS) chat capability). The CENTRIXS-M program will begin migrating to CANES in FY12. ISNS Inc 2/CANES will serve to transition numerous Fleet networks to a single, adaptive, available, secure computing network infrastructure while delivering enhanced technologies in: Integrated Voice, Video and Data; Common Computing Environment (CCE); Afloat Core Services (ACS); and Multi-Level Security (MLS)/Cross Domain Solutions (CDS).

Submarine Local Area Network (SubLAN): The SubLAN program provides Navy submarines, with reliable, high-speed mission critical SECRET and mission critical UNCLASSIFIED Local Area Networks (LANs). When the SubLAN network is combined with other subsystems, it delivers an end-to-end network-centric warfare capability by hosting applications capable of connectivity with coalition communications enclaves. The SubLAN program provides network infrastructure including an

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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Unclassified Wireless Local Area Network (UWLAN), servers, and the Common Personal Computer Operating System Environment (COMPOSE) which provides the operating system, office automation, security, and other basic network services used by all hosted applications.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Integrated Shipboard Network System (ISNS)	0.795	0.419	0.308	-	0.308
Articles:	0	0	0		0
FY 2010 Accomplishments: Completed development of the ISNS Increment 1 and 2/CANES capabilities consolidating Afloat LANs and Enterprise Services aboard ships and Ashore sites. These capabilities included increased availability to mission critical level systems, multiple security enclaves, and application hosting, Afloat Core Services (ACS), and collaboration services. Developed replacement solutions for End of Life (EOL) equipment as EOL occurs. Continued support of sea demonstrations for the following technologies: 1. Identified Management/Service Security, including Entity Management & Credential Management. 2. Collaboration, including Session Management and Presence & Awareness. 3. Discovery, including Content/Device/People Discovery. 4. Cross Domain Solutions (CDS) 5. Secure classified wireless 6. ACS Continued working with ISNS labs on Early Adopter and ACS testing and integration. Investigated new technology associated with classified wireless LANs. Supported Trident warrior exercises. Supported Compose 4.0 DT & OT events. Program began transition from ISNS Inc 2/CANES to CANES. Continued support for wireless initiatives towards a more interoperable and secure wireless network infrastructure. Supported Certification and Accreditation activities for efforts under development.					
FY 2011 Plans: Continue transition support from ISNS Increment 1 to CANES Inc 1 through continued consolidation of Afloat LANs and Enterprise Services aboard ships and Ashore sites. Continue development of replacement solutions for End of Life (EOL) equipment as EOL occurs. Develop replacement solutions for End of Sale (EOS) equipment/software as EOS occurs. Support Certification and Accreditation activities for efforts under development. Continue support of at sea demonstrations. Continue working with the ISNS labs on Early Adopter and ACS testing and integration. Investigate new technologies associated with classified wireless LANs. Support Test and Evaluation events for efforts under development.					
FY 2012 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue development of replacement solutions for End of Life (EOL) equipment as EOL occurs. Develop replacement solutions for End of Sale (EOS) equipment/software as EOS occurs. Support Certification and Accreditation activities for efforts under development. Continue support of at sea demonstrations.					
Title: Combined Enterprise Regional Information Exchange System (CENTRIXS) ***Articles:*** ***FY 2010 Accomplishments:*** Performed Environmental Qualification Testing on Unit Level Increment I system. Conducted separate Development Test/Operational Test for both Force Level and Unit Level Inc I systems. Developmental effort on COMPOSE 4.0 for Increment I system.	1.021 0	-	-	-	-
Title: Submarine Local Area Network (SubLAN) ***Articles:*** ***FY 2010 Accomplishments:*** Performed Operational Test Readiness Review (OTRR) and Follow on Operational Test & Evaluation (FOT&E) of Inc. 1. ***FY 2011 Plans:*** Investigate and test server architecture in support of Commercial off the Shelf (COTS) End-of-Life (EOL).	0.571 0	0.045 0	-	-	-
Accomplishments/Planned Programs Subtotals	2.387	0.464	0.308	-	0.308

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• OPN/3050/ISNS: *ISNS*	136.116	124.038	55.655	0.000	55.655	0.000	0.000	0.000	0.000	0.000	315.809
• OPN/3050/CENTRIX: *CENTRIXS-M*	14.631	15.912	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	30.543
• OPN/3050/SubLAN: *SubLAN*	29.849	22.440	30.461	0.000	30.461	30.648	0.000	0.000	0.000	0.000	113.398
• OPN/3051: *CENTRIXS-M MDA*	4.898	9.250	24.022	0.000	24.022	1.064	0.000	0.000	0.000	0.000	39.234

D. Acquisition Strategy

These programs begin transitioning to CANES in FY 2011.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 2307: *Shipboard LAN/WAN*

E. Performance Metrics

The Shipboard LAN/WAN/Integrated Shipboard Network System (ISNS) development efforts are nearing completion and is currently 98.1% completed. The ISNS, CENTRIXS-M and SubLAN programs will transition to CANES in FY14. ISNS development and testing against ISNS variants as well as Early Adopter Common Computing Envrionment (CCE) testing on the Lincoln Strike Group met and exceeded all measures of effectiveness and suitability of the system. Technologies developed for the CENTRIXS-M Increment 1 system included the Multi-Level Thin Client (MLTC) and associated accreditation and testing. SubLAN development efforts included SubLAN End of Life solutions and Early Adopter CANES solutions. Remaining funds in FY12-13 or 1.9% of the project will support ISNS efforts to include Trident Warrior At Sea Demonstrations, annual certification and accreditation efforts and investigate End of Life (EOL)/End of Sale (EOS) technology replacement options. X2307 Shipboard LAN/WAN/Integrated Shipboard Network System funding completes in FY2013.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 2351: *MDA*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
2351: *MDA*	19.485	19.630	-	-	-	-	-	-	-	0.000	39.115
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY12, category Deep Lightning Bolt / Rapid Capability Development was cancelled.
In FY12 MDA RDTEN funding was realigned to DCGS-N PE 0305208N.

A. Mission Description and Budget Item Justification

Maritime Domain Awareness (MDA): MDA is the effective understanding of anything associated with the global maritime domain that could impact the security, safety, economy or environment. MDA objectives include the persistent monitoring of and ability to access and maintain data on vessels, cargo, people, and infrastructures; and the ability to collect, fuse, analyze, and disseminate information to decision makers to facilitate effective understanding. This initiative will identify, develop and transition data fusion and mining, replication, sharing and assessment tools to achieve MDA across the non-classified, unclassified and classified enclaves. Additionally, MDA will ensure capability integration with related activities and sites (both technologies and facilities). This warfighting enhancement is designed to achieve an all-source MDA capability, leveraging existing MDA initiatives in the developmental phase and ensuring the best products transition to strategic, operational and tactical users within the Distributed Common Ground System - Navy (DCGS-N) Increment 2 Program of Record. This includes the enhanced and future fusion and analysis capabilities defined in the Maritime Fusion and Analysis Initial Capabilities Document (MFAS ICD), DCGS Enterprise ICD, and the DCGS-N Increment 2 Gap Analysis. The products support all-source data fusion, development and replication of MDA and Intelligence Surveillance and Reconnaissance (ISR) related data gathered in various operations such as Expanded-Maritime Intercept Operations (E-MIO), sharing information with allies, and developing subject matter expertise and assessment tools to achieve MDA and enhance operational decision making.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: MDA	13.842	13.164	-	-	-
Articles:	0	0			
FY 2010 Accomplishments: Maritime Domain Awareness (MDA): Spiral 1 Prototype (SP1P): Provided support for continued prototype integration for SP1P. Accepted delivery of the MDA Enterprise Node in August 2010 to correct the major operational deficiencies identified during the MDA Quick Readiness Assessment and the Operational Utility Assessment. Enterprise Node is targeted to begin providing services to users in Q3FY11 following testing and certification. Supported corrective and adaptive system engineering activities as the Joint Capability Technology Demonstration (JCTD) prototype transitioned to operational capability in FY10. Ensured that issues identified during the Joint and Navy					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 2351: *MDA*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Operational Assessments were resolved, and that SP1P maintained interoperability with Joint and Naval Systems as Joint and Navy Service Oriented Architecture (SOA) frameworks were established. Supported verification and validation (V&V), and developmental regression and acceptance testing for baseline changes required for systems engineering activities. Provided Prototype hardware, software and other technical support for components deployed at Commander: 2nd, 3rd, 4th, 5th (Navy, Central Command), 6th (Naval Forces Europe), and 7th Fleets as well as Pacific Fleet (PACFLT), U.S. Fleet Forces Command (USFF), National Maritime Intelligence Center (NMIC), Maritime Intelligence Fusion Center (MIFC) Atlantic (LANT), MIFC Pacific (PAC), Joint Interagency Task Force (JIATF)-South, JIATF- West and the MDA Enterprise Node. Supported the National Maritime Intelligence Center (NMIC) and MIFC LANT/PAC to facilitate data integration with the Intelligence Community systems, Department of Homeland Security (DHS) and Department of Justice (DOJ). Continued support of the Maritime Information Exchange Model (MIEM) to promote interagency and coalition data sharing. MDA also supported the development and replication of ongoing MDA related data gathering activities, such as Expanded-Maritime Intercept Operations (E-MIO), as well as ensured MDA capabilities were projected through non-classified, unclassified and classified networks. Maritime Fusion and Analysis Services (MFAS) Increment and Information Intelligence Access, Data Sharing and Dissemination (I2ADSD) Increment: Defined an executable transition path for MDA capabilities. Developed the transition strategy that ensures that MFAS capabilities will be delivered to the fleet as part of the larger DCGS-N ISR capabilities package. Continued work to integrate the MDA, DCGS-N, and IMA architectures to provide operationally useful and cost effective solutions for the Navy. Conducted initial integrated requirements analysis to identify critical capabilities to be developed and fielded in the initial DCGS-N Increment 2 release. ***FY 2011 Plans:*** MDA Spiral 1: Support initial Interoperability testing for fielded capabilities following the introduction of the Enterprise Node in Q3FY11. Maritime Fusion and Analysis Services (MFAS) Increment and Information Intelligence Access, Data Sharing and Dissemination (I2ADSD) Increment: Transition the MFAS and I2ADSD pre-acquisition efforts to support DCGS-N Increment 2 Activities. Will complete a DCGS-N Material Development Decision in Q1 FY2011 that will allow the development and assessment of prototype MFAS and multi-intelligent ISR fusion and analytical capabilities to address key gaps identified in the MFAS ICD, MFAS Analysis of Alternatives, the DCGS Enterprise ICD, and the DCGS-N Increment 2 Gap Analysis. Will complete a DCGS-N MFAS Business Case					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 2351: *MDA*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Analysis, develop a DCGS-N Capabilities Description Document and conduct initial prototyping activities. Begin requirements analysis and system design for DCGS-N Increment 2 releases.					
Title: DLB	5.643	6.466	-	-	-
Articles:	0	0			
FY 2010 Accomplishments: Deep Lightning Bolt / Rapid Capability Development (DLB/RCD): Transformational initiative for the Navy which focused on the introduction of technologies that enhanced the Navy's Sea Power 21 objectives and supported network centric warfare and operations. Provided a low cost initiative creating the ability to react immediately to newly discovered technology(s), enemy threat(s) or to respond to significant and urgent safety situations through special, tailored procedures designed to: - Integrate and demonstrate, hardware / software solutions for either immediate or near term deployment - Expedite technical, programmatic, and financial decisions in order to make emergent technologies available to the Fleet in a timely manner - Expedite, within statutory limitations, the procurement and contracting processes. - Offer disruptive technologies with the intent of leaping technology within traditional programs of record					
FY 2011 Plans: Deep Lightning Bolt / Rapid Capability Development (DLB/RCD): Transformational initiative for the Navy which will focus on the introduction of technologies that will enhance the Navy's Sea Power 21 objectives and support network centric warfare and operations. A low cost initiative which will provide the ability to react immediately to newly discovered technology(s), enemy threat(s) or to respond to significant and urgent safety situations through special, tailored procedures designed to: - Integrate and demonstrate, hardware / software solutions for either immediate or near term deployment - Expedite technical, programmatic, and financial decisions in order to make emergent technologies available to the Fleet in a timely manner - Expedite, within statutory limitations, the procurement and contracting processes.					
Accomplishments/Planned Programs Subtotals	19.485	19.630	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 2351: *MDA*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

The Maritime Domain Awareness (MDA) Spiral 1 Fielded Project (also known as Spiral 1 Prototype (SP1P)) entered the sustainment phase based on direction by Assistant Secretary of the Navy, Research, Development and Acquisition (ASN RDA) in 4QFY09. MDA Spiral 1 will be maintained and sustained until it can transition or be replaced by a Program of Record capability.

Pre-acquisition activities for MDA follow-on efforts commenced in FY10. A Maritime Fusion and Analysis Services (MFAS) Initial Capabilities Document (ICD) was staffed for approval in FY10. An approved ICD will support a Material Development Decision (MDD) to transition to a Program of Record. That Program of Record is Distributed Common Ground System - Navy (DCGS-N) with MFAS capabilities migrating into DCGS-N Increment 2. The acquisition strategy coordinated with OPNAV N2 N6 and ASNRD&A calls for the use of a streamlined IT acquisition in keeping with the general recommendations of the Defense Science Board Information Technology (DSB IT) acquisition report. For the set of activities leading up to a Program Build Decision (Milestone B) the activities are compatible allowing the pre-acquisition to move forward independent of the ultimate decision regarding the use of improved IT acquisition procedures.

E. Performance Metrics

Maritime Domain Awareness (MDA): MDA Spiral 1 Fielded is in compliance with Net-Centric Enterprise Solutions for Interoperability (NESI) guidance and conforms to the Net-Centric Enterprise Services (NCES) standards; fuses multiple disparate data sources, analyzes MDA activity to identify potential threats to security of the United States and US interests and forces around the world. MDA will alert based on a number of simple and complex user defined conditions improving efficiency and effectiveness in monitoring the maritime domain for threats. MDA provides accurate MDA vessel track information to the common operational picture; generates alerts for vessels entering and existing geospatial, user defined, areas of interest; anomaly alerts will be verified at 65% accuracy against ground truth; reduction in the number of manual steps required to find and retrieve MDA relevant data; SP1P material availability will be no less than 85%. MDA provided Extended Maritime Intercept Operations (EMIO) capabilities have reduced the time between data entry by the boarding team and data analysis both in theater and globally. MDA provided EMIO capabilities are improving all elements of the MIO process.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 3032: *NTCSS (Naval Tactical Command Spt Sys)*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
3032: *NTCSS (Naval Tactical Command Spt Sys)*	5.971	3.661	18.524	-	18.524	12.639	7.974	5.050	0.928	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Naval Tactical Command Support System (NTCSS) is a multi-function program designed to provide standard tactical support information systems to various afloat and associated shore-based fleet activities. The mission is to provide the Navy and Marine Corps with an integrated, scalable system that supports the management of logistical information, personnel, material and funds required to maintain and operate ships, submarines, and aircraft. FY2012 funding:

(1) supports the design, development, and testing of One NALCOMIS (Naval Aviation Logistics Command/Management Information System), which will consolidate organizational and depot level aviation maintenance into a single system. This will provide streamlined maintenance management for Navy and Marine Corps aviation.
(2) supports design, development, and migration of NTCSS into the MLDN (Maritime Logistics Data Network) concept of operations featuring multi-UIC (Unit Identification Code), which will provide a consolidated logistics management system by combining logistics data from multiple fleet operational platforms into a single database management system ashore with bi-directional replication and transactional capabilities.
(3) provides for the design, development and testing of the Single Supply Baseline (SSB), which will integrate upgrades to Ships Store (Retail Operations Management (ROM)) and Food Services (Food Services Management (FSM)) products.
(4) provides for the transition of the current, client-server architecture to a service-oriented architecture (SOA) and web-based services. This will align with the initiative to bring Navy systems into a common computing environment afloat, interface with Navy Enterprise Resource Planning (ERP) ashore, and provide a more flexible system platform with greater responsiveness to security, information assurance, functional, and system requirements and with greater speed to capability.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: NTCSS (Naval Tactical Command Spt Sys)	5.971	3.661	18.524	-	18.524
Articles:	0	0	0		0
Description: Maintenance and Supply Management Capability					
FY 2010 Accomplishments: Continued design and development efforts for NTCSS One NALCOMIS. Began design and development efforts for NTCSS multi-UIC (Unit Identification Code), enterprise database, and replication capabilities. Began product improvement efforts for Service-Oriented Architecture (SOA) and web-based services to leverage multi-UIC and the enterprise system. Integrated NTCSS with CCE/CANES (Common Computing Environment/Consolidated					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 3032: *NTCSS (Naval Tactical Command Spt Sys)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Afloat Networks and Enterprise Services) afloat and NMCI (Navy/Marine Corps Intranet) ashore with required interfaces to Navy systems including ERP (Enterprise Resource Planning). ***FY 2011 Plans:*** Continue design, development, and testing efforts for NTCSS One NALCOMIS, multi-unit identification code (UIC), and enterprise database system. Continue design, development, and testing efforts for NTCSS product improvements of service-oriented architecture (SOA) and web-based services. ***FY 2012 Base Plans:*** Continue design, development, and testing efforts for NTCSS One NALCOMIS, multi-UIC, and enterprise database system. Continue design, development, and testing efforts for NTCSS product improvements of SOA and web-based service. Begin design, development and testing efforts for Single Supply Baseline (SSB) with upgrades to Ships Store (Retail Operations Management (ROM)) and Food Services (Food Services Management (FSM)) products.					
Accomplishments/Planned Programs Subtotals	5.971	3.661	18.524	-	18.524

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• OPN/2611: *Naval Tactical Command Support System*	35.742	33.358	33.017	0.000	33.017	35.683	30.860	34.824	21.227	0.000	645.316

D. Acquisition Strategy

The NTCSS Acquisition Strategy is defined in its Single Acquisition Management Plan (SAMP) dated February 2004. This SAMP provides the acquisition strategy and implementation plans for all NTCSS applications and is based on the following six tenants: Migration to Optimized Software Architecture, Migration to PC Workstations and UNIX/NT Servers, Migration to the Common Operating Environment (COE), Business Process Improvements, Focused Logistics, and Streamlined Acquisition Process. The SAMP provides a single point of focus and presents these efforts in an integrated and coordinated fashion.

E. Performance Metrics

One NALCOMIS reduces NTCSS Aviation software baseline configuration management support by 50%. Additionally, the NTCSS Aviation system hardware requirement realizes a 50% reduction at Fleet Readiness Centers (ashore) and Aircraft Intermediate Maintenance Departments (afloat). Over the FYDP, SOA (Open Architecture) for NTCSS will lower system maintenance costs by $15.7M when compared to maintaining the current, client-server architecture.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 3032: *NTCSS (Naval Tactical Command Spt Sys)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WR	SSC:North Charleston, SC	0.668	-		-		-		-	0.000	0.668	0.668
Systems Engineering	C/CPFF	SeaPort:San Diego, CA	1.200	0.251	Nov 2010	0.500	Nov 2011	-		0.500	0.000	1.951	
Licenses	Various	SSC:San Diego, CA	0.700	-		-		-		-	0.000	0.700	0.700
Software Development	WR	SSC:Norfolk, VA	16.363	2.352	Nov 2010	16.960	Nov 2011	-		16.960	0.000	35.675	
Integrated Logistics Support	C/CPFF	SeaPort:San Diego, CA	0.100	0.100	Nov 2010	0.300	Nov 2011	-		0.300	0.000	0.500	
Configuration Management	WR	SSC:San Diego, CA	0.460	-		-		-		-	0.000	0.460	
Technical Data	WR	SSC:San Diego, CA	0.200	-		-		-		-	0.000	0.200	
		Subtotal	19.691	2.703		17.760		-		17.760	0.000	40.154	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NAWC:Patuxent River, MD	-	0.400	Nov 2010	0.250	Nov 2011	-		0.250	0.000	0.650	
Operational Test & Evaluation	C/CPIF	COTF:Norfolk, VA	0.585	0.200	Nov 2010	-		-		-	0.000	0.785	
		Subtotal	0.585	0.600		0.250		-		0.250	0.000	1.435	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPFF	SeaPort:San Diego, CA	0.896	-		-		-		-	0.000	0.896	0.896
Government Engineering Support	WR	SSC:San Diego, CA	0.279	-		-		-		-	0.000	0.279	0.279
Program Management Support	C/CPFF	SeaPort:San Diego, CA	0.074	0.358	Nov 2010	0.514	Nov 2011	-		0.514	0.000	0.946	
		Subtotal	1.249	0.358		0.514		-		0.514	0.000	2.121	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 3032: *NTCSS (Naval Tactical Command Spt Sys)*	

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	21.525	3.661		18.524		-		18.524	0.000	43.710	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604231N: *Tactical Command System*	**PROJECT** 3032: *NTCSS (Naval Tactical Command Spt Sys)*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604231N: *Tactical Command System*	**PROJECT** 3032: *NTCSS (Naval Tactical Command Spt Sys)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3032				
NTCSS Open Architecture Build 1- System Concept Review (SCR)	3	2010	3	2010
NTCSS Open Architecture Build 1- Critical Design Review (CDR)	4	2010	4	2010
NTCSS Open Architecture Build 1- Test Readiness Review (TRR)	3	2012	3	2012
NTCSS Open Architecture Build 1- Production Readiness Review (PRR)	4	2012	4	2012
NTCSS Open Architecture Build 1- Operational Test (OT)	3	2013	3	2013
NTCSS Open Architecture Build 1- Delivery	1	2014	1	2014
NTCSS Open Architecture Build 2- System Requirements Review (SRR)	3	2011	3	2011
NTCSS Open Architecture Build 2- Critical Design Review (CDR)	4	2011	4	2011
NTCSS Open Architecture Build 2- Test Readiness Review (TRR)	2	2013	2	2013
NTCSS Open Architecture Build 2- Production Readiness Review (PRR)	3	2013	3	2013
NTCSS Open Architecture Build 2- Operational Test (OT)	1	2014	1	2014
NTCSS Open Architecture Build 2- Delivery	3	2014	3	2014
NTCSS Open Architecture Build 3- System Requirements Review (SRR)	2	2012	2	2012
NTCSS Open Architecture Build 3- Critical Design Review (CDR)	3	2012	3	2012
NTCSS Open Architecture Build 3- Test Readiness Review (TRR)	4	2013	4	2013
NTCSS Open Architecture Build 3- Production Readiness Review (PRR)	1	2014	1	2014
NTCSS Open Architecture Build 3- Operational Test (OT)	4	2014	4	2014
NTCSS Open Architecture Build 3- Delivery	2	2015	2	2015
NTCSS Open Architecture Build 4- System Requirements Review (SRR)	1	2013	1	2013
NTCSS Open Architecture Build 4- Critical Design Review (CDR)	2	2013	2	2013
NTCSS Open Architecture Build 4- Test Readiness Review (TRR)	1	2015	1	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604231N: *Tactical Command System*	**PROJECT** 3032: *NTCSS (Naval Tactical Command Spt Sys)*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
NTCSS Open Architecture Build 4- Production Readiness Review (PRR)	2	2015	2	2015
NTCSS Open Architecture Build 4- Operational Test (OT)	4	2015	4	2015
NTCSS Open Architecture Build 4- Delivery	2	2016	2	2016
NTCSS Open Architecture Build 5- System Requirements Review (SRR)	1	2014	1	2014
NTCSS Open Architecture Build 5- Critical Design Review (CDR)	2	2014	2	2014
NTCSS Open Architecture Build 5- Test Readiness Review (TRR)	1	2015	1	2015
NTCSS Open Architecture Build 5- Production Readiness Review (PRR)	2	2015	2	2015
NTCSS Open Architecture Build 5- Operational Test (OT)	4	2015	4	2015
NTCSS Open Architecture Build 5- Delivery	2	2016	2	2016
NTCSS Open Architecture Build 6- System Requirements Review (SRR)	3	2015	3	2015
NTCSS Open Architecture Build 6- Critical Design Review (CDR)	4	2015	4	2015
NTCSS Open Architecture Build 6- Test Readiness Review (TRR)	3	2016	3	2016
NTCSS Open Architecture Build 6- Production Readiness Review (PRR)	4	2016	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 3320: *TRIDENT Warrior*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
3320: *TRIDENT Warrior*	-	-	3.712	-	3.712	3.582	3.037	3.075	2.285	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Trident Warrior (TW) was transferred from Project 9123 into Project 3320 beginning in FY12.

A. Mission Description and Budget Item Justification

Trident Warrior (TW) enables early delivery of Net-Centric Operation/Warfare (NCO/W) capabilities to the warfighter via Fleet-directed Trident Warrior operational events with a strong emphasis on delivering Maritime Domain Awareness (MDA) with Maritime Operations Center (MOC) capability. Integrates stand-alone systems and efforts to achieve substantially enhanced capability, demonstrates/tests these capabilities in both laboratory and operational environments, and evaluates their effectiveness. Develops supporting concepts and Concept of Operations to improve warfighting effectiveness. Coordinates FORCEnet efforts with other Service/Joint/DoD/National efforts to ensure Joint/Interagency/Allied/Coalition applicability and interoperability.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Trident Warrior (TW)	-	-	3.712	-	3.712
Articles:			0		0
FY 2012 Base Plans: Focuses on operational experimentation of Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) technologies during the Navy's premier annual Sea Trial event. The primary goal is to improve information dominance capabilities, maritime warfighting policy and procedures, and interoperability between U.S. and Coalition partners. The majority of TW experimentation occurs during operational at-sea venues where new and emerging capabilities are integrated with current fleet units and either demonstrated, or evaluated on their potential military utility. The Sea-based venue works on an 18-month cycle and focuses on the readiness of higher Technology Readiness Level (TRL) technologies in a Maritime-based environment. The at-sea portion of TW will be executed in two phases: phase one in the Commander Fifth Fleet (C5F) Area of Responsibility using forward deployed units, and phase two in the Virginia Capes Operating Area (VACAPES) utilizing Commander Second Fleet (C2F) units. Begin developing FY13 and FY14 TW Sea Trial plans.					
Accomplishments/Planned Programs Subtotals	-	-	3.712	-	3.712

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 3320: *TRIDENT Warrior*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Trident Warrior (TW) is an annual operational experiment and is not associated with acquisition efforts.

E. Performance Metrics

Confirmation of Fleet and Joint Interoperability with technology candidates, Information Assurance (IA) Certification and Accreditation (C&A), and alignment with current Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Technology Roadmaps as well as related Program Executive Office objectives and projected architectures. Metrics for individual technologies are independently determined and validated by Naval Postgraduate School. Metrics are chosen to ensure that the experiment results in the accurate assessment of the technology to either address a capability gap or support Program of Record programmatic decisions.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 3320: *TRIDENT Warrior*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Trident Warrior (TW)	WR	Fleet Forces Command:San Diego, CA	-	-		0.101	Dec 2011	-		0.101	Continuing	Continuing	Continuing
Trident Warrior (TW)	WR	Naval Postgraduate School:Monterey, CA	-	-		1.032	Nov 2011	-		1.032	Continuing	Continuing	Continuing
Trident Warrior (TW)	WR	SSC Atlantic:Charleston, SC	-	-		0.469	Jan 2012	-		0.469	Continuing	Continuing	Continuing
Trident Warrior (TW)	WR	SSC Pacific:San Diego, CA	-	-		0.550	Nov 2011	-		0.550	Continuing	Continuing	Continuing
Trident Warrior (TW)	C/CPFF	AUSGAR Technolgies Inc.:San Diego, CA	-	-		1.560	Dec 2011	-		1.560	Continuing	Continuing	Continuing
		Subtotal	-	-		3.712		-		3.712			

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		3.712		-		3.712			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604231N: *Tactical Command System*	**PROJECT** 3320: *TRIDENT Warrior*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604231N: *Tactical Command System*	**PROJECT** 3320: *TRIDENT Warrior*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3320				
Trident Warrior (TW) Execution	2	2012	3	2016
TW Lab Based E2C Experiments	1	2012	3	2016
TW Concept Development Conferences	2	2012	2	2016
TW Data Calls & CAA	2	2012	2	2016
TW Initial Planning Conferences	4	2012	4	2016
TW Mid-Term Planning Conferences	1	2012	1	2016
TW Final Planning Conferences	2	2012	2	2016
TW Military Utility Assessment	4	2012	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 3323: *Maritime Tactical Command & Control (MTC2)*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
3323: *Maritime Tactical Command & Control (MTC2)*	-	-	0.003	-	0.003	9.716	10.800	12.401	21.832	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Beginning in fiscal year 2013, the development of maritime tactical command and control capabilities will be realigned from Global Command and Control System Maritime (GCCS-M) Maritime Applications (Project Unit 0709) to the Maritime Tactical Command and Control (MTC2) program (Project Unit 3323).

A. Mission Description and Budget Item Justification

Maritime Tactical Command and Control (MTC2) is a software program which will provide tactical Command and Control (C2) capabilities in addition to supporting Maritime unique Operational Level of War capabilities not supported by the Joint C2 Program, to all echelons of command within the Navy. The goal is to provide a means for Naval commanders at the Operational Level of War (OLW), Fleet Numbered Commanders, Naval Joint Task Force (JTF), Joint Force Maritime Component Commander (JFMCC), and subordinate commanders, Cruiser-Strike Group (CSG) Commanders, Naval Expeditionary Force Commanders, Amphibious Task Force (ATF)/Landing Force Commanders, Destroyer Squadron (DESRON) Commanders, and individual platform commanders) to deploy personnel and equipment through a set of requisite tools that enable the Navy command structure to plan, execute, monitor, and assess its mission requirements.

War fighter capabilities defined in Naval Warfare Publication 3-32, 5-01 and Joint Publications 5.0 require a path for maritime-unique tactical (C2) capabilities at all levels of war. This dedicated program will enable the evolutionary acquisition of maritime-unique (C2) capabilities towards the Services Oriented Architecture standards being adopted. It will provide continual increased functional capability, war fighter effectiveness and Commander control for management of tactical forces in all levels of war. MTC2 will fully align and support DoD Joint C2 data and service exposure and consumption goals, architectures and Net-Centric Enterprise Services efforts. MTC2 will be software only, and require the Navy Common Computing Enterprise (CCE) provided by Integrated Shipboard Network System (ISNS), Consolidated Afloat Network Enterprise Service (CANES), Navy/Marines Corps Intranet (NMCI), Overseas Navy Enterprise Network (ONE-NET), Next Generation Enterprise Network (NGEN), and Joint Worldwide Intelligence Communications Systems (JWICS) to serve as the underlying information technology infrastructure of network and hardware for MTC2 software.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Navy Working Capital Fund Rate Adjustment	-	-	0.003	-	0.003
Articles:			0		0
FY 2012 Base Plans: Navy Working Capital Fund Rate Adjustment - this issue adjusts WCF rates.					
Accomplishments/Planned Programs Subtotals	-	-	0.003	-	0.003

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 3323: *Maritime Tactical Command & Control (MTC2)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• RDTEN/0604231N/0709: *GCCS-M*	19.926	28.216	17.580	0.000	17.580	0.000	0.000	0.000	0.000	0.000	222,061.722

D. Acquisition Strategy

MTC2 is planning to execute an Evolutionary Acquisition Strategy. Software development will be comprised of multiple releases of increasing levels of net-centric services capability. MTC2 is planned as a software only development and implementation, dependent on Navy Common Computing Environment (CCE) hardware infrastructure provided by the Consolidated Afloat Network Enterprise Service (CANES), Integrated Shipboard Network System (ISNS), Navy/Marine Corps Intranet (NMCI), Next Generation Enterprise Network (NGEN), and Overseas Navy Enterprise Network (ONE-NET) programs. MTC2's primary contracting method for software development utilizes Indefinite Delivery, Indefinite Quantity (IDIQ) task orders on the Command and Control Multiple Award Contract (C2 MAC) contact and SEAPORT-E task orders. For program management, logistics and software maintenance, support future competitive contracts are planned.

E. Performance Metrics

Successfully achieve Milestone B. Successfully complete Development Test/Operational Assessment/Operational Test. Successfully conduct Full Deployment Decision.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 3323: *Maritime Tactical Command & Control (MTC2)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Navy Working Capital Fund Rate Adjustment	WR	WCF:TBD	-	-		0.003	Sep 2012	-		0.003	0.000	0.003	
		Subtotal	-	-		0.003		-		0.003	0.000	0.003	

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		0.003		-		0.003	0.000	0.003	

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 3324: *Navy Air Operations Command and Control (NAOC2)*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
3324: *Navy Air Operations Command and Control (NAOC2)*	-	-	2.283	-	2.283	4.987	4.297	2.184	1.136	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Beginning in fiscal year 2012, the Navy Command and Control Air Planning Capability effort will be realigned from Theater Battle Management Core System (TBMCS), Project Unit 0709, to the Navy Air Operations Command and Control (NAOC2) program under Project Unit 3324.

A. Mission Description and Budget Item Justification

Navy Air Operations Command and Control (NAOC2) integrates and tests Air Force Program of Record systems that provide an integrated and scalable planning system for standardized, secure, and automated decision support for Air Force, Joint, and Allied commanders worldwide. These programs provide automated air operations planning, execution management and intelligence capabilities at the Force level to include Fleet Commanders, Numbered Fleet Commanders, Commander Carrier Strike Group, Commander Expeditionary Strike Group, Commander Landing Force, and Joint Task Force Commanders. NAOC2 includes Theater Battle Management Core System (TBMCS), Command and Control Air and Space Operations Suite (C2AOS), plus Command, Control and Information Services (C2IS). C2AOS and C2IS are being developed as Service Oriented Architecture (SOA) services to allow for scalability and integration with Common Computing Environments (CCE). Continuation of these efforts will significantly enhance the Joint Force Air Component Commander and Combined Air Operations Center personnel to plan daily air operations including strike, airlift, offensive and defensive air, tanker missions in support of combat operations, addressing the requirement of war fighter of distributed planning and execution processes and significantly improving Joint interoperability. TBMCS continues a hardware transition to CCEs such as Consolidated Afloat Networks and Enterprise Services (CANES). Currently, TBMCS is the key system that is used to conduct real world air planning in the Joint and Navy environment. C2AOS and C2IS will replace TBMCS in a SOA environment while bringing more flexibility to the war fighter. In FY2012, the program will continue efforts previously funded by Global Command and Control System Maritime (GCCS-M) to migrate Air Force delivered TBMCS software to the Navy unique CANES environment. Additionally in FY2012, the program will conduct integration and testing in support of Air Force development of C2AOS and C2IS.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: TBMCS CANES Migration	-	-	1.424	-	1.424
Articles:			0		0
FY 2012 Base Plans: Continue migration of Air Force designed, developed, and delivered Theater Battle Management Core System (TBMCS) software to the Navy unique Consolidated Afloat Networks and Enterprise Services (CANES) Common					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604231N: *Tactical Command System*	**PROJECT** 3324: *Navy Air Operations Command and Control (NAOC2)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Computing Environment. Conduct integrated TBMCS/CANES Developmental Tests and prepare for Operational Test.					
Title: C2AOS / C2IS Integration and Testing	-	-	0.859	-	0.859
Articles:			0		0
FY 2012 Base Plans: Conduct integration and testing in support of Air Force development of Command and Control Air and Space Operations Suite and Command, Control and Information Services to ensure full functionality on Navy unique systems to support increased Joint interoperability and enhanced capability including theater level planning plus distributed planning and execution processes.					
Accomplishments/Planned Programs Subtotals	-	-	2.283	-	2.283

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• 0204660N/2618 : *Navy Command and Control System*	0.000	0.334	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.334
• 0604231N/0604231N: *GCCS-M Maritime Applications (RDTE - PU 0709) Note 1*	0.000	1.729	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.729

D. Acquisition Strategy

Theater Battle Management Core Systems (TBMCS) is designed, developed, and delivered by the Air Force and will be integrated for a Navy Common Computing Environment (CCE) such as Consolidated Afloat Networks and Enterprise Services (CANES). As a Joint Interest Program, this approach satisfies the current validated requirements, supports the accelerated retirement of legacy hardware, and reduces overall risk to the program.

Command and Control Air and Space Operations Suite (C2AOS) and Command, Control and Information Services (C2IS) are designed, developed, and delivered by the Air Force and will be integrated for a Navy CCE and Service Oriented Architecture environment such as CANES. This approach satisfies the current validated requirements and reduces overall risk to the program.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 3324: *Navy Air Operations Command and Control (NAOC2)*

E. Performance Metrics

TBMCS, C2AOS, and C2IS are designed, developed, and delivered by the Air Force. This leverage greatly reduces the integration and testing costs associated with each software release. The solutions will reside on CCE/CANES architecture. These software-only solutions eliminate hardware procurement, installation, and sustainment costs.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 3324: *Navy Air Operations Command and Control (NAOC2)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	SSC Pacific:San Diego, CA	-	-		1.123	Oct 2011	-		1.123	0.000	1.123	
Licenses	WR	SSC Pacific:San Diego, CA	-	-		0.059	Oct 2011	-		0.059	0.000	0.059	
GFE	WR	SSC Pacific:San Diego, CA	-	-		0.657	Oct 2011	-		0.657	0.000	0.657	
		Subtotal	-	-		1.839		-		1.839	0.000	1.839	

Remarks

GFE support integration efforts, not for fielding.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	C/TBD	Unknown:Unknown	-	-		0.059	Oct 2011	-		0.059	0.000	0.059	
		Subtotal	-	-		0.059		-		0.059	0.000	0.059	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	COMOPTEVFOR:Norfolk, VA	-	-		0.138	Oct 2011	-		0.138	0.000	0.138	
		Subtotal	-	-		0.138		-		0.138	0.000	0.138	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 3324: *Navy Air Operations Command and Control (NAOC2)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/TBD	Unknown:Unknown	-	-		0.247	Oct 2011	-		0.247	0.000	0.247	
		Subtotal	-	-		0.247		-		0.247	0.000	0.247	

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		2.283		-		2.283	0.000	2.283	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604231N: *Tactical Command System*	**PROJECT** 3324: *Navy Air Operations Command and Control (NAOC2)*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604231N: *Tactical Command System*	**PROJECT** 3324: *Navy Air Operations Command and Control (NAOC2)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3324				
Air Force C2AOS/C2IS Milestone B	2	2011	2	2011
Air Force C2AOS/C2IS Milestone C	2	2012	2	2012
Air Force Product Integration on Navy Systems	4	2011	4	2014
Software Deliveries (C2AOS/C2IS)	3	2012	4	2014
Developmental Test (TBMCS/CANES)	3	2012	3	2012
Air Force Continuous Developmental/Operational Test (C2AOS/C2IS)	3	2012	1	2015
Operational Test (TBMCS/CANES)	1	2013	1	2013

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 9123: *FORCEnet*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
9123: *FORCEnet*	6.049	5.667	5.386	-	5.386	4.686	5.015	4.992	5.169	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Trident Warrior (TW) was transferred from Project 9123 into Project 3320 beginning in FY12.

A. Mission Description and Budget Item Justification

FORCEnet is the Navy and Marine Corps initiative to achieve Department of Navy (DoN)/Department of Defense (DoD) Transformation, Joint/Allied/Coalition Interoperability, implementing Maritime Domain Awareness (MDA), and Net-Centric Operations/Warfare (NCO/W). FORCEnet is the driver of Sea Power 21, Naval Power 21, the Naval Operating Concept for Joint Operations, and the DoN's Naval Transformation Roadmap.

The FORCEnet project line funds the following efforts:

(1) DoN Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Transformation/Strategic Planning within DoN/ Joint/DoD Framework: Assesses existing and emerging capabilities, develops and evaluates Navy-wide policies, plans, requirements, and compliance; develops integration and investment strategies; and accelerates innovation, testing, assessment and fielding of material and non-material solutions for enhanced operational capability, Joint/Allied/Coalition interoperability and application/enforcement of enterprise requirements/architectures/standards toward greater NCO/W capability. Supports Navy implementation of MDA capability, Maritime Operations Centers (MOC), and enterprise network efforts.

(2) Accelerating Joint Warfighting Capability (Trident Warrior) (TW): Enables early delivery of NCO/W capabilities to the warfighter via Fleet-directed TW operational events with a strong emphasis on delivering MDA with MOC capability. Integrates stand-alone systems and efforts to achieve substantially enhanced capability, demonstrates/tests these capabilities in both laboratory and operational environments, and evaluates their effectiveness. Develops supporting concepts and Concept of Operations (CONOPS) to improve warfighting effectiveness. Coordinates FORCEnet efforts with other Service/Joint/DoD/National efforts to ensure Joint/Interagency/ Allied/Coalition applicability and interoperability.

(3) Systems Requirements Analysis/Systems Engineering (formerly Osprey Hawksbill): Supports requirements analysis and systems engineering of systems under development by DoN/DoD. Funding supports the technical and systems engineering expertise required for C4ISR systems technical requirements generation, requirements tracking, architecture development, and detailed analyses on various warfare systems under development to determine if the required Command, Control, Communications, and Computers (C4) infrastructure, resources, and other capabilities are aligned and synchronized. The funding also supports the systems engineering for the synthesis of current network-centric, C4ISR Programs of Record with existing/emerging capabilities.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 9123: *FORCEnet*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: FORCEnet	6.049	5.667	5.386	-	5.386
Articles:	0	0	0		0
FY 2010 Accomplishments: 1) Department of the Navy (DoN) Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Transformation/Strategic Planning within DoN/Joint/Department of Defense (DoD) Framework: Within the DoD, Joint Staff (JS), and Combatant Commander management of Joint Capability Portfolios, assessed existing and emerging capabilities in selected operating environments, developed integration plans, executed systems engineering reviews, investment strategies, accelerated innovation, technology insertion, and incorporation of material and non-material solutions for enhanced Joint operational capabilities in Net-Centric Operations/Warfare (NCO/W). Supported Navy implementation of Maritime Domain Awareness (MDA), Standing Joint Force Headquarters, Maritime Operations Center (MOC), and coalition/allied operations. 2) Accelerating Joint Warfighting Capability (Trident Warrior) (TW): Finalized analysis of TW09 experiment resulting in delivery of Military Utility Assessment (MUA) to Naval Network Warfare Command (NETWARCOM), Commander Fleet Forces Command (CFFC) and the Sea Trial Expeditionary Strike Group (ESG). Explored TW10 in Commander Third Fleet (C3F)/Commander Seventh Fleet (C7F) Area of Responsibility using Carrier Strike Group/Expeditionary Strike Group (CSG/ESG) units with continued coalition presence. For TW10, directed, coordinated, assisted and supervised participant compliance with specific goal identification, risk identification, and experiment plan including data requirements and collection on schedule and in accordance with standardized procedures derived from experimentation best practices. Assisted participants to achieve required installation and security certifications, accreditations and approvals. Conducted Risk Reduction Limited Objective Experiment (RR LOE) in a lab environment to ensure systems had no negative impact on operational unit readiness and that systems provided valid data to support analysis and subsequent decisions. Assisted in installation of experimental systems including a groom of ship operational systems to ensure they operated as designed to support acquisition of valid data, and provided Subject Matter Experts (SME) to maintain core ship services during the experiment period. Provided independent experimentation experts who coordinated establishment and compliance with experiment plans, led analysis efforts, and provided unbiased assessment to decision makers. Provided results to government sponsors to support the program's Planning, Programming, Budgeting, and Execution System (PPBES) and engineering decisions. Anticipated some areas of investigation to be operational level implementation of MDA, MOC, Coalition, Global Information Grid (GIG) and Network Centric Enterprise Services (NCES) technologies and associated Tactics, Techniques, and Procedures					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604231N: *Tactical Command System*	PROJECT 9123: *FORCEnet*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
(TTP) and Concept of Operations (CONOPS). Planned and executed TW10 operational events to accelerate transition of FORCEnet capability to the Fleet. Provided leave-behind capability for one deployment cycle of successful technologies for extended operational assessment. Began planning for TW11: Solicited participation of government sponsored and industry sponsored technologies responsive to identified naval capability gaps. Selected technologies for participation in numbers supportable within resources; approximately 100 initiatives. Developed FY 11-12 FORCEnet Sea Trial Plan. (3) Systems Requirements Analysis/Systems Engineering (formerly Osprey Hawksbill): Conducted requirements analysis and systems engineering of systems under development by Department of Navy/ Department of Defense. Provided technical and systems engineering expertise required for C4ISR systems technical requirements generation and tracking, architecture development, systems analysis to evaluate alignment and synchronization of infrastructure, resources and other existing/developing systems. Funding also supported the systems engineering for the synthesis of current net-centric Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems with existing and emerging C4ISR systems. ***FY 2011 Plans:*** 1) DoN C4ISR Transformation/Strategic Planning within Department of the Navy (DoN)/Joint/Department of Defense (DoD) Framework: Within the DoD, Joint Staff (JS), and Combatant Commander management of Joint Capability Portfolios, assesses existing and emerging capabilities in selected operating environments, develops integration plans, executes system engineering reviews and investment strategies, accelerates innovation, technology insertion, and incorporation of material and non-material solutions for enhanced Joint operational capabilities in Net-Centric Operations/Warfare (NCO/W). Supports Navy implementation of Maritime Domain Awareness (MDA), Standing Joint Force Headquarters, Maritime Operations Centers (MOC) and coalition/allied operations. 2) Accelerating Joint Warfighting Capability (Trident Warrior) (TW): Funds At-Sea experiment venue focused on improving C4ISR operational capabilities across all naval and Joint platforms across a range of Technology Readiness Levels (TRLs), representing both Next Step Science and Technology (S&T) Innovations and higher TRL Program of Record-hosted technologies. Finalize analysis of TW10 experiment and deliver a Military Utility Assessment (MUA) to Naval Network Warfare Command (NETWARCOM), Commander Fleet Forces Command (CFFC) and the Sea Trial Expeditionary Strike Group (ESG). Conduct and execute TW11					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
in Commander Second Fleet (C2F)/Commander Sixth Fleet (C6F) Area of Responsibility using Carrier Strike Group/Expeditionary Strike Group (CSG/ESG) units with continued coalition presence. Direct, coordinate, assist and supervise technology provider compliance with specific goal identification, risk identification, and experiment planning to include data collection requirements. Direct and ensure required installation and security certification, accreditation, and approvals for all technologies. Conduct Risk Reduction Limited Objective Experiment (RR LOE) in a lab environment to ensure systems will not have a negative impact on operational unit readiness and provide value-added data to support analysis and subsequent acquisition decisions. Engineer and install experimental C4ISR systems, including a groom of existing onboard ship operational C4ISR systems to ensure that they are operating as designed and support the acquisition of Net Ready Key Performance Parameters (NR KPPs). Provide subject matter experts (SMEs) to maintain core ship services during the experiment period and troubleshoot system failures and interoperability issues. In addition, provide independent experts in experimentation best practices to coordinate experiment and test plans; lead the Data Collection and Analysis Plan (DCAP) effort, and provide unbiased assessment to Fleet and Acquisition key decision makers. Provide results to government sponsors to support the program's Planning, Programming, Budgeting, and Execution System (PPBES) and engineering decisions. Areas of investigation anticipated to be in the following categories: Range of Operational Warfare Command and Control (ROWC2), operational level implementation of MDA, MOC, Coalition, Global Information Grid (GIG) and Network Centric Enterprise Services (NCES) technologies and associated Tactics, Techniques, and Procedures (TTPs) and Concept of Operations (CONOPS). Plan and execute TW11 operational events to accelerate transition of FORCEnet capability to the Fleet. Provide leave-behind capability for one deployment cycle of successful technologies for extended operational assessment. Begin planning for TW12: Solicit participation of government sponsored and industry sponsored technologies responsive to identified naval capability gaps. Select technologies for participation in numbers supportable within resources, approximately 90 initiatives. Develop FY12-13 FORCEnet Sea Trial Plan. (3) Systems Requirements Analysis/Systems Engineering (formerly Osprey Hawksbill): Conduct requirements analysis and systems engineering of systems under development by Department of the Navy (DoN)/Department of Defense (DoD). Provide technical and systems engineering expertise required for Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems technical requirements generation and tracking, architecture development, systems analysis to evaluate alignment and synchronization of infrastructure, resources and other existing/developing systems. Funding also supports the					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
systems engineering for the synthesis of current net-centric C4ISR systems with existing and emerging C4ISR systems. ***FY 2012 Base Plans:*** (1) DoN C4ISR Transformation/Strategic Planning within DoN/Joint/DoD Framework: Within the DoD, Joint Staff (JS), and Combatant Commander management of Joint Capability Portfolios, continue to assess existing and emerging capabilities in selected operating environments, develop integration plans, execute system engineering reviews and investment strategies, accelerate innovation, technology insertion, and incorporation of material and non-material solutions for enhanced Joint operational capabilities in Net-Centric Operations/Warfare (NCO/W). Chief of Naval Operations' (CNO's) Information Dominance effort escalates prioritization and organizational responsibility resulting in increased scope of systems, platforms and mission areas. Continue to support Navy implementation of Maritime Domain Awareness (MDA), Standing Joint Force Headquarters, Maritime Operations Centers (MOC) and coalition/allied operations. (2) Systems Requirements Analysis/Systems Engineering (formerly Osprey Hawksbill): Continues to conduct requirements analysis and systems engineering of systems under development by DoN/DoD. Continues to provide technical and systems engineering expertise required for C4ISR systems technical requirements generation and tracking, architecture development, systems analysis to evaluate alignment and synchronization of infrastructure, resources and other existing/developing systems. Funding also supports the systems engineering for the synthesis of current net-centric C4ISR systems with existing and emerging C4ISR systems. Larger number of systems, platforms and mission areas will increase the scope of effort.					
Accomplishments/Planned Programs Subtotals	6.049	5.667	5.386	-	5.386

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

FORCEnet is a non-acquisition effort that informs and matures Navy decisions, which in turn impact acquisition programs.

E. Performance Metrics

FORCEnet Performance Metrics: Goal: CNO strategic planning and supporting acquisition of N89 classified efforts. Metric: Echelon 1 response to emergent strategic needs and classified warfighting capability.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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Trident Warrior (TW): Confirmation of Fleet and Joint Interoperability with technology candidates, Information Assurance (IA) Certification and Accreditation (C&A), and alignment with current Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Technology Roadmaps as well as related Program Executive Office objectives and projected architectures. Metrics for individual technologies are independently determined and validated by Naval Postgraduate School. Metrics are chosen to ensure that the experiment results in the accurate assessment of the technology to either address a capability gap or support program of record programmatic decisions.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development DLB/RCD	Various	Various:Various	1.196	-		-		-		-	0.000	1.196	
Systems Engineering-DLB/RCD	Various	Various:Various	0.600	-		-		-		-	0.000	0.600	
Ship Integration	Various	Various:Various	0.935	-		-		-		-	0.000	0.935	
Systems Engineering	Various	Various:Various	1.600	-		-		-		-	0.000	1.600	
		Subtotal	4.331	-		-		-		-	0.000	4.331	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support DLB/RCD	Various	Various:Various	0.250	-		-		-		-	0.000	0.250	
Configuration Management DLB/RCD	Various	Various:Various	0.115	-		-		-		-	0.000	0.115	
Development Support DLB/RCD	Various	Various:Various	0.250	-		-		-		-	0.000	0.250	
Software Development DLB/RCD	Various	Various:Various	1.971	-		-		-		-	0.000	1.971	
Development Support	Various	Various:Various	2.700	-		-		-		-	0.000	2.700	
Software Support	Various	Various:Various	2.900	-		-		-		-	0.000	2.900	
Sys Req Analysis/Sys Eng	Various	Various:Various	15.094	-		-		-		-	0.000	15.094	
S/W Develop,Integ,Demo, Field - MDA Prototypes	Various	Various:Various	108.910	-		-		-		-	0.000	108.910	
Sys Req Analysis/Sys Eng	WR	SSC PAC:San Diego, CA	-	0.356	Feb 2011	1.420	Jan 2012	-		1.420	Continuing	Continuing	Continuing
Sys Req Analysis/Sys Eng	WR	SSC LANT:Charleston, SC	-	0.356	Feb 2011	1.446	Jan 2012	-		1.446	Continuing	Continuing	Continuing
		Subtotal	132.190	0.712		2.866		-		2.866			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
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Test and Evaluation ($ in Millions)

				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various:Various	1.300	-		-		-		-	0.000	1.300	
Accelerating Joint Warfighting Capability (TW)	Various	Various:Various	30.736	-		-		-		-	0.000	30.736	
Accelerating Joint Warfighting Capability (TW)	WR	Fleet Forces Command:San Diego, CA	-	0.095	Dec 2010	-		-		-	0.000	0.095	
Accelerating Joint Warfighting Capability (TW)	WR	Naval Postgraduate School:Monterey, CA	-	0.978	Nov 2010	-		-		-	0.000	0.978	
Accelerating Joint Warfighting Capability (TW)	WR	SSC Atlantic:Charleston, SC	-	0.445	Jan 2011	-		-		-	0.000	0.445	
Accelerating Joint Warfighting Capability (TW)	WR	SSC Pacific:San Diego, CA	-	1.069	Nov 2010	-		-		-	0.000	1.069	
Accelerating Joint Warfighting Capability (TW)	C/CPFF	AUSGAR Technologies Inc.:San Diego, CA	-	1.489	Dec 2010	-		-		-	0.000	1.489	
Imp FORCEnet Req (Fn Comp)	Various	Various:Various	17.144	-		-		-		-	0.000	17.144	
Developmental Test & Evaluation DLB/RCD	Various	Various:Various	0.500	-		-		-		-	0.000	0.500	
DoN Transformation (Strategic Planning)	Various	Various:Various	20.521	-		-		-		-	0.000	20.521	
DoN Transformation (Strategic Planning)	WR	NUWC:Newport, RI	-	0.240	Feb 2011	0.848	Jan 2012	-		0.848	Continuing	Continuing	Continuing
DoN Transformation (Strategic Planning)	WR	NPGS:Monterey, CA	-	0.290	Jan 2011	0.847	Jan 2012	-		0.847	Continuing	Continuing	Continuing
DoN Transformation (Strategic Planning)	C/CPFF	NGIT:Herndon, VA	-	0.349	Apr 2011	-		-		-	Continuing	Continuing	Continuing
DoN Transformation (Strategic Planning)	C/CPFF	Unknown:Unknown	-	-		0.825	Apr 2012	-		0.825	0.000	0.825	
		Subtotal	70.201	4.955		2.520		-		2.520			

Remarks

Accelerating Joint Warfighting Capability (Trident Warrior) (TW), was transferred from Project 9123 into new Project 3320 from FY12 forward.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Support	Various	Various:Various	2.124	-		-		-		-	0.000	2.124	
Government Engineering Support	Various	Various:Various	3.899	-		-		-		-	0.000	3.899	
Program Management Support DLB/RCD	Various	Various:Various	0.250	-		-		-		-	0.000	0.250	
Travel DLB/RCD	Various	Various:Various	0.145	-		-		-		-	0.000	0.145	
Program Management Support	Various	Various:Various	0.800	-		-		-		-	0.000	0.800	
Travel	Various	Various:Various	0.299	-		-		-		-	0.000	0.299	
Acquisition Workforce	Various	Various:Various	0.165	-		-		-		-	0.000	0.165	
		Subtotal	7.682	-		-		-		-	0.000	7.682	

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	214.404	5.667		5.386		-		5.386			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
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Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 9123				
Trident Warrior (TW) Execution	2	2010	3	2011
TW Lab Based E2C Experiments	1	2010	3	2011
TW Concept Development Conferences	2	2010	2	2011
TW Data Calls & CAA	2	2010	2	2011
TW Initial Planning Conferences	4	2010	4	2011
TW Mid-Term Planning Conferences	1	2010	1	2011
TW Final Planning Conferences	2	2010	2	2011
TW Military Utility Assessment	4	2010	4	2011
Naval Information Dominance Enterprise	1	2010	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
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COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
9999: *Congressional Adds*	6.373	-	-	-	-	-	-	-	-	0.000	6.373
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Congressional Add.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011
Congressional Add: Shipboard Wireless Network ***FY 2010 Accomplishments:*** Initiated hardware development of 60 GHz Vi-Fi technology from NAVSEA SBIR to work in shipboard environment. Began systems engineering efforts to modify design and interfaces to be interoperable with current and planned wireless network implementations, as well as client devices provided through NAVSEA and NAVAIR programs. Conducted modeling and simulation, network integration and electromagnetic testing to verify interoperability with existing shipboard systems.	2.390	-
Congressional Add: ISR Enhancements ***FY 2010 Accomplishments:*** Continue to fund requirements analysis, development of architectural alternatives, use case generation, CONOPS development and system engineering activities necessary to incorporate multiple security enclaves (projected Objective requirement for Increment 2.1 and Threshold requirement for Increment 3.0) into Tactical Operations Centers (TOCs) and Mobile Tactical Operations Centers (MTOCs) to support the enhanced ISR capabilities of new and upgraded Maritime Patrol and Reconnaissance Aircraft (MPRA).	3.983	-
Congressional Adds Subtotals	6.373	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional Add.