

# UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 Program Element (Number/Name) PE 0603382N / Advanced Combat Systems Tech							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	61.228	1.345	1.563	1.646	-	1.646	1.718	1.748	1.780	1.814	Continuing	Continuing
0324: Adv Combat System Technology	61.228	1.345	1.563	1.646	-	1.646	1.718	1.748	1.780	1.814	Continuing	Continuing
MDAP/MAIS Code: 180												
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
The Advanced Combat System Technology line is to evolve the technical and business practices for programs to change to an open architecture construct. The program was constructed to mature both technical and business model integration for C5I systems programs of record in an open architecture environment. The priority was incorporating the principles of modular design and design disclosure, reusable application software, interoperability and secure information exchange, lifecycle affordability and encouraging competition and collaboration.												
Project Unit 0324: Funding is to maintain and update an information exchange environment to improve transparency of design disclosure and information exchange on past and current investments to support the principle of cross-program reuse, and to provide the tools and leadership for assisting programs through the transition to Naval Open Architecture (OA). The other elements of the OA transformation effort are being realized as management efficiencies within programs. Those elements include ensuring that all naval systems, families of systems, and programs move to modular OA in accordance with Department of Defense (DoD) Instruction 5000.1 dated 12 May 2003 which mandates that all DoD programs utilize open systems architectures to rapidly field affordable and interoperable systems. By direction of the Navy Service Acquisition Executive (SAE), PEO IWS was assigned overall responsibility and authority to direct the Navy's OA effort until that duty transferred to DASN (RDTE) in 2011. The Core OA funding line has remained with PEO IWS. That policy established a need to coordinate acquisition strategies, develop guidance and tools, and develop analysis of alternatives to determine OA software reuse practices within and across the Navy Communities of Interest (COI - Surface, Subsurface, Air, Space, C4I, USMC, and ONR). This project facilitates a strategic shift in the acquisition business process to facilitate cooperative competition in cross-domain/COI business relationships. This improves innovation and economies of scale throughout the Navy and Marine Corps. This leadership effort has identified the business case and potential return on investment for moving the Navy towards an open systems approach, supported the development of open systems technologies, and integrated best business and technical practices for open systems development within Naval acquisition. Naval OA ensures Navy-wide system architectures become extensible and scalable in function, capacity, and workload to meet Joint warfighting requirements. This also includes the identification and development of common software components, functions, reuse methodologies, and extensible product lines. In summary, this funding supports the management of a reuse repository and reuse information exchange portal, and the evolving business, systems engineering, and cultural changes required across all Naval programs as they migrate to function in a Joint, net-centric warfare environment.												

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B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	1.506	1.570	1.733	-	1.733
Current President's Budget	1.345	1.563	1.646	-	1.646
Total Adjustments	-0.161	-0.007	-0.087	-	-0.087
• Congressional General Reductions	-	-0.007			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.035	-			
• Rate/Misc Adjustments	-	-	-0.087	-	-0.087
• Congressional General Reductions Adjustments	-0.126	-	-	-	-
Change Summary Explanation					
Technical: Not applicable.					
Schedule: Not applicable.					

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Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603382N / <i>Advanced Combat Systems Tech</i>				Project (Number/Name) 0324 / <i>Adv Combat System Technology</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0324: <i>Adv Combat System Technology</i>	61.228	1.345	1.563	1.646	-	1.646	1.718	1.748	1.780	1.814	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
Project Unit 0324: Funding is to maintain and update a information exchange environment to improve transparency of design disclosure and information exchange on past and current investments to support the principle of cross-program reuse, and to provide the tools and leadership for assisting programs through the transition to Naval Open Architecture (OA). The other elements of the OA transformation effort are being realized as management efficiencies within programs. Those elements include ensuring that all naval systems, families of systems, and programs move to modular OA in accordance with Department of Defense (DoD) Instruction 5000.1 dated 12 May 2003 which mandates that all DoD programs utilize open systems architectures to rapidly field affordable and interoperable systems. By direction of the Navy Service Acquisition Executive (SAE), PEO IWS was assigned overall responsibility and authority to direct the Navy's OA effort until the duty transferred to DASN (RDTE) in 2011 The Core OA funding line has remained with PEO IWS. That policy established a need to coordinate acquisition strategies, develop guidance and tools, and develop analysis of alternatives to determine OA software reuse practices within and across the Navy Communities of Interest (COI - Surface, Subsurface, Air, Space, C4I, USMC, and ONR). This project facilitates a strategic shift in the acquisition business process to facilitate cooperative competition in cross-domain/COI business relationships. This improves innovation and economies of scale throughout the Navy and Marine Corps. This leadership effort has identified the business case and potential return on investment for moving the Navy towards an open systems approach, supported the development of open systems technologies, and integrated best business and technical practices for open systems development within Naval acquisition. Naval OA ensures Navy-wide system architectures become extensible and scalable in function, capacity, and workload to meet Joint warfighting requirements. This also includes the identification and development of common software components, functions, reuse methodologies, and extensible product lines. In summary, this funding supports the management of a reuse repository and reuse information exchange portal, and the evolving business, systems engineering, and cultural changes required across all Naval programs as they migrate to function in a Joint, net-centric warfare environment.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: Align the Naval Enterprise Across All Domains to Implement OA									0.230	0.265	0.272	
									Articles: -	-	-	
FY 2013 Accomplishments:												
OA Enterprise Alignment: This funding supports the maintenance and execution of the Naval OA Policy and Strategy, including quarterly OAET Lead Council meetings and reporting requirements. Specifically, this includes OAET reporting of action items to DASN, quarterly OA Report to Congress, as well as the annual OA budget submission and financial reporting for this project.												

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<p>Alignment across the Naval Enterprise also includes the development and management of all other activities as the Lead Council directs.</p> <p><b>FY 2014 Plans:</b> Support the maintenance and execution of the Naval OA Policy and Strategy, including OAET Lead Council meetings (as scheduled) and reporting requirements. Specifically, this includes OAET reporting of action items to DASN RDT&amp;E, quarterly OA Reports to Congress via ASN RDA, as well as the annual OA budget submission and financial reporting for this project. Alignment across the Naval Enterprise also includes the development and management of all other activities as the Lead Council, DASN RDT&amp;E, or ASN RDA directs.</p> <p><b>FY 2015 Plans:</b> Establish transition of programs to fully utilize the principles and practices of OA in accordance with the ASN(RDA) approved Naval OSA Strategy of November 2012. Transition the sustainment of the OSA initiative from a unique OA Executive forum to a permanent organization; the Systems Engineering Stakeholders Group. Continue to coordinate and develop the quarterly OA Report to Congress, annual budget submission and financial reporting for this project. By FY-15 the Naval OSA Strategy will need to be revisited and updated to stay current with changes in best practices to include all other activities as the SESG, DASN RDT&amp;E or ASN(RDA) directs.</p>			
<p><b>Title:</b> Change the Naval and Marine Corps Cultures to Institutionalize OA Principle</p> <p align="right"><b>Articles:</b></p> <p><b>FY 2013 Accomplishments:</b> OA Enterprise Communications and Training: This funding supports the activities to enable the cultural adoption of OA principles and practices through stakeholder management, communications, and training. Key activities include maintenance of Defense Acquisition University online OA training modules, presentation of existing training courses, and participation in symposia and panels to discuss OA implementation, and use of other communication vehicles to promulgate OA standards and methodologies for inclusion into Naval systems acquisition.</p> <p><b>FY 2014 Plans:</b> Enable the institutional adoption of OA principles and practices through stakeholder management, communications, mentoring, training, and curriculum adjustment. Key activities include maintenance of Defense Acquisition University (DAU) online OA training modules, working with DAU to incorporate OA principles into existing coursework materials, presentation of existing training courses, and participation in symposia and panels to discuss OA implementation, and use of other communication vehicles to promulgate OA standards and methodologies for inclusion into Naval systems acquisition.</p> <p><b>FY 2015 Plans:</b></p>		0.293 -	0.337 -
		0.373 -	

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
Continue with direct engagement with programs to improve OA principles and practices through stakeholder management, communications, mentoring, training, and curriculum adjustment. Establish and maintain communication and transparency across programs to highlight new opportunities for enterprise product reuse and improved interoperability. Sustain a strong message to the public and industry on the value of OA for cost-effective management of the acquisition portfolio.				
Title: OA Systems Engineering Leadership  Articles:  FY 2013 Accomplishments: Systems Engineering: This funding supports systems engineering collaboration across the Naval Enterprise to facilitate the fielding of interoperable capabilities, including a) the further alignment of PEO architectures; b) providing guidance to Technical Warrant Holders who oversee OA implementation efforts to ensure standardized and disciplined processes, interfaces, and services are utilized; c) working with the Science and Technology (S&T) community to ensure OA is incorporated into emerging technologies; and d) working with the Test and Evaluation (T&E) community, academia, and industry partners to identify opportunities to reduce T&E expenses as a result of OA. The Core OA/OAET will continue to work with, and across, the PEOs to adopt automated test and analysis tools.  FY 2014 Plans: Support systems engineering collaboration across the Naval Enterprise to facilitate the fielding of interoperable capabilities, including a) the further alignment of PEO architectures; b) providing guidance for government-to-government coordination of OA implementation efforts to ensure standardized and disciplined processes, interfaces, and services are utilized; c) working with the Science and Technology (S&T) community to ensure OA is incorporated into emerging technologies; and d) working with the Test and Evaluation (T&E) community, academia, and industry partners to identify opportunities to reduce T&E expenses as a result of OA. The Core OA/OAET will continue to work with, and across, the PEOs to adopt automated test and analysis tools.  FY 2015 Plans: Key activities of the third year of the strategy include; inter-program alignment toward the use of common technical frameworks. Establish transition of programs to fully utilize the principles and practices of OA in accordance with the ASN(RDA) approved Naval OSA Strategy of November 2012. Establish collaboration and cooperation incentives, and improve techniques for finding and using modular capabilities. Complete the transformation of oversight and governance of programs that are implementing or have implemented OA principles and practices through mechanisms such as Community of Interest forums, Technical Authority, Technical Warrant Holders and Product DASN engagements.		0.295 -	0.340 -	0.375 -
Title: Knowledge Products for Implementing OSA  Articles:  FY 2013 Accomplishments:		0.527 -	0.621 -	0.626 -

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<p>Naval Business Practices: This funding supports changing software reuse Naval Business Practices including a) the development and refinement of policies, guidance, and terminology required to establish a consistent approach for OA across the Enterprise; b) the development and maintenance of analytical toolsets to assist Milestone Decision Authorities, Program Managers, and Resource Sponsors in assessing program openness and making informed OA investment decisions; and c) the facilitation of design disclosure, information sharing, and cross-domain component reuse to reduce costs and enable more effective technology insertion, including the administration of the OA information exchange portal. The Core OA/OAET will continue to work with, and across, the PEOs to adopt automated test and analysis tools.</p> <p><b>FY 2014 Plans:</b> Change reuse Naval Business Practices including a) the development and refinement of policies, guidance, and terminology required to establish a consistent approach for OA across the Enterprise; b) the development and maintenance of analytical toolsets to assist Milestone Decision Authorities, Program Managers, and Resource Sponsors in assessing program openness and making informed OA investment decisions; and c) the facilitation of design disclosure, information sharing, and cross-domain component reuse to reduce costs and enable more effective technology insertion, including the administration of the OA Information Exchange Portal hosted at Forge.mil. The Core OA/OAET will continue to work with, and across, the PEOs to adopt automated test and analysis tools.</p> <p><b>FY 2015 Plans:</b> Evolve the Program Managers OSA Workbook and other associated knowledge products to position Naval Programs to take advantage of consistent business and technical practices. Establish collaboration forums so that best practices can be shared so that the OA related knowledge products are kept up to date with the latest innovations being used in program execution. This includes working with outside organizations such as DISA's Forge.mil as well as the Navy's NSERC/NARS environments. Ensure that DAU is addressing training on OSA as directed to them under the Better Buying Power implementation memo that assigns DASN RDT&amp;E the lead for providing baseline information for curriculum development. Continue to develop new training on OA, including deployment of Naval unique training on OA throughout the SYSCOMs and PEOs.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>		1.345	1.563
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
This risk reduction effort evolved and shifted from a PEO IWS 1.0 task to Naval Surface Warfare Center (NSWC)/Dahlgren to an Assistant Secretary of the Navy, Research, Development & Acquisition (ASN-RDA) directed task to fund the Navy's OA Enterprise effort from this core OA Budget line (policy statement dated 5 August			

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2004). The strategy was further refined in the Deputy Chief of Naval Operations (DCNO) requirement of 23 December 2005 (N6/7) with guidance for this effort to assist the Milestone Decision Authority (MDA), program managers, and resource sponsors in assessing enterprise program assets where appropriate. Office of the Chief of Naval Operations (OPNAV) has directed this program to provide objective, measurable, performance based assessments as Business Case Analysis (BCA) baselines for future system changes and spiral developments.

## E. Performance Metrics

Change Naval Processes and business practices to cost-effectively innovate and deploy improved warfighting capability based on fleet requirements. Provide OA Systems Engineering to field common, interoperable capabilities; Change Navy and Marine Corps Business processes to Institutionalize OA Principles.