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EXHIBIT R-2, RDT&E Budget Item Justification					DATE: June 2001					
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-5					R-1 ITEM NOMENCLATURE Navy Tactical Computer Resources/0604574N					
COST (\$ in Millions)	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Total PE Cost	56.160	30.608	3.836							
Standard Hardware/21353	55.367	29.646	2.850							
AN/AYK-14/W0845*	0.000	0.000	0.000							
NWTDB/X2265	0.793	0.962	0.986							
Quantity of RDT&E Articles										

*Project Unit W0845 is combined with P.E. 0604215N, Project Unit W0572 beginning FY00.

A. Mission Description and Budget Item Justification: The Standard Hardware project in combination with UYQ-70 Display Improvements will perform the system engineering necessary to verify Commercial-off-the-Shelf/Open System Architecture (COTS/OSA) technologies and products as suitable for introduction into the AN/UYQ-70(V) Advanced Display System product line. The Naval Warfare Tactical Data Base (NWTDB) is an information management infrastructure project to solve data interoperability problems and implement DoD data architecture and standards in Navy. NWTDB is the data architecture component of Copernicus. NWTDB has developed management and engineering processes to define and translate information needs to automated systems, and to manage changes resulting from new operational requirements or technology advances.

B. Program Change Summary:

	FY 2000	FY 2001	FY 2002
FY 2001 President's Budget:	57.978	3.291	4.092
Appropriated Value:	58.300	30.891	
Adjustment to FY 2000/FY 2001 Appropriated Value/	-1.818	27.317	-0.256
FY 2001 President's Budget:			
FY 2002 PRES Budget Submit:	56.160	30.608	3.836

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<p>Funding: FY-00 funding decrease is due to Small Business Reform Initiative (-\$1.277), BTR by N6e for the WINSAT (-\$0.062), proportionate recission (-\$0.223) and minor pricing adjustments (-\$0.256).</p> <p>FY-01 funding increase is due to congressional adds for AN/UYQ-70 (+\$19.600) and Sub Combat SYS Q-70 Retrofits (+8.000) and decrease for .7% pro-rata reduction (-\$0.216) and minor pricing adjustments (-\$0.67).</p> <p>FY-02 funding decrease is due to minor departmental adjustments (-\$0.224) and minor pricing adjustments (-\$0.32).</p>		

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EXHIBIT R-2a, RDT&E Project Justification							DATE: June 2001				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5		PROGRAM ELEMENT NAME AND NUMBER Navy Tactical Computer Resources/0604574N			PROJECT NAME AND NUMBER Standard Hardware/21353						
COST (\$ in Millions)		FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Project Cost		55.373	29.646	2.850							
RDT&E Articles Qty											

A. Mission Description and Budget Item Justification: Perform the system engineering necessary to verify Commercial-off-the-Shelf/Open System Architecture (COTS/OSA) technologies and products as suitable for introduction into the AN/UYQ-70(V) Advanced Display System product line.

(U) Program Accomplishment and Plans:

FY 2000 ACCOMPLISHMENTS:

- (U) (\$1.000) Performed intensive study and testing of COTS/OSA technology that adhered to standards.
- (U) (\$0.535) Adapted these technologies and products to the Navy's tactical display/processor needs in the future.
- (U) (\$0.644) Met Navy emerging surface, subsurface and airborne tactical display/processor requirements of the future.
- (U) (\$19.388) Adapted AN/UYQ-70 for SSN 688/Trident applications
- (U) (\$4.893) Continued to develop Computer-Aided Dead Reckoning Tracer (CADRT)
- (U) (\$24.047) AN/UYQ-70 Technology Refreshment
- (U) (\$4.860) Advanced Digital Logistics

FY 2001 PLANS:

- (U) (\$0.791) Perform intensive study and testing of COTS/OSA technology that adheres to standards.
- (U) (\$0.620) Adapt these technologies and products to the Navy's tactical display/processor needs in the future.
- (U) (\$0.647) Meet Navy emerging surface, subsurface and airborne tactical display/processor requirements of the future.
- (U) (\$19.192) AN/UYQ-70 Technology Refreshment
- (U) (\$0.669) Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 638.
- (U) (\$7.727) Submarine Combat System Q-70 Retrofits

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EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER
RDT&E, N/BA-5	Navy Tactical Computer Resources/0604574N	Standard Hardware/21353
<p>FY 2002 PLANS:</p> <ul style="list-style-type: none">- (U) (\$1.000) Perform intensive study and testing of COTS/OSA technology that adheres to standards.- (U) (\$0.750) Adapt these technologies and products to the Navy's tactical display/processor needs in the future.- (U) (\$1.264) Meet Navy emerging surface, subsurface and airborne tactical display/processor requirements of the future. <p>B. Other Program Funding Summary: N/A</p> <ul style="list-style-type: none">- (U) Related RDT&E<ul style="list-style-type: none">PE 0603270N (ELECTRONIC WARFARE ADVANCED TECHNOLOGY)PE 0603382N (ADV COMBAT SYSTEM TECHNOLOGY)PE 0603502N (SHALLOW WATER MCM)PE 0603755N (COOPERATIVE ENGAGEMENT)PE 0604307N (AEGIS WEAPON SYSTEM MODS)PE 0604366N (STANDARD MISSILE IMPROVEMENTS)PE 0604372N (NEW THREAT UPGRADE)PE 0604755N (SHIP SELF DEFENSE) <p>C. Acquisition Strategy: N/A</p> <p>D. Schedule Profile: N/A</p>		

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Exhibit R-3 Cost Analysis (page 1)								DATE: June 2001				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5			Navy Tactical Computer Resources/0604574N			Standard Hardware/21353						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 01 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various	189.900	5.600		0.000				0.000	195.500	179.600
Ancillary Hardware Development			0.350	0.300							0.650	
Systems Engineering	Various	Various	45.341	16.285		1.950				CONT.	CONT.	CONT.
Licenses			0.500	0.500							1.000	
Tooling			0.500	0.500							1.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			236.591	23.185		1.950				CONT.	CONT.	CONT.
Remarks:												
Development Support Equipment											0.000	
Software Development	Various	Various	36.873	2.461		0.000				0.000	39.334	32.373
Training Development			1.000	0.600							1.600	
Integrated Logistics Support			1.597	0.800							2.397	
Configuration Management			0.500	0.200							0.700	
Technical Data			0.738	0.400							1.138	
GFE											0.000	
Subtotal Support			40.708	4.461		0.000				0.000	45.169	
Remarks:												

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Exhibit R-3, Project Cost Analysis
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Exhibit R-3 Cost Analysis (page 2)										DATE: June 2001		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5			Navy Tactical Computer Resources/0604574N			Standard Hardware/21353						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	23.085	1.200		0.250				CONT.	CONT.	CONT.
Operational Test & Evaluation	Various	Various	16.238	0.400		0.250				CONT.	CONT.	CONT.
Tooling											0.000	
GFE											0.000	
Subtotal T&E			39.323	1.600		0.500				CONT.	CONT.	CONT>
Remarks:												
Contractor Engineering Support	Various	Various	12.827	0.300		0.300				CONT.	CONT.	CONT.
Government Engineering Support	Various	Various	25.000	0.000		0.000				0.000	25.000	N/A
Program Management Support											0.000	
Travel			1.622	0.100		0.100				CONT.	CONT.	N/A
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			39.449	0.400		0.400				CONT.	CONT.	CONT.
Remarks:												
Total Cost			356.071	29.646		2.850				CONT.	CONT.	CONT.
Remarks:												

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EXHIBIT R-2a, RDT&E Project Justification							DATE: June 2001				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5		PROGRAM ELEMENT NAME AND NUMBER Navy Tactical Computer Resources/0604574N			PROJECT NAME AND NUMBER Naval Warfare Tactical Data Base/X2265						
COST (\$ in Millions)		FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Project Cost		0.793	0.962	0.986							
RDT&E Articles Qty											

A. Mission Description and Budget Item Justification: The Naval Warfare Tactical Database (NWTDB) is an information management infrastructure project to solve data interoperability problems and implement DoD data architecture and standards in Navy. NWTDB has developed management and engineering processes to define and translate information needs to automated systems and to manage changes resulting from new operational requirements or technology advances. Database integration, data standardization, and configuration management are supported by reverse engineering database structures and definitions into a common format to facilitate data interoperability problem identification and resolution. The management and engineering processes and authoritative database structures are documented in the NWTDB Standards Manual which is distributed to Navy C4ISR and combat system architects, system developers, reference database producers, other services and agencies, and selected foreign governments. The Data Analysis and Reconciliation Tool (DART) is a Microsoft Windows-based application that was developed using an evolutionary process to support the full information management life cycle, i.e., linking databases and transfer formats to operational information requirements. DART supports systems documentation, configuration management, DoD standard data element generation, and requirements traceability. In August 1996, DASN C4I recommended the NWTDB process and DART tool to ASD C3I as a practical approach to solve data interoperability problems and support database integration, especially for the Global Command and Control System. NWTDB management process received OSD award in 1993. Management responsibilities are defined in OPNAVINST 9410.6 of 13 Jul 93, "NWTDB Requirements for Tactical Naval Warfare Systems," which implements DoD Directive 4630.5 of 12 Nov 92, "Compatibility, Interoperability and integration of Tactical Command, Control, Communication and Intelligence (C3I) Systems," and DoD Directive 8320.1 of 26 Sep 91, "DoD Data Administration." OPNAVINST 9410.6 also specifies that Navy system developers and database producers will transition to NWTDB data standards and structures by the year 2000.

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<p>(U) Program Accomplishment and Plans:</p> <p>FY 2000 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none">- (U) (\$0.069) Developed DART 3.2 and user guide to include Hyper Text Markup Language (HTML) online publishing capability.- (U) (\$0.400) Continued to register Naval tactical systems with emphasis on track data and data link message sets as coordinated with Fleet Information Warfare Center (FIWC) and Data Reconfiguration Working Group (DRWG).- (U) (\$0.025) Participated with Copernicus Requirements Working Group (CRWG) to identify and resolve selected data fill/data format issues. Prioritize issues with recommendations to program office on which ones to develop and enhance capability.- (U) (\$0.125) Developed procedures for real-time standards management on the Worldwide Web. Published Version Six online, with ongoing continuing updates.- (U) (\$0.089) Enhance DART with the capability of linking systems data requirements to mission traceability, as well as support the Chief Information Officer (CIO) assessment.- (U) (\$0.085) Acted as liaison to Defense Information Systems Agency (DISA) data standardization efforts to promote Navy standards. Performed research on data standardization, which resulted in submitting data models/data elements as candidate DoD standards. <p>FY 2001 PLANS:</p> <ul style="list-style-type: none">- (U) (\$0.120) Enhance DART to support user requirements.- (U) (\$0.120) Incorporate emerging commercial standards, technologies and trends for inclusion in the NWTDB standard.- (U) (\$0.311) Continue participation with FIWC/DRWG/others as required to prioritize data fill/data standardization issues. Prioritize issues with recommendations to program office.- (U) (\$0.071) Participate with CRWG to identify and resolve selected data fill/data format issues. Prioritize issues with recommendations to program office.- (U) (\$0.180) Update and improve capability of NWTDB Web environment. Create comprehensive Web site with applicable Naval/DoD publications, instructions, links and guidance to system developers on information engineering.- (U) (\$0.160) Act as liaison to DISA data standardization efforts to promote Navy standards. Continue research on data standardization in order to submit data models/data elements as candidate DoD standards.		

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<p>FY 2002 PLANS:</p> <ul style="list-style-type: none">- (U) (\$0.190) Continue development of DART to support user requirements, including support for evolving operating systems.- (U) (\$0.125) Participate with CRWG to identify and resolve selected data fill/data format issues. Prioritize issues and provide program office with recommendations.- (U) (\$0.249) Incorporate emerging commercial standards, technologies and trends for inclusion in the NWTDB standard.- (U) (\$0.162) Expand the Naval C3I Data Model as required to support ongoing integration and development efforts.- (U) (\$0.160) Update and improve the NWTDB standard and associated documentation on the Web. Mirror and expand the site on the Secret Internet Protocol Routing Network (SIPRNET).- (U) (\$0.160) Act as liaison with DISA data standardization efforts to promote Navy standards. Continue research on data standardization in order to submit data models/data elements as candidate DoD standards. <p>B. Other Program Funding Summary: N/A (U) Related RDT&E: N/A</p> <p>C. Acquisition Strategy: N/A</p> <p>D. Schedule Profile: N/A</p>		

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Exhibit R-3 Cost Analysis (page 1)								DATE: June 2001				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5			Navy Tactical Computer Resources/0604574N			Naval Warfare Tactical Data Base/X2265						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development												
Ancillary Hardware Development												
Systems Engineering	BPA	ORCI, Hanahan, SC	1.517	0.561	10/00	0.172	10/01			CONT.	CONT.	CONT.
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			1.517	0.561		0.172				CONT.	CONT.	CONT.
Remarks:												
Development Support Equipment												
Software Development	BPA	ORCI, Hanahan, SC	1.599	0.320	10/00	0.714	10/01			CONT.	CONT.	CONT.
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Subtotal Support			1.599	0.320		0.714		0.000		CONT.	CONT.	CONT.
Remarks:												

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APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5			Navy Tactical Computer Resources/0604574N			Naval Warfare Tactical Data Base/X2265						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation												
Tooling												
GFE												
Subtotal T&E			0.000	0.000		0.000					0.000	
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support	BPA	BAH, San Diego, CA	0.137	0.000	N/A	0.000	N/A					CONT.
Program Management Support	FFP	PRC, San Diego, CA	0.360	0.081	10/00	0.100	10/01			CONT.	CONT.	CONT.
Travel	N/A	SPAWAR, San Diego, CA	0.092	0.000	N/A	0.000	N/A					N/A
Labor (Research Personnel)												
Overhead												
Subtotal Management			0.589	0.081		0.100				CONT.	CONT.	CONT.
Remarks:												
Total Cost			3.705	0.962		0.986				CONT.	CONT.	CONT.
Remarks:												

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