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FY 2002 BUDGET REVIEW

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)				DATE: JUNE 2001						
APPROPRIATION/BUDGET ACTIVITY: RTD&E, Defense-Wide/Budget Activity 3				Program Element: 0603712S LOGISTICS R&D TECHNOLOGY DEMONSTRATION						
COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL
TOTAL PROGRAM ELEMENT	22.671	47.740	30.373	-	-	-	-	-	Cont	Cont
#1: User-Source Link	2.790	0.000	0.000	-	-	-	-	-	-	2.790
#2: Rule-based Decisions	1.556	0.000	0.000	-	-	-	-	-	-	1.556
#3: Material Acquisition: Electronics	5.130	9.865	9.500	-	-	-	-	-	Cont	Cont
#4: Advanced Logistics Support	1.794	1.582	0.000	-	-	-	-	-	-	3.376
#5: Intelligent Demand Manager	0.953	1.717	0.000	-	-	-	-	-	-	2.670
#6: Computer to Computer Negotiations	0.000	2.305	3.005	-	-	-	-	-	Cont	Cont
#7: Pay Per Use Logistics System	0.000	1.443	2.387	-	-	-	-	-	Cont	Cont
#8: Aging Aircraft Sustainment Tech/Air Logistics/Corrosion Prevention Control & Info Distribution	0.000	5.303	4.158	-	-	-	-	-	Cont	Cont
#9: Virtual Reality Medical Assembly	0.000	1.945	1.323	-	-	-	-	-	Cont	Cont
#10: Future Logistics R&D Requirements	0.000	0.000	0.000	-	-	-	-	-	Cont	Cont
#11: On Demand Manufacturing/CATT	6.523	2.972	0.000	-	-	-	-	-	-	9.495
#12: Competitive Sustainment	0.982	2.972	0.000	-	-	-	-	-	-	3.954
#13: Defense Microelectronics Activities	2.943	17.636	10.000	-	-	-	-	-	-	30.579
<p>A. Mission Description & Budget Item Justification: The DoD logistics vision calls for providing flexible, cost effective and prompt materiel support, logistics information and services, achieving the leanest possible infrastructure and the employment of the best commercial and government sources and practices. The DLA Logistics R&D program will develop and demonstrate high risk, high payoff technology that will provide a significantly higher level of support at lower costs, than would be otherwise attainable. The DLA program is a key part of the DARPA/DLA Advanced Logistics Program. Focused Logistics is one of the five basic tenants of Joint Vision 2010. The DLA logistics R&D program contributes directly to achieving JV 2010's vision of logistics "support in hours or days versus weeks." The objective of the Advanced Logistics Program is a collaborative environment that will allow the Operations community (J3) and Logistics planning community (J4), TRANSCOM, and DLA to seamlessly interact on operations planning and execution of wartime operations. In addition, DLA will use the same system in peacetime to significantly reduce Logistics Response Time and reduce the cost of DLA operations while maintaining readiness.</p>										

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<p>#1 USER-SOURCE LINK: Effort links DoD parts consumers with suppliers, enabling users to decide on price, quality, packaging, quantity, and ordering. Effort will significantly reduce DLA's overhead and inventory costs as more direct vendor deliveries will be attainable. The program provided the technical infrastructure for the DoD EMALL.</p> <p>#2 RULE-BASED DECISIONS: Automates decision processes in buying, cataloging and item management that are strictly rule-based, to increase turnarounds and decreases labor costs. First thrust concentrates on procurement activities, followed by item management and cataloging functions.</p> <p>#3 MATERIAL ACQUISITIONS: ELECTRONICS: Funds continued enhancement of Generalized Emulation of Microcircuits effort and continue the Advanced Microcircuit Emulation (AME) which started in FY 97. Program reduces weapons system support costs by providing an alternative to circuit board redesigns and lifetime buys. To date, GEM has delivered 14,000 microcircuits of 140 different types to 31 different weapon systems.</p> <p>#4 ADVANCED TECHNOLOGY LOGISTICS SUPPORT NETWORK (ATSN): Effort develops a total logistics approach to applying advanced decision supports to center's goals well into the new century. Emphasis on cost-effective resourcing for wartime needs, customer choices, and fast, predictable deliveries.</p> <p>#5 INTELLIGENT DEMAND MANAGER: Demonstrated improved wholesale supply availability attained from real time tracking of spares consumption at the lowest level of the supply system by developing advanced data mining and data visualization technologies.</p> <p>#6 COMPUTER TO COMPUTER NEGOTIATIONS: Will reduce the time to negotiate, award, and modify contracts, to enable DLA and its suppliers to respond rapidly to changes in supply and demand in peace and war by allowing machines to reconcile selected differences between the government and suppliers.</p> <p>#7 PAY PER USE LOGISTICS SYSTEM: Will develop flexible, cost effective alternatives to software development that overcome the delays and expense associated with traditional logistics systems development.</p> <p>#8 AGING AIRCRAFT SUSTAINMENT TECHNOLOGY: Aging systems take progressively more time and money to maintain. This program develops, tests and transfers cost effective logistics support technologies on such systems as B-52, KC-135, and C-130 and other aircraft and related systems that remain in use well beyond their design life. Congressional adds for Air Logistics and the Corrosion Prevention Control and Information Distribution projects are also funded here.</p> <p>#9 VIRTUAL MEDICAL ASSEMBLY: Lower costs in assembly process, by allowing users to visualize accurately form, fit, function and utility before investing large sums of money to procure the assemblies.</p>	

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<p>#10 FUTURE LOGISTICS R&D REQUIREMENTS: These funds accelerated the transition of technology to the DLA, so that dramatic improvements in supply support can be undertaken. The alternative is for the Agency to follow slowly in the footsteps of Commercial supply practices, rather than to be the leader in Logistics effectiveness and military readiness.</p> <p>#11 ON DEMAND MANUFACTURING/CATT: This program has established a network of suppliers and technology for long lead time, difficult to procure, weapons systems spares. FY 00 is the final year of the ODM program. Congressional support continues CATT.</p> <p>#12 COMPETITIVE SUSTAINMENT: This was added by Congress in recognition of the need to substantially reduce the cost of support for aging weapon systems.</p> <p>#13 DEFENSE MICROELECTRONICS ACTIVITY: This was added by Congress to evaluate the feasibility and practicality of some candidate solutions to the technological challenges of emerging DoD microcircuit obsolescence for broad classes of microelectronics components that are strategically important to DoD. Congressional support continues for ULPBSCS in FY 02.</p> <p>B. Program Change Summary:</p> <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th></th> <th align="center" colspan="3">COST IN MILLIONS</th> </tr> <tr> <th></th> <th align="center">FY 00</th> <th align="center">FY 01</th> <th align="center">FY 02</th> </tr> </thead> <tbody> <tr> <td>President's Budget Submission</td> <td align="right">22.921</td> <td align="right">23.082</td> <td align="right">23.399</td> </tr> <tr> <td>Adjustment to Appropriated Value</td> <td align="center">-----</td> <td align="right">+24.763</td> <td align="right">+6.974</td> </tr> <tr> <td>Omnibus/Reprogramming</td> <td align="right">-.250</td> <td align="center">-----</td> <td align="center">-----</td> </tr> <tr> <td>Congressional Rescission</td> <td align="center">-----</td> <td align="right">-.105</td> <td align="center">-----</td> </tr> <tr> <td>Current Budget Submission</td> <td align="right">22.671</td> <td align="right">47.740</td> <td align="right">30.373</td> </tr> </tbody> </table> <p>Change Summary Explanation: FY 00 reflects (-.250)for implementation of an Omnibus Reprogramming action. FY 01 reflects (+25.100) for congressionally added programs: Competitive Sustainment (+3.0), Corrosion Prevention Control and Information Distribution (+1.0), CATT (+3.0), Air Logistics (.300); and the following DMEA Programs: F-22 Digital EW Product Improvement (+5.0), Silicon-based Nanostructures (+2.500), Complementary Metal Oxide Semiconductor Retrofits (+2.500), Gate Array Reverse Engineering (+2.000), Multiple Softcore Integration (+3.000), and Systems Simulation of Electronically Compressed Function (+2.800). FY 01 also reflects Log R&D's fair share of Title IV reductions per Section 8086 of FY 2001 Appropriations Act (-.337); and its fair share of a government-wide rescission (-.105). FY 02 reflects agency TOA redistribution (-3.148) to reflect higher priority funding for O&M programs, including the Critical Infrastructure Protection program; inflation adjustment (+.122); and a congressional add to continue DMEA's approved new start ULPBSCS program (+10.0).</p>			COST IN MILLIONS				FY 00	FY 01	FY 02	President's Budget Submission	22.921	23.082	23.399	Adjustment to Appropriated Value	-----	+24.763	+6.974	Omnibus/Reprogramming	-.250	-----	-----	Congressional Rescission	-----	-.105	-----	Current Budget Submission	22.671	47.740	30.373
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COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL
#1: USER-SOURCE LINK	2.790	0	0	-	-	-	-	-	-	2.790
<p>A. Mission Description and Justification</p> <p>User-Source Link will dramatically change the current logistical system as it exists today. DLA will offer users choices on sourcing, packaging, quality levels and shipping that were previously decided by our Inventory Control Points. The user will also be able to place the order on a pre-negotiated price schedule established by DLA. This will be accomplished by linking the user of parts with the suppliers. The initial phase will involve linking users to suppliers through a set of query servers. This will eliminate the need for suppliers to continually provide product information updates to the Government. Instead, the query servers will go to the suppliers organic product databases and retrieve the information for the user. The final phase of this effort will involve the use of "Agents." Software agents will travel between suppliers catalogs retrieving the information requested by the user without the use of query servers.</p> <p>This project is needed to provide the DoD's customers with the information they need to make an informed buying decision. It will enable DLA to significantly reduce its overhead costs which are ultimately passed on to our customers. More direct vendor deliveries will result from this link which will reduce inventories. The use of suppliers part data will reduce the need for establishing NSNs and other cataloging data. Post-acquisition support problems and the resources necessary to solve them will go down as the users can interactively make their specific requirements known.</p> <p>(U) Program Accomplishments and Plans:</p> <p>(U) FY 2000 Accomplishments:</p> <p>Final development capability using highly distributed catalogs for EMALL and mechanical requisitions received in bulk from customers.</p> <p>(U) FY 2001 Plans: N/A</p> <p>(U) FY 2002 Plans: N/A</p>										

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COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL
#1: USER-SOURCE LINK	2.790	0	0	-	-	-	-	-	-	2.790

B. Program Change Summary:

	COST IN MILLIONS		
	FY 00	FY 01	FY 02
President's Budget Submission	2.790	0.000	0.000
Adjustment to Appropriated Value	-----	-----	-----
Current Budget Submission	2.790	0.000	0.000

Change Summary Explanation: N/A

C. Other Program Funding Summary:
No funding dependencies on other programs.
Related programs: DARPA's Fast program (PE #62301E); DARPA's Advanced Logistics program P.E.

D. Schedule Profile:
US LINK will test links among DLA Inventory Control Points and Navy/Army/AF customer sites, and private industry.

	FY 00	FY 01	FY 02
Quarters	1234	1234	1234
		N/A	N/A

Phase II: Agent Development Solicitation & Award X

Phase II: Deploy final fully distributed capability XXXX

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COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL
#2: AUTOMATE RULE-BASED DECISIONS	1.556	0	0	-	-	-	-	-	-	1.556

A. Mission Description and Justification

The system being developed under the Automated Rule Based Decision thrust is called DELTA. The DELTA system shall improve DLA's business practices by enabling the DLA to move away from its current business practice of procuring items one requisition at a time (usually as the DLA customers' needs arise). This will be accomplished by:

1. Creation, maintenance, and utilization of an electronic portfolio of best EDI/EC business practices and their related long-term arrangements with suppliers.
2. Enabling the negotiating long-term flexible business arrangements ahead of time with leading industry suppliers and third party supply chain management logistician.
4. Allowing customers to execute purchasing actions interactively against these arrangements.
5. Electronically executing purchasing actions against such arrangements, without human interaction, based on electronically stored source selection rules about customer preferences.
6. Utilizing cutting edge technology (including: knowledge acquisition; expert systems; case based reasoning; natural language processing; CORBA information agents, mediators and sentinels) to accomplish the above.

(U) Program Accomplishments and Plans:

(U) FY 2000 Accomplishments:

Integration of best of commercial practices in Supply Chain Management into the DLA operational business processes via intelligent agent based workflow generation.

(U) FY 2001 Plans: N/A

(U) FY 2002 Plans: N/A

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COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL
#2: AUTOMATE RULE-BASED DECISIONS	1.556	0	0	-	-	-	-	-	-	1.556

B. Program Change Summary:

	COST IN MILLIONS		
	FY 00	FY 01	FY 02
President's Budget Submission	1.556	0.000	0.000
Adjustment to Appropriated Value	-----	-----	-----
Current Budget Submission	1.556	0.000	0.000

Change Summary Explanation: N/A

C. Other Program Funding Summary:
No funding dependencies on other programs.
Related programs: DARPA's Intelligent Integration of Information (I-3) program (PE #62301E) Knowledge Sharing Initiative. DARPA's Advanced Logistics Program (ALP).

D. Schedule Profile:

	FY 00	FY 01	FY 02
QUARTERS	1234	1234	1234
		N/A	N/A

Testing and development of Best Commercial Practices XXX

Prototype delivery of automated processes via workflow generation X

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COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL
#3: MATERIAL ACQUISITION: ELECTRONICS	5.130	9.865	9.500	-	-	-	-	-	Cont	Cont
<p>A. Mission Description and Justification</p> <p>Develop a capability to emulate most obsolete digital integrated circuits (ICs) in the federal catalog using a single, flexible manufacturing line. DoD has estimated that \$2.9B is spent every five years in redesigning circuit card assemblies. Much of these redesigns are driven by IC obsolescence. The commercial suppliers of ICs typically terminate production lines every 18 months, moving on to the next generation of ICs. Because DoD maintains weapons systems much longer than 3 years, this creates an obsolescence problem that can only be overcome through buying excessive inventories of parts before the production lines close or redesigning the next higher assembly to eliminate the obsolete part. DLA, as the manager of over 80% of the IC supply class, must have a capability to manufacture these devices. This project develops this capability and will expand it to succeeding generations of obsolete ICs through the Advanced Microcircuit Emulation program.</p> <p>(U) Program Accomplishments and Plans:</p> <p>(U) FY 2000 Accomplishments: Development and demonstration of microcircuits supplied to numerous systems, including: F-15, F-16, Multiple Launch Rocket System, UYK-44, Joint Surveillance Target Attack Radar System, Phalanx, distributors, and DSCC (various systems). Initiated ASIC emulation demonstrations with C-17 & A-10. Continued ASIC emulation with F-15 and Boeing. Next generation emulation array (200K) designed. High Voltage device demonstrated with B-52. Demonstrated advanced ASIC characterization for microprocessor. Developing new process and arrays for high speed and VLSI.</p> <p>(U) FY 2001 Plans: Demonstrate 200K ASIC emulation array. Demonstrate advanced high-speed process. Analog emulation demonstration. Continual cost reduction for ASIC emulation.</p> <p>(U) FY 2002 Plans: Design 300K ASIC emulation array. Advanced Emulation process demonstration. Continual cost reduction for ASIC emulation.</p>										

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COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL
#3: MATERIAL ACQUISITION: ELECTRONICS	5.130	9.865	9.500	-	-	-	-	-	Cont	Cont

B. Program Change Summary:

COST IN MILLIONS

	FY 00	FY 01	FY 02
President's Budget Submission	5.130	9.957	10.147
Adjustment to Appropriated Value	-----	-.070	-.647
Congressional Rescission	-----	-.022	-----
Current Budget Submission	5.130	9.865	9.500

Change Summary Explanation: FY 02 reflects agency TOA program adjustments. The Semiconductor Industry Association's Roadmap was used for definition of the program requirements. There has been an eight year industry acceleration of microcircuit technology (actual vs. roadmap) from the time when the Advanced Microcircuit Emulation Program was planned. The increased resources allow emulation technology to keep pace with the more rapid technology obsolescence of today's marketplace. The resulting emulation ability will support DSCC and the weapon systems for microcircuits that are not otherwise procurable. Both the percentage of PRs filled and Weapon System readiness levels will increase.

C. Other Program Funding Summary: No funding dependencies on other programs. No related programs.

D. Schedule Profile: The AME Program will eliminate the need to redesign in many cases by producing a form, fit, and function "drop-in" replacement for the old microcircuits using current technology. The Generalized Emulation of Microcircuits (GEM) Production Program addresses the microcircuits built in the 1960s-1970s. The AME Program addresses the 1980s and early 1990s devices.

	FY 00	FY 01	FY 02
Quarters	1234	1234	1234
High Voltage B-25 insertion	X		
200K Emulation Array Designed	X		
100 K Emulation Array Demonstration	X		
Microprocessor characterization Demonstration	X		
Advanced High Speed Process Demonstration		X	
200K Emulation Array Demonstration		X	
300 K Emulation Array Design			X
Advanced Emulation Process Demonstration			X
Cost Reduction for ASIC Emulation	XXXX	XXXX	XXXX

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COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY07	COST TO COMP	TOTAL
#4: ADVANCED TECHNOLOGY LOGISTICS SUPPORT NETWORK	1.794	1.582	0	-	-	-	-	-	-	3.376
<p>A. Mission Description and Justification</p> <p>Advanced Technology Logistics Support Network initiative is designed to assure the warfighter that readiness is achievable with increasing reliance on commercial inventories and continued government inventory draw down. Its focus is to demonstrate a readiness decision support system prototype that can assist logisticians in assessing our capability to support peace and wartime requirements. It will develop and utilize direct electronic access to commercial and government asset positions and commercial and government demand history and usage projections. Algorithms will be developed to predict the state of readiness achievable for peacetime or contingency plans, given commercial and government assets and commercial and government usage history and projections. Feedback mechanisms will be developed for contingency re-planning. Feedback mechanisms will also be developed to communicate revised readiness models which will aid in stock level decisions and changes to contractual arrangements with commercial sources to address shortfalls in the state of readiness.</p> <p>The ATSN program has far reaching applicability in allowing DLA and its customers to fully capitalize on the many emerging logistics related information technology advancements. The program will bring this advanced technology to both peacetime customer support and mobilization support. These new technologies are critical elements to the achievement of DLA's programmed out-year savings in conjunction with implementation of reengineering initiatives and acquisition reform.</p> <p>(U) Program Accomplishments and Plans:</p> <p>(U) FY 2000 Accomplishments: Develop production model for readiness decision support. Develop the capability to estimate commercial capability to support emergency needs for all medical pharmaceutical surgical, and equipment items. Expand coverage and readiness models to other commodities. Develop concept of operations, requirements specification for subsistence and industrial commodities.</p> <p>(U) FY 2001 Plans: Develop operational and production prototype readiness decision support models for Subsistence and industrial commodities. Expand coverage of readiness model to clothing and textile commodity. Develop concept of operations and requirements specification.</p> <p>(U) FY 2002 Plans: N/A</p>										

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#4: ADVANCED TECHNOLOGY LOGISTICS SUPPORT NETWORK	1.794	1.582	0.000	-	-	-	-	-	0.000	3.376

B. Program Change Summary:

	COST IN MILLIONS		
	FY 00	FY 01	FY 02
President's Budget Submission	2.044	1.596	0.000
Adjustment to Appropriated Value	-----	-.011	-----
Omnibus/Reprogramming	-.250	-----	-----
Congressional Rescission	-----	-.003	-----
Current Budget Submission	1.794	1.582	0.000

Change Summary Explanation: N/A

C. Other Program Funding Summary:
No funding dependencies on other programs.
DARPA's FAST program (PE #62301E); DARPA's Intelligent Integration of Information (I-3) (PE #62301E) program.

D. Schedule Profile: Defense Supply Center Philadelphia (DSCP) will manage the ATSN program and will implement the communications network developed under US Link. Objectives include reduction in customer delivery time variances from 50% to 3%, reduced inventories (both retail & wholesale), on-line requisition status, and lower unit prices.

	FY 00	FY 01	FY 02
Quarters	1234	1234	1234
Production model integration - Medical	XXX		N/A
Additional commodities - Subsistence & Industrial,			
Clothing	XXX	XXXX	
Integration with GCCS	XXXX	XXXX	

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#5: INTELLIGENT DEMAND MANAGER	0.953	1.717	0.000	-	-	-	-	-	-	2.670

A. Mission Description and Justification

The use of artificial intelligence for managing items has been explored in the past, but changes in information technology environment and data availability could significantly increase the potential to better manage items and anticipate demands from customers. This will most likely have a significant benefit for the management of Numerical Stock Objective items.

(U) Program Accomplishments and Plans:

(U) FY 2000 Accomplishments:

Analysis tools--Starlight and Data Mining--how can we exploit these technologies to identify relationships that can be used to more accurately project demand--especially on new systems entering the inventory or on proven systems where unforecasted demand may occur due to aging weapon systems. This will require the use of simulation models such as PARIS to evaluate alternate scenarios, cost trade-offs, and inventory management policy decisions.

(U) FY 2001 Plans:

To develop tools using DARPA's ALP technology that will allow DLA, in conjunction with its customers, to generate level 5 detail time phased demand streams in response to OPLAN requirements for multiple COEs.

(U) FY 2002 Plans: N/A

B. Program Change Summary:

	COST IN MILLIONS		
	FY 00	FY 01	FY 02
President's Budget Submission	0.953	1.733	1.979
Adjustment to Appropriated Value	-----	-.012	-1.979
Congressional Rescission	-----	-.004	-----
Current Budget Submission	0.953	1.717	0.000

Change Summary Explanation: New project in FY 00. FY 02 and out-year funding zeroed out to accommodate higher priority (Computer to Computer Negotiations, Pay Per Use Logistics System, and Aging Aircraft Sustainment Technology, and Virtual Reality Medical Assembly) Agency requirements.

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COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL																				
#5: INTELLIGENT DEMAND MANAGER	0.953	1.717	0.000	-	-	-	-	-	-	2.670																				
<p>C. Other Program Funding Summary: No funding dependencies.</p> <p>D. Schedule Profile:</p> <table style="width:100%; border: none;"> <tr> <td style="width:45%;"></td> <td style="width:15%; text-align: center;">FY 00</td> <td style="width:15%; text-align: center;">FY 01</td> <td style="width:25%; text-align: center;">FY 02</td> </tr> <tr> <td style="padding-left: 40px;">Quarters</td> <td align="center">1234</td> <td align="center">1234</td> <td align="center">1234</td> </tr> <tr> <td>Awards for concept studies</td> <td align="center">X</td> <td></td> <td align="center">N/A</td> </tr> <tr> <td>Awards for prototype development</td> <td align="center">XXX</td> <td></td> <td></td> </tr> <tr> <td>Prototype development</td> <td align="center">XXXX</td> <td align="center">XXXX</td> <td></td> </tr> </table>												FY 00	FY 01	FY 02	Quarters	1234	1234	1234	Awards for concept studies	X		N/A	Awards for prototype development	XXX			Prototype development	XXXX	XXXX	
	FY 00	FY 01	FY 02																											
Quarters	1234	1234	1234																											
Awards for concept studies	X		N/A																											
Awards for prototype development	XXX																													
Prototype development	XXXX	XXXX																												

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FY 2002 BUDGET REVIEW

RDT&E BUDGET PROJECT JUSTIFICATION SHEET (R-2a Exhibit)				DATE: JUNE 2001						
APPROPRIATION/BUDGET ACTIVITY: RTD&E, Defense-Wide/Budget Activity 3				Program Element: 0603712S LOGISTICS R&D TECHNOLOGY DEMONSTRATON						
COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL
#6: COMPUTER TO COMPUTER NEGOTIATIONS	0.000	2.305	3.005	-	-	-	-	-	Cont	Cont

A. Mission Description and Justification

Long lead-times for establishing long-term logistics support contracts do not allow DLA business managers to react to rapidly changing requirements in supply change management. The purpose of this project is to use knowledge based, rule based, and intelligent work flow technologies to enable computers to duplicate the decision making process of humans when negotiating and executing contracts. This will reduce the lead-time required to establish these contracts and contribute to a paperless environment.

(U) Program Accomplishments and Plans:
 (U) FY 2000 Accomplishments: N/A
 (U) FY 2001 Plans:
 Expand computer software agent to agent negotiation techniques in the existing ALP architecture in support of DLA application in classes I, II, and VIII supply support plans.
 (U) FY 2002 Plans:
 Prototype development of selected applications identified in FY 01. Refinement of ALP extensions in agent-to-agent negotiations.

B. Program Change Summary:

	FY 00	FY 01	FY 02
President's Budget Submission	0.000	2.326	2.987
Adjustment to Appropriated Value	-----	-.016	+.018
Congressional Rescission	-----	-.005	-----
Current Budget Submission	0.000	2.305	3.005

Change Summary Explanation: N/A

C. Other Program Funding Summary: No funding dependencies.

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FY 2002 BUDGET REVIEW

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COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL																					
#6: COMPUTER TO COMPUTER NEGOTIATIONS	0.000	2.305	3.005	-	-	-	-	-	Cont	Cont																					
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>D. Schedule Profile:</p> <p style="margin-left: 40px;">Quarters</p> <p>Formulate the BAA announcement</p> <p>Open the BAA</p> <p>Awards for concept studies</p> <p>Awards for prototype development</p> <p>ALP agent extensions</p> <p>Prototype Development</p> </div> <div style="width: 50%; text-align: center;"> <table style="margin: auto;"> <tr> <td>FY 00</td> <td>FY 01</td> <td>FY 02</td> </tr> <tr> <td>1234</td> <td>1234</td> <td>1234</td> </tr> <tr> <td>XX</td> <td></td> <td></td> </tr> <tr> <td>XX</td> <td>X</td> <td></td> </tr> <tr> <td></td> <td>XXX</td> <td></td> </tr> <tr> <td></td> <td>XXXX</td> <td>XX</td> </tr> <tr> <td></td> <td></td> <td>XXXX</td> </tr> </table> </div> </div>											FY 00	FY 01	FY 02	1234	1234	1234	XX			XX	X			XXX			XXXX	XX			XXXX
FY 00	FY 01	FY 02																													
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FY 2002 BUDGET REVIEW

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APPROPRIATION/BUDGET ACTIVITY: RTD&E, Defense-Wide/Budget Activity 3				Program Element: 0603712S LOGISTICS R&D TECHNOLOGY DEMONSTRATON						
COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL
#7: PAY PER USE LOGISTICS SYSTEM	0.000	1.443	2.387	-	-	-	-	-	Cont	Cont

A. Mission Description and Justification

Current DoD computer systems are large, inflexible, difficult to maintain and seemingly impossible to keep current with emerging technology. For example, the supply system still uses 80 card column transaction sets based on 40 year old technology. One cause of this stagnation is that these systems are monolithic programs that have evolved over time to meet changing needs. Modernization of these systems has been hindered by the high cost to modernize and the fact that much of the functionality is not well documented or understood.

Emergence of network computing holds the promise of providing the flexibility and modularity needed to modernize incrementally DoD logistics systems and simultaneously provide an opportunity for a radical change in the way computer operations are financed. The Pay Per Use program objective is to demonstrate the costs and flexibility advantages of large scale, highly distributed networks in addressing not only the technical problem associated with logistics systems modernization, but also the cost advantages of designing a system based on the concept of "Pay Per Use". Pay Per Use means that the functional organization using a computer system pays a fixed rate only for actual use of the system. This approach is analogous to the emerging acquisition strategy of "power by the hour," where the Air Force, rather than buying and owning jet engines are paying a set rate per hour for engine use. Similarly, Pay Per Use program users would only be charged for the time that the functional application was actually being used. Ideally, the end user would have a choice among different COTS vendors for the same application.

(U) Program Accomplishments and Plans:
 (U) FY 2000 Accomplishments: N/A
 (U) FY 2001 Plans:
 Initial awards will be made for concept studies. The concepts will be evaluated and prototypes will begin to be developed. Explore using the ALP technology to allow for interoperability between existing DLA applications.
 (U) FY 2002 Plans:
 Continue prototype developments from FY 01. Develop experiments for interoperability with ERP application in business systems modernization.

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FY 2002 BUDGET REVIEW

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COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL
#7: PAY PER USE LOGISTICS SYSTEM	0.000	1.443	2.387	-	-	-	-	-	Cont	Cont

B. Program Change Summary:

	COST IN MILLIONS		
	FY 00	FY 01	FY 02
President's Budget Submission	0.000	1.456	2.374
Adjustment to Appropriated Value	-----	-.010	+.013
Congressional Rescission	-----	-.003	-----
Current Budget Submission	0.000	1.443	2.387

Change Summary Explanation: N/A

C. Other Program Funding Summary: No funding dependencies.

D. Schedule Profile:

	FY 00	FY 01	FY 02
Quarters	1234	1234	1234
Formulate the BAA announcement	XX		
Open the BAA	XX		
Awards for concept studies		X	
Awards for prototype development		XXX	
Prototype development		XXX	
Interoperability among existing applications		XXXX	
Interoperability with ERP application			XXXX

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FY 2002 BUDGET REVIEW

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APPROPRIATION/BUDGET ACTIVITY: RTD&E, Defense-Wide/Budget Activity 3				Program Element: 0603712S LOGISTICS R&D TECHNOLOGY DEMONSTRATON						
COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL
#8: AGING AIRCRAFT SUSTAINMENT TECH/AIR LOGISTICS/CORROSION PREVENTION CONTROL & INFO DISTRIBUTION	0.000	5.303	4.158	-	-	-	-	-	Cont	Cont

A. Mission Description and Justification:

Weapon systems, particularly aircraft, are staying in the inventory much longer than originally anticipated. For example, the KC-135 had a 40 year design life and is now planning to stay in service for 86 years. Similar life extensions also apply to the B-52 and the C-130. The result is often aircraft parts, that were never planned to be replaced, have to be procured and placed on the airplane. Unfortunately, the technical data, manufacturing processes and supplier base that originally provided these items are no longer available. These circumstances lead to unacceptably long logistics response times and increased costs.

A completely new strategy is needed to address this problem. Immediate focus is parts availability for the warfighters. This must encompass not only the design associated with re-engineering the item but also manufacturing techniques that can produce very low quantity items in a cost effective manner. A partnership among the DoD, manufacturing industries and academia has proven most effective in addressing the problem. Past models have shown that lead-times can be reduced from 273 days to 97 days for complex parts, new suppliers can be added to the base and costs significantly reduced.

Air Logistics and Corrosion Prevention Control & Information Distribution are congressional adds. Program requirements have not yet been defined.

(U) Program Accomplishments and Plans:
 (U) FY 2000 Accomplishments:
 Development of Aging Aircraft Program Management Plan (PMP). Identification of DoD key players focused on Aging Aircraft.
 (U) FY 2001 Plans: Identify/implement Aging Aircraft projects based on PMP.
 (U) FY 2002 Plans: Continue identification and implementation of Aging Aircraft projects based on PMP.

B. Program Change Summary:

	COST IN MILLIONS		
	FY 00	FY 01	FY 02
President's Budget Submission	0.000	4.051	4.131
Adjustment to Appropriated Value	-----	+1.263	+.027
Congressional Rescission	-----	-.011	-----
Current Budget Submission	0.000	5.303	4.158

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FY 2002 BUDGET REVIEW

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COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL																																																																
#8: AGING AIRCRAFT SUSTAINMENT TECH/AIR LOGISTICS/CORROSION PREVENTION CONTROL & INFO DISTRIBUTION	0.00	5.303	4.158	-	-	-	-	-	Cont	Cont																																																																
<p>Change Summary Explanation: FY 01 funding for this program reflects AAST (4.015) and congressional adds for Air Logistics (.297) and Corrosion Prevention Control and Information Distribution (.991) programs.</p> <p>C. Other Program Funding Summary: No funding dependencies.</p> <p>D. Schedule Profile:</p> <table> <thead> <tr> <th>Quarters</th> <th>FY 00 1234</th> <th>FY 01 1234</th> <th>FY 02 1234</th> </tr> </thead> <tbody> <tr> <td>AGING AIRCRAFT SUSTAINMENT TECHNOLOGY</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Formulate BAA Announcement</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>Open BAA</td> <td>XX</td> <td>XXXX</td> <td></td> </tr> <tr> <td>Awards for concept development</td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>Awards for prototype development</td> <td></td> <td>XXXX</td> <td></td> </tr> <tr> <td>Prototype Development</td> <td></td> <td>XXXX</td> <td>XXXX</td> </tr> <tr> <td>Technology demonstration projects</td> <td></td> <td>XXXX</td> <td>XXXX</td> </tr> <tr> <td>AIR LOGISTICS</td> <td></td> <td></td> <td></td> </tr> <tr> <td>CBD Announcement</td> <td>N/A</td> <td>X</td> <td>N/A</td> </tr> <tr> <td>Award</td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>Performance</td> <td></td> <td>XX</td> <td></td> </tr> <tr> <td>CORROSION PREVENTION CONTROL & INFO DISTRIBUTION</td> <td></td> <td></td> <td></td> </tr> <tr> <td>CBD Announcement</td> <td>N/A</td> <td>X</td> <td>N/A</td> </tr> <tr> <td>Award</td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>Performance</td> <td></td> <td>XX</td> <td></td> </tr> </tbody> </table>											Quarters	FY 00 1234	FY 01 1234	FY 02 1234	AGING AIRCRAFT SUSTAINMENT TECHNOLOGY				Formulate BAA Announcement	X			Open BAA	XX	XXXX		Awards for concept development		X		Awards for prototype development		XXXX		Prototype Development		XXXX	XXXX	Technology demonstration projects		XXXX	XXXX	AIR LOGISTICS				CBD Announcement	N/A	X	N/A	Award		X		Performance		XX		CORROSION PREVENTION CONTROL & INFO DISTRIBUTION				CBD Announcement	N/A	X	N/A	Award		X		Performance		XX	
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FY 2002 BUDGET REVIEW

RDT&E BUDGET PROJECT JUSTIFICATION SHEET (R-2a Exhibit)				DATE: JUNE 2001						
APPROPRIATION/BUDGET ACTIVITY: RTD&E, Defense-Wide/Budget Activity 3				Program Element: 0603712S LOGISTICS R&D TECHNOLOGY DEMONSTRATON						
COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL
#9: VIRTUAL REALITY MEDICAL ASSEMBLY	0.000	1.945	1.323	-	-	-	-	-	Cont	Cont

A. Mission Description and Justification:

Defense Supply Center, Philadelphia (DSCP) has the responsibility to procure Medical Assemblies for the Services. These Medical Assemblies are complex in nature and change frequently to accommodate new types of form, fit, function, and utility. This program will attempt to utilize virtual reality technology to reduce lead times, to reduce the logistics footprint, and to reduce overall assembly life-cycle costs.

DSCP will begin the effort in the FY 01 timeframe. During FY 01, Joint Application Development (JAD) sessions will be held to formalize requirements. Market analysis will be performed to identify the most appropriate virtual reality technology to employ, and detailed system specifications will be created. In FY 02, a prototype of first-aid kits will be developed. In addition, formal requirements will be developed for a more complex medical assembly.

(U) Program Accomplishments and Plans:
 (U) FY 2000 Accomplishments: N/A
 (U) FY 2001 Plans: The studies for Virtual Medical Assembly will be awarded and prototypes will begin to be developed.
 (U) FY 2002 Plans: Continue Prototype Development.

B. Program Change Summary: N/A

	COST IN MILLIONS		
	FY 00	FY 01	FY 02
President's Budget Submission	0.000	1.963	1.781
Adjustment to Appropriated Value	-----	-.014	-0.458
Congressional Rescission	-----	-.004	-----
Current Budget Submission	0.000	1.945	1.323

Change Summary Explanation: FY 02 reflects redistribution of program funding.

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COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL
#10: FUTURE LOGISTICS R&D REQUIREMENTS	0.000	0.000	0.000	-	-	-	-	-	Cont	Cont

A. Mission Description and Justification:

These funds will be used for high risk and high payoff alternatives to the conventional investment programs to improve efficiency and lower costs of acquisition, supply management, and distribution.

(U) Program Achievements and Plans:

(U) FY 2000 Accomplishments: N/A

(U) FY 2001 Plans: N/A

(U) FY 2002 Plans: N/A

B. Program Change Summary: N/A

	COST IN MILLIONS		
	FY 00	FY 01	FY 02
President's Budget Submission	0.000	0.000	0.000
Adjustment to Appropriated Value	-----	-----	-----
Current Budget Submission	0.000	0.000	0.000

Change Summary Explanation: N/A

C. Other Program Funding Summary: None

D. Schedule Profile: N/A

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FY 2002 BUDGET REVIEW

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COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL
#11: ON DEMAND MANUFACTURING/CATT	6.523	2.972	0.000	-	-	-	-	-	-	9.495

A. Mission Description and Justification:

This initiative is necessary to identify and establish commercial manufacturing capabilities so that DLA Centers can acquire parts as they are needed (on demand) rather than investing in excessive stock, or risking non-availability of essential parts when needed. Contracting relationships will be established to obtain small quantities of military unique items of low demand, with significantly lower costs and greatly improved response time. This is an effort to use private sector manufacturers, in addition to all other measures to obtain parts quickly. In FY 98 it built a program related to the USAF Computer Aided Technology Transfer (CATT) program. CATT establishes a network of companies to produce parts in a very short production lead-time with minimum administration.

(U) Program Achievements and Plans:
 (U) FY 2000 Accomplishments: Continue capacity field tools for ODM division support.
 (U) FY 2001 Plans: N/A
 (U) FY 2002 Plans: N/A

B. Program Change Summary: N/A

	COST IN MILLIONS		
	FY 00	FY 01	FY 02
President's Budget Submission	6.523	0.000	0.000
Adjustments to Appropriated Value	-----	+2.979	-----
Congressional Rescission	-----	-.007	-----
Current Budget Submission	6.523	2.972	0.000

Change Summary Explanation: FY 01 reflects congressionally added funds for this program (+3.000) minus (.028) to reflect pro rata share of congressional adjustments.

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#11: ON DEMAND MANUFACTURING/CATT	6.523	2.972	0.000	-	-	-	-	-	-	9.495																								
<p>C. Other Program Funding Summary: None</p> <p>D. Schedule Profile:</p> <table style="width:100%; border: none;"> <tr> <td style="width:45%;"></td> <td style="width:15%; text-align: center;">FY 00</td> <td style="width:15%; text-align: center;">FY 01</td> <td style="width:25%; text-align: center;">FY 02</td> </tr> <tr> <td style="padding-left: 40px;">Quarters</td> <td style="text-align: center;">1234</td> <td style="text-align: center;">1234</td> <td style="text-align: center;">1234</td> </tr> <tr> <td>Continue work at centers to develop contractual vehicles with industry</td> <td></td> <td></td> <td style="text-align: center;">N/A</td> </tr> <tr> <td>Establish Commercial ODM on EMALL</td> <td style="text-align: center;">XXXX</td> <td></td> <td></td> </tr> <tr> <td>Establish Public Manufacturing ODM on EMALL</td> <td style="text-align: center;">XXXX</td> <td style="text-align: center;">XXXX</td> <td></td> </tr> <tr> <td>Implementation</td> <td></td> <td style="text-align: center;">XXXX</td> <td></td> </tr> </table>												FY 00	FY 01	FY 02	Quarters	1234	1234	1234	Continue work at centers to develop contractual vehicles with industry			N/A	Establish Commercial ODM on EMALL	XXXX			Establish Public Manufacturing ODM on EMALL	XXXX	XXXX		Implementation		XXXX	
	FY 00	FY 01	FY 02																															
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Implementation		XXXX																																

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COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL
#12: COMPETITIVE SUSTAINMENT	0.982	2.972	0.000	-	-	-	-	-	-	3.954

A. Mission Description and Justification:

Competitive Sustainment was added by Congress in recognition of the need to substantially reduce the cost of support for aging weapon systems. The project will conduct pilot projects that involve teams of Government and Industry members in the following five areas: 1) effective supply partnerships; 2) significant improvement in quality and access to technical data; 3) a streamlined maintenance process; 4) upgrade strategies for increased reliability and 5) innovative training. The goals are to reduce total costs of spares/replacements by 25%, cut the time from requirement to delivery for supplies by up to 75% and cut repair cycle time by at least 50%.

(U) Program Accomplishments and Plans:
 (U) FY 2000 Accomplishments: Pilot projects initiated.
 (U) FY 2001 Plans: N/A
 (U) FY 2002 Plans: N/A

B. Program Change Summary:

	COST IN MILLIONS		
	FY 00	FY 01	FY 02
President's Budget Submission	0.982	0.000	0.000
Adjustment to Appropriated Value	-----	+2.979	-----
Congressional Rescission	-----	-.007	-----
Current Budget Submission	0.982	2.972	0.000

Change Summary Explanation: Funding for this program reflects congressional adds for FY 00 and FY 01.

C. Other Program funding Summary: No funding dependencies from other Agencies. Being coordinated with Army and Air Force Sustainment programs.

D. Scheduled Profile:

	FY 00	FY 01	FY 02
Quarters	1234	1234	1234
CBD announcement	X		N/A
Award	X		
Performance		XXXX	

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COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL
#13: DEFENSE MICROELECTRONICS ACTIVITY	2.943	17.636	10.000	-	-	-	-	-	-	30.579

A. Mission Description and Justification:

DMEA's mission is to leverage advanced technologies to extend the life of weapon systems, to solve operational problems (e.g., reliability and maintainability) and to address diminishing manufacturing sources. DMEA is the Executive Agent for DoD Integrated Circuit (IC) Microelectronics Diminishing Manufacturing Sources and Material Shortages (DMSMS). The DMEA provides technical and application engineering support for the implementation of advanced microelectronics research technologies from design through assembly and installation. The DMEA manages an organic capability to support these strategically important technologies within the DoD. These advanced technologies are translated into solutions for military needs. DMEA's RDT&E program is comprised of a mix of studies, investigations, planning efforts, developments, fabrications, and the insertion of solutions. Applies to all DoD systems using electronics e.g., F-22, B-2, AWACS, F-16, F-15, F-14, GPS, USQ-113, JAST, MAST, EA-6B, M-65, AN/TSC-93B, and AN/GSC-49(V).

(U) Program Accomplishments and Plans:

(U) FY 2000 Accomplishments: Continued development of a viable method to deposit ultra-pure silicon, which is the fundamental material for microelectronics and semiconductor devices. Continued to develop methods for replacing highly complex microcircuits using VHDL, modern synthesis tools, programmable cores, and silicon foundry resources to achieve FFF replacements while minimizing design methodologies and processes to emulate digital logic, analog, mixed signal and power microelectronic components.

(U) FY 2001 Plans: Continue development of a viable method to deposit ultra-pure silicon, which is the fundamental material for microelectronics and semiconductor devices. Continue to develop methods for replacing highly complex microcircuits using VHDL, modern synthesis tools, programmable cores, and silicon foundry resources to achieve FFF replacements while minimizing design methodologies and processes to emulate digital logic, analog, mixed signal and power microelectronic components. Begin to develop a digital electronic warfare (EW) receiver to replace the existing F-22 analog technology EW receiver. F-22 Digital EW Product Improvement (4.955); Silicon-Based Nanostructures (2.476); Complementary Metal Oxide Semiconductor Retrofits (2.476); Gate Array Reverse Engineering(1.983); Multiple Soft Core Integration (2.972); Systems Simulation of Electronically Compressed Function (2.774). FY 01 initiated a new start Ultra-Low Power Battlefield Sensor Communication System (ULPBSCS) program during the second half of FY2001 via a Departmental 3.950 funding provided by a Departmental below-threshold reprogramming action.

(U) FY 2002 Plans: N/A

B. Program Change Summary: FY 00 funding for this program reflects a 3.0 million congressional add (less undistributed adjustments). FY 01 funding reflects a 17.8 million congressional add (-.164 million) to reflect pro rata share of congressional adjustments. FY 02 continues congressional support for the ULPBSCS (+10.0 million).

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FY 2002 BUDGET REVIEW

RDT&E BUDGET PROJECT JUSTIFICATION SHEET (R-2a Exhibit)		DATE: JUNE 2001								
APPROPRIATION/BUDGET ACTIVITY: RTD&E, Defense-Wide/Budget Activity 3		Program Element: 0603712S LOGISTICS R&D TECHNOLOGY DEMONSTRATON								
COST (MILLIONS)	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	COST TO COMP	TOTAL
#13: DEFENSE MICROELECTRONICS ACTIVITY	2.943	17.636	10.000	-	-	-	-	-	-	30.579

COST IN MILLIONS			
	FY 00	FY 01	FY 02
President's Budget Submission	2.943	0.000	0.000
Adjustment to Appropriated Value	-----	+17.675	+10.000
Congressional Rescission	-----	-.039	-----
Current Budget Submission	2.943	17.636	10.000

C. Other Program Funding Summary: No funding dependencies on other programs.

D. Schedule Profile:

	FY 00	FY 01	FY 02
Quarters	1234	1234	1234
Ultra-pure Silicon Methodology	XXXX	XX	
Programmable Core Solution Sets	XXXX	XXXX	
CMOS 5-Volt Process Replacement		XXX	XXX
Gate Array Reverse Engineering		XXX	XX
Multiple Soft Core Integration		XX	XXX
Simulation of Electronically Compressed Function		X	XXX
Silicon-based Nanostructures (Si-28)		XXX	X
F-22 Digital EW Product Improvement		XXXX	XX
Ultra-Low Power Battlefield Sensor Communication System		X	XXXX

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