ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)

February 2002

BUDGET ACTIVITY	PE NUMBER AND TITLE
5 - Engineering and manufacturing development	**0604805A - Command, Control, Communications Systems - Eng Dev**

	COST (In Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	62557	118643	82238	76918	62100	45091	21177	Continuing	Continuing
097	INTEROP & STANDARDS COMPLIANCE EXPERIMENT & TEST	1843	1896	1800	1578	1600	1603	1605	0	18605
098	TAC RADIO ACCESSORIES	5101	0	0	0	0	0	0	0	5552
485	INFO STANDARDS INTEROP ENG/JOINT INTEROP CERT	3866	3966	3897	3403	3455	3604	3611	0	34686
589	ARMY SYS ENGINEERING & WARFIGHTING TECH SUP	8137	8381	8625	7441	7364	7645	7646	0	76796
591	WPN SYS TECH ARCH (WSTA)	2361	2386	2372	1990	1959	1956	1952	0	17316
615	JTRS-GROUND DOMAIN INTEGRATION	27447	93238	63551	61136	46335	28797	4882	Continuing	Continuing
629	TACTICAL COMMUNICATIONS SYSTEM - ENGINEERING DEVEL	13802	8776	1993	1370	1387	1486	1481	0	32083

A. Mission Description and Budget Item Justification: This Program Element (PE) supports efforts to develop interoperability of Army programs and products, horizontally and vertically for the digitized battlefield. Project D097 supports development of the C4I Interoperability Network. Also included is the Army portion of engineering development efforts in support of the Combat Survivor Evader Locator System (CSEL). Project D485 supports C4I Systems Certification. It evaluates system's interoperability for the Army XXI battlefield digitization effort, in support of the Vice Chief of Staff of the Army (VCSA) and Army Acquisition Executive (AAE), to identify interoperability issues, develop certification recommendations, and provide architecture assessments by the Digital Integration Lab (DIL). Project D589 Army Systems Engineering (ASE) & Warfighter Technical Support provides essential technology expertise on all Systems Engineering and Technical Architecture (SE/TA) matters critical to gain Information Dominance and foster interoperability among all Army systems. The Weapons Systems Technical Architecture, Project D591, supports development of the Joint Technical Architecture-Army (JTA-A) which provides the 'building code" foundation for designing, building, fielding, and supporting interoperable systems in an expedient and cost-effective manner. Project D615 supports the Army Joint Tactical Radio System (JTRS) Cluster 1 and Step 2C programs and the Near Term Digital Radio System (NTDRS). Project D629, Tactical Communications System - Demonstration Validation, provides for insertion of selected proven communications technology from program elements 0602782A, Project AH92 applied research and 0603006A, advanced technology development, into the next phase of development. The Applied Communications and Information Networking (ACIN) project provides for the evaluation and capitalization of emerging commercial communications and networking technologies by leveraging advances, influencing development efforts, influencing standards and delivering technical solutions in support of emerging architectures (JTA-A). This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

B. Program Change Summary	FY 2001	FY 2002	FY 2003
Previous President's Budget (FY2002 PB)	61249	122644	59138
Appropriated Value	61816	119644	0
Adjustments to Appropriated Value	0	0	0
a. Congressional General Reductions	0	-1001	0
b. SBIR / STTR	-1693	0	0
c. Omnibus or Other Above Threshold Increases	0	0	0
d. Below Threshold Reprogramming	3000	0	0
e. Rescissions	-566	0	0
Adjustments to Budget Years Since FY2002 PB	0	0	23100
Current Budget Submit (FY 2003 PB)	62557	118643	82238

FY 2001 increase of $3000K to Project D098 Tactical Radio Accessories for Tactical Unmanned Aerial Vehicle (TAUV) efforts.
FY 2003 funding reflects increase to Project D615 in order to accelerate JTRS product development.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2002

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - Engineering and manufacturing development	**0604805A - Command, Control, Communications Systems - Eng Dev**	**097**

COST (In Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
097	INTEROP & STANDARDS COMPLIANCE EXPERIMENT & TEST	1843	1896	1800	1578	1600	1603	1605	0	18605

A. Mission Description and Budget Item Justification: Interoperability and Standards Compliance Experimentation & Testing: The increased combat power of the Objective Force, as defined by the Chief of Staff of the Army's Transformation Campaign Plan (TCP), will derive directly from the information superiority of network/ knowledge centric warfare and the ability to be fully "interoperable as a member of the joint, multinational, interagency team." In addition, attaining full interoperability will be critical to meet the Army's Division XXI, Corps XXI, Army XXI, Army 2010 and JV 2020 plans. To attain this significantly increased combat power, it is essential that interoperability issues be identified early in the life cycle of systems, through the conduct of Army interoperability assessments and JTA standards compliance testing. This project, in accordance with the TCP, "establishes a mechanism to ensure all digitally capable material is fully operational, compatible and interoperable" before fielding. In particular, it provides the resources for a virtual command, control, communications, computer, intelligence, electronic warfare and sensor (C4IEWS) Digital Integration Lab (DIL) which is utilized to integrate/assess the Army's programs and products, horizontally and vertically for the digitized battlefield, by replicating current and future tactical battlefield environments (including Army, Joint and Allied interoperability environments). To attain this goal, it utilizes on-site and electronically interconnected remote C4IEWS systems, labs/ test beds, field/integration sites, developers facilities, test tools and Battle Labs to enable/facilitate comprehensive evaluations of new prototypes, evolutionary system developments, new technologies, commercial products, software and systems interoperability. It serves as the Army's messaging standards conformance authority in support of the Army Systems Engineer and the Central Test Support Facility (CTSF). This program supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

FY 2001 Accomplishments:

- 380 Provided external DIL connectivity to remote battlefield digitization sites for digitization experimentation and tests.
- 602 Upgraded, operated and supported secure DIL Evaluation & Certification Testbed and other facilities supporting experiments/certifications needed for battlefield digitization for Army FDD, Joint Forces as well as STO/ACTD/ATD experimentation and evaluations related to Objective Force development.
- 100 Acquired/updated DIL hardware and software interfacing systems, test tools, and supporting systems for 1st Digitized Division and TA/SA evaluations
- 127 Acquired DIL automated scenario drivers and test analysis tools for FDD evaluations and TA/SA evaluations.

FY 2001 Accomplishments: (Continued)

•	150	Developed Combat Net Radio (CNR) Protocol Test Tool (Monitor/Decoder) development to support Sync Mode, common Protocol Test Tool (PTT) components.
•	140	Developed VTT Message Generation Scripting
•	100	Developed CNR Protocol Test Tool (Conformance Tester V3)
•	50	Developed CNR Protocol Test Tool (Network Analyzer V2); developed & supported Net troubleshooting, Net performance & analysis.
•	88	Develop VMF Test Tool and provided on site support
•	106	Developed & fielded VMF Reissue 4 VMF tool database
Total	1843	

FY 2002 Planned Program

•	380	Provide external DIL connectivity to remote battlefield digitization sites for digitization experimentation, and tests.
•	685	Upgrade, operate and support DIL Evaluation & Certification Testbed and other facilities supporting experiments/certifications needed for battlefield digitization for Army Second Digitized Division (SDD) and First Digitized Corps (FDC) digitization efforts, Joint, Allied as well as STO/ACTD/ATD experimentation and evaluations related to Objective Force development.
•	100	Acquire/update DIL hardware and software interfacing systems, test tools, and supporting systems for SDD, FDC, and Objective Forces.
•	127	Acquire DIL automated scenario drivers and test analysis tools for SDD and FDC evaluations and TA/SA evaluations.
•	150	Combat Net Radio (CNR) Protocol Test Tool (Monitor/Decoder) development to support Sync Mode, common PTT components.
•	100	CNR Protocol Test Tool (Conformance Tester V4) development; develop version 220D.
•	50	CNR Protocol Test Tool (Network Analyzer V3) development; supports Net troubleshooting & Net performance.
•	94	VMF Test Tool development and On-site support
•	70	Develop/Field VMF Reissue 5 VMF tool database
•	140	VTT Message Generation Scripting
Total	1896	

FY 2003 Planned Program

•	350	Provide external DIL connectivity to remote battlefield digitization sites for digitization experimentation and tests.
•	600	Upgrade, operate and support secure DIL Evaluation & Certification Testbed and other facilities supporting experiments/certifications needed for battlefield digitization for Army SDD & FDC, as well as STO/ACTD/ATD experimentation and evaluations related to Objective Force development.
•	100	Acquire/update DIL hardware and software interfacing systems, test tools, and supporting systems for SDD,FDC and Objective forces TA/SA evaluations.
•	100	Acquire DIL automated scenario drivers and test analysis tools for SDD, FDC and Objective Force evaluations TA/SA evaluations.
•	120	Combat Net Radio (CNR) Protocol Test Tool (Monitor/Decoder) development to support Sync Mode, common PTT components.
•	100	CNR Protocol Test Tool (Conformance Tester V5) development; develop latest approved version of CNR standard.
•	52	CNR Protocol Test Tool (Network Analyzer V4) development; supports Net troubleshooting & Net performance.
•	192	VMF Test Tool development and On site support
•	70	Develop/Field VMF Reissue 6 VMF tool database
•	116	VTT Message Generation Scripting

Total 1800

B. Other Program Funding Summary: Not applicable for this item.

C. Acquisition Strategy: The efforts funded in this project are non-system specific, supporting interoperability across multiple systems. The contractual efforts/services are obtained from existing competitive omnibus support services contracts.

D. Schedule Profile	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Maintain and upgrade remote connectivity between digitization sites	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
DIL Testbed support for FDD, JCF AWE, SDD, FDC & Other AWE/ATD's/ACTD's	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Acquire DIL testbed systems to support message compliance certification	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Develop, maintain, certify Protocol test tool (PTT)	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Develop, maintain, certify VMF test tool (VTT)	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

ARMY RDT&E COST ANALYSIS(R-3)

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BUDGET ACTIVITY
5 - Engineering and manufacturing development

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
097

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Labor (internal Govt)	In House	USACECOM, Fort Monmouth, NJ	1758	800	1-4Q	836	1-4Q	897	1-4Q	Continue	Continue	0
b . Travel	In House	USACECOM, Fort Monmouth, NJ	51	15	1-4Q	15	1-4Q	15	1-4Q	Continue	Continue	0
Subtotal:			1809	815		851		912		Continue	Continue	0

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . System Engineering	C/CPFF	Arinc, Fort Monmouth, NJ	2131	467	1-4Q	463	1-2Q	448	1-2Q	Continue	Continue	0
b . Development Support	C/CPFF	BAE, Fort Monmouth, NJ	40	40		0		0		Continue	Continue	0
c . Development Support	C/CPFF	CSC, Fort Monmouth, NJ	300	150	1-3Q	157	1-2Q	129	1-4Q	Continue	Continue	0
d . Development Support	C/CPFF	C3I, Fort Monmouth, NJ	415	245	1-4Q	248	1-4Q	141	1-2Q	Continue	Continue	0
e . Security Engineering	C/CPFF	Nations, Fort Monmouth, NJ	51	30	1-3Q	30	1-2Q	30	1Q	Continue	Continue	0

ARMY RDT&E COST ANALYSIS(R-3)

February 2002

BUDGET ACTIVITY
5 - Engineering and manufacturing development

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
097

II. Support Cost (continued)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
f . Equipment	FFP	USA CECOM, NJ	550	96	1-3Q	107	1-4Q	100	1-4Q	Continue	Continue	0
g . Development Support	C/CPFF	BAH, Fort Monmouth, NJ	0	0		40	1-2Q	40	1-4Q	Continue	Continue	0
Subtotal:			3487	1028		1045		888		Continue	Continue	0

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

ARMY RDT&E COST ANALYSIS(R-3)

February 2002

BUDGET ACTIVITY
5 - Engineering and manufacturing development

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
097

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0
Project Total Cost:			5296	1843		1896		1800		Continue	Continue	0

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2002

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - Engineering and manufacturing development	**0604805A - Command, Control, Communications Systems - Eng Dev**	**485**

COST (In Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
485	INFO STANDARDS INTEROP ENG/JOINT INTEROP CERT	3866	3966	3897	3403	3455	3604	3611	0	34686

A. Mission Description and Budget Item Justification: Evaluate system's interoperability, in support of DISC4's (Army CIO's) Army Enterprise Architecture (AEA) Program, as cited in the AEA Master Plan, fulfilling the Clinger-Cohen Act's mandate of developing sound integrated Information Technology (IT) architectures and the Army's Software Blocking Policy. The increased combat power of the Objective Force, as defined by the CSA's Transformation Campaign Plan (TCP), will be dependent on the information superiority of network & knowledge centric warfare and the ability of systems to be fully "interoperable as a member of the joint, multinational, interagency team." It identifies and reduces interoperability issues earlier in the life cycle by intra-Army/Joint/combined experiments, certifications, and assessments and through the establishment & sustainment of common standards. Specifically, this project resources the Army's messaging standards conformance authority in assessing compliance with the Joint Technical Architecture (JTA-A), in meeting the war fighter information exchange requirements and in facilitating their interoperability. Also it resources, IAW the JTA-A, the development and maintenance of the following information standards: Variable Message Format (VMF) & Combat Net Radio (CNR) protocol, which support Army/Joint ground operations; TADILs, which support Air Defense operations; and US Message Text Format (USMTF), which support Intel and Commanders operations. It provides the Army's lead for configuration management functions of these standards and test tools at both Army and Joint levels. This project resources the Army participation in joint/allied certification testing & configuration management processes. The suite of test tools under development will provide the ideal means to: a) validate joint technical architecture (JTA-A) critical messaging and protocol standards; b) improve systems interoperability; c) verify/certify correct system implementations and interpretation to JTA-A; d) sustain/support digitization and transition of fielded systems; e) support S/W blocking and interoperability testing. These unique tools are critical to the JTA-A Compliance, Certification Testing mission & Interoperability programs. The task supports the Army's transformation campaign while mitigating interoperability issues resulting in reducing cost & program slippages. This project also provides the Configuration Management & Control for the Software Blocking elements and fieldings. This program supports the Legacy to Objective transition path of the Transformation Campaign Plan.

FY 2001 Accomplishments:

- 479 Evaluated and certified IT/C4ISR systems interoperability for DCX, Joint experiments to assure compliance with the Technical and System Architectures
- 463 Provided DIL system engineering and integration support for conduct of experiments and evaluations to support DCX, Joint Tests, and testing related to development of ATD's and STO's

FY 2001 Accomplishments: (Continued)

•	200	Provided systems engineering, integrated support & field support for identification and resolution of systems' discrepancies and inconsistencies identified during evaluations
•	409	Developed and published Combat Net Radio (CNR) and Variable Message Format (VMF) Message application header standards updates to support interoperability during the Legacy to Objective Force Transformation.
•	325	Developed/Joint approved new Variable Message Format (VMF) messages to support interoperability during the Legacy to Objective Force Transformation.
•	332	Joint Approved 50 Variable Message Format (VMF) change proposals to support interoperability during the Legacy to Objective Force Transformation.
•	65	Maintained Variable Message Format (VMF) database and provided two new versions to customers to support interoperability during the transformation.
•	210	Conducted 6 Army and Joint Configuration control boards
•	461	Evaluated, processed and obtained approval of 1100 change proposals
•	660	Conducted 10 Joint certification testings to include 30 operational systems, and developed over 500 problem reports for analysis by Joint services
•	262	Represented the Army in over 24 Joint Air Defense (i.e. TADILs), Ground Operations (i.e. USMTF), OSD Tactical data Link Management plans (TDLMP), Joint Interface Requirements
Total	3866	

FY 2002 Planned Program

•	480	Evaluate and certify IT/C4ISR systems interoperability for FDD, Joint experiments to assure compliance with the Technical and System Architectures
•	482	Provide DIL System Engineering and Integration support for conduct of experiments and evaluations to support FDD, Joint Tests, and testing related to development of ATD's and STO's related to the development of the Objective Force.
•	200	Provide systems engineering, integrated support & field support for identification and resolution of systems' discrepancies and inconsistencies identified during evaluations

FY 2002 Planned Program (Continued)

- 303 Develop and publish Combat Net Radio (CNR) and Variable Message Format (VMF) application header standards updates to support interoperability during the Legacy to Objective Force Transformation.
- 325 Develop/Joint approved new Variable Message Format (VMF) messages to support interoperability during the Legacy to Objective Force Transformation.
- 332 Joint approval 50 Variable Message Format (VMF) change proposals to support interoperability during the Legacy to Objective Force Transformation.
- 81 Maintain Variable Message Format (VMF) data base and provide two new versions to customers to support interoperability during the transformation.
- 310 Conduct 8 Army and Joint Configuration control boards
- 549 Evaluate, process and obtain approval of 1100 TADILs & USMTF change proposals
- 737 Conduct 10 Joint certification testings to include 30 operational systems, and develop over 500 problem reports for analysis by Joint services
- 167 Represent the Army in over 24 Joint Air Defense (i.e.TADILs), Ground Operations (i.e.USMTF), OSD Tactical data Link Management plans (TDLMP), Joint Interface Requirements

Total 3966

FY 2003 Planned Program

- 420 Evaluate and certify IT/C4ISR systems interoperability for DCX, Joint experiments to assure compliance with the Technical and System Architectures
- 410 Provide DIL System Engineering and Integration support for conduct of experiments and evaluations to support SDD & FDC, Joint Tests, and testing related to development of ATD's and STO's related to the development of the Objective Force.
- 110 Provide systems engineering, integrated support & field support for identification and resolution of systems' discrepancies and inconsistencies identified during evaluations
- 303 Develop and publish Combat Net Radio (CNR) and Variable Message Format (VMF) application header standards updates to support interoperability during the Legacy to Objective Force Transformation.
- 403 Develop/Joint approved new Variable Message Format (VMF) messages to support interoperability during the Legacy to Objective Force Transformation.

FY 2003 Planned Program (Continued)

- 400 Joint approved 70 Variable Message Format (VMF) change proposals to support interoperability during the Legacy to Objective Force Transformation.
- 77 Maintain Variable Message Format (VMF) database and provide two new versions to customers to support interoperability during the Transformation.
- 310 Conduct 8 Army and Joint Configuration control boards
- 574 Evaluate, process and obtain approval of 1200 change proposals
- 725 Conduct 10 Joint certification testings to include 30 operational systems, and developed over 500 problem reports for analysis by Joint services
- 165 Represent the Army in over 24 Joint Air Operations (i.e.TADILs), Ground Operations (i.e.USMTF), OSD Tactical data Link Management plans (TDLMP), Joint Interface Requirements

Total 3897

B. Other Program Funding Summary: Not applicable for this item.

C. Acquisition Strategy: The efforts funded in this project are non-system specific, interoperability experimentation, evaluation and certification across multiple systems. The contractual efforts/services are obtained from existing competitive omnibus support services contracts.

D. Schedule Profile	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Initial Brigade Combat Teams Experiments/Evaluations	1-4Q	1-4Q	1-4Q	1-4Q			
Evaluate, certify systems for and support FDD	1-4Q	1Q					
Evaluate, certify systems for and support Millennium Challenge 02	1-4Q	1-3Q					
Evaluate, certify systems for the support Corps AWE		4Q	1-3Q				
Evaluate, experiment, and provide systems integration for testing of ACTD, ATD, & STO's	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Experiment/Evaluate Joint Interoperability in conjunction with CIPO initiatives	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Conduct Joint/Coalition Experiments	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Evaluate, certify systems for and support SDD	1-4Q	1-4Q					
Evaluate, certify systems for and support FDC		1-4Q					
DOTE/JDEP Initial Concept/Evaluation/Experiments	1-4Q	1-4Q	1-4Q				
Develop and maintain Combat Net Radio (CNR) Standard	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Develop and maintain Variable Message Format (VMF) application header standards	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Develop and maintain Variable Message Format (VMF) Standards & standard databases	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Configuration Management and control of TADIL(A,B,J) and USMTF standards	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Represent Army on Army/DOD forums	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Test and promulgate Defense Collaborative Tools Set within the Army	4Q	1-4Q	1-4Q	1-4Q	1-4Q		

ARMY RDT&E COST ANALYSIS(R-3)

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BUDGET ACTIVITY
5 - Engineering and manufacturing development

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0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Labor (internal Govt)	In House	USACECOM , Fort Monmouth, NJ	4685	1507	1-4Q	1507	1-4Q	1423	1-4Q	Continue	Continue	0
b . Travel	In House	USACECOM, Fort Monmouth, NJ	116	50	1-4Q	50	1-4Q	50	1-4Q	Continue	Continue	0
Subtotal:			4801	1557		1557		1473		Continue	Continue	0

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Development Support	C/CPFF	Arinc, Fort Monmouth, NJ	3630	824	1-4Q	866	1-4Q	859	1-4Q	Continue	Continue	0
b . Development Support	C/CPAF	Telos, Fort Monmouth, NJ	2952	784	1-4Q	875	2-4Q	856	1-4Q	Continue	Continue	0
c . Development Support	C/CPFF	CSC, Fort Monmouth, NJ	1574	226	1-4Q	193	1-4Q	200	1-3Q	Continue	Continue	0
d . Development Support	C/CPFF	C3I, Fort Monmouth, NJ	1039	172	1-4Q	172	2Q	212	2-3Q	Continue	Continue	0
e . Development Support	SS/CPFF	Mitre, Fort Monmouth, NJ	280	0		0		0		0	280	0
f . Technical Support	C/CPFF	Marconi, Fort Monmouth, NJ	110	38		38	2-3Q	38	2-3Q	0	224	0

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II. Support Cost (continued)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
g . Equipment	In House	USACECOM, NJ	185	100	1Q	100	1Q	94	1Q	Continue	Continue	0
h . Equipment (Development Support)	FFP	GTE, Tauton, MA	106	0		0		0		0	106	0
i . Telecommunications	MIPR	USASC, Fort Huachuca, AZ	660	165	3Q	165	3Q	165	2Q	Continue	Continue	0
Subtotal:			10536	2309		2409		2424		Continue	Continue	0

Remarks: *Contracts/awards cited are 5 year (1 base + 4 option years). Future award dates imply future competitive award, contractor TBD.

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

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BUDGET ACTIVITY
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IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0
Project Total Cost:			15337	3866		3966		3897		Continue	Continue	0

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2002

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - Engineering and manufacturing development	**0604805A - Command, Control, Communications Systems - Eng Dev**	**589**

COST (In Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
589	ARMY SYS ENGINEERING & WARFIGHTING TECH SUP	8137	8381	8625	7441	7364	7645	7646	0	76796

A. Mission Description and Budget Item Justification: Army Systems Engineering & Warfighter Technical Support: The ASE provides essential technology expertise on all Systems Engineering and Technical Architecture (SE/TA) matters critical to gain Information Dominance and foster interoperability among all Army systems. The Joint Technical Architecture-Army (JTA-A) provides the "building code" foundation for designing, building, fielding, and supporting interoperable systems in an expedient and cost-effective manner. Army System Engineer (ASE) supports CIO/DISC4 in defining and maintaining the JTA-A and technically influences development and implementation of the JTA. ASE identifies new and emerging standards for integration of new technologies into existing Army Systems and ATD/ACTDs to support Army 2010. The ASE's work efforts associated with the development and implementation of the JTA-A are critical path elements to achieve the Army's digitization mission, Army's Transformation to the Objective Force, to provide the ability to fight and win on tomorrow's battlefield, and assure compatibility with both Joint and Coalition Warfighters. WTS provides essential technical field expertise, on-site architectural/system analysis and execution planning to integrate emerging technologies and support the next generation of digitization across all 21st Century Battlefield Operating Systems. Promotes joint experiments in conjunction with Joint C4ISR Battle Center (JBC) to foster interoperability between Army Systems and those of other services both joint and coalition. WTS conducts interservice coordination to identify candidate systems, provides expert analysis to define appropriate architecture, evaluates notional designs and conducts performance/cost benefit analysis to recommend viable tradeoffs. Selects target architecture and works with warfighter to engineer appropriate field experiments (Battlelab Warfighter Experiments (BLWE), Army Warfighter Experiments (AWE) and warfighter rotations) to allow selection of appropriate systems and sub-systems for follow-on development and acquisition. Performs technical coordination/integration activities to accelerate system enhancements providing solutions to current user problems in the field capturing soldier ingenuity through on-the-spot soldier input/feedback. Supports development of the operational architecture and implementation of new warfighter information technologies throughout the force structure. This program supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

FY 2001 Accomplishments:

- 1300 Conducted major design evaluations for Joint Technical Architecture-Army (JTA-A) Interoperability. System Implementations: ABCS 7.0, THAAD, JTRS, Future Combat Systems (FCS), ACS, BCT-IAV, Land Warrior Redesign, MOSAIC, Agile Commander
- 1321 Ensured JTA-A Interop Implementation and Assess JTA-A compatibility for Army and S&T Programs. SSEBS/RFPs: BCT-IAV, TAD DFCS, TACSAT T4H, JTRS, Future Combat Systems(FCS)

FY 2001 Accomplishments: (Continued)

•	800	Assessed JTA-A interop for Army Systems. Ad Hoc Assessments: ABCS 6.2, TC AIMS II, Paladin, GTN, Wholesale Logistics Modernization, Tactical Internet Reliable Multicast
•	815	Technically influenced the development/implementation of Joint Technical Architecture (JTA). JTA Version 4.0, JTA-A Version 6.5
•	566	Maintained existing JTA-A Information Technical Standards. Weapon Systems Appendix F Restructuring/Rewrite, Section II Information Processing Update, PCS/GPS clarifications, IFF Validation, XML Introduction, HCI Restructuring
•	583	Investigated information technical standards for inclusion in JTA-A/JTA. XML, JPEG 2000, MPEG 4, IPV6, Grid Technology, Distributed Computing (CORBA, COM, JAVA, ...)
•	445	Technically influenced commercial and international standards forums. MANET (TBRPF), IPV6
•	925	Supported BCT early architectural refinements, engineered EMPRS system into Army Architecture and began extension to the Joint/Coalition Forces.
•	850	Planned and supported C2 FCS architecture, planned for next generation digitization systems, and incorporated experimental after action recommendations into the architecture.
•	532	Implemented refinements into Objective Force C4ISR architecture and evaluated BCT technology insertions.
Total	8137	

FY 2002 Planned Program

•	1350	Conduct Major design evaluations for Joint Technical Architecture-Army (JTA-A) Interoperability. System Implementations: WIN-T, THAAD, JTRS, Future Combat Systems (FCS), ACS, BCT-IAV, Land Warrior Redesign, MOSAIC, Agile Commander
•	1321	Ensure JTA-A Interop Implementation and Assess JTA-A compatibility for Army and S&T Programs. SSEBS/RFPs: WIN-T, TACSAT T4H, JTRS, Future Combat System (FCS)
•	800	Assess JTA-A interop for Army Systems. AD Hoc Assessments
•	811	Technically influence the development/implementation of Joint Technical Architecture (JTA). JTA Version 5.0, JTA-A Version 7.0
•	623	Maintain existing JTA-A Information Technical Standards.
•	640	Investigate information technical standards for inclusion in JTA-A/JTA. Global Information Grid (GIG) Technologies (XML, JPEG 2000, MPEG 4, IPV6)

FY 2002 Planned Program (Continued)

- 506 Technically influence commercial and international standards forums. MANET (TBRPF), IPV6
- 930 Technically influence integration of ABCS architectural components.
- 830 Establish Army focus for Commercial product integration into the Joint Architecture (e.g. DCTS).
- 570 Assess C4ISR architectural performance in Joint Experimentation.

Total 8381

FY 2003 Planned Program

- 1350 Conduct Major design evaluations for Joint Technical Architecture-Army (JTA-A) Interoperability.
- 1321 Ensure JTA-A Interop Implementation and Assess JTA-A compatibility for Army and S&T Programs.
- 800 Assess JTA-A interop for Army Systems.
- 815 Technically influence the development/implementation of Joint Technical Architecture (JTA).
- 695 Maintain existing JTA-A Information Technical Standards.
- 690 Investigate information technical standards for inclusion in JTA-A/JTA.
- 540 Technically influence commercial and international standards forums.
- 1030 Technically influence integration of ABCS architectural components.
- 817 Establish Army focus for Commercial product integration into the Joint Architecture (e.g. DCTS)
- 567 Assess C4ISR architectural performance in Joint Experimentation.

Total 8625

B. Other Program Funding Summary: Not applicable for this item.

C. Acquisition Strategy: The efforts funded in the project are non-system specific, therefore no acquisition strategy is provided.

D. Schedule Profile	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
TA - JTA-A 7.5			3Q				
TA - JTA-A 7.0		2Q					
TA - JTA 5.0		4Q					
TA - JTA 6.0			3Q				
SA - 2DFSA (1 CAV DIV)		1Q					
BCT 3 - (172nd Inf Bde)		2Q					
BCT 4 - (2 ACR (L) Polk		3Q					
BCT 4 - III Corps		4Q					
BCT 4 - 75 Ranger Reg			1Q				
BCT 5 - 2nd Bde 25th Inf Div (L)			2Q				
BCT 6 - 56th Bde, 28th Inf (RC)			3Q				
BCT 6 - 82nd Airborne Div				1Q			
BCT 6 - 10th Mountain Div					1Q		
BCT 6 - XVIII ABN Corps					2Q		
MC02 After Action Support		4Q					
AECP Field Support		4Q					
Joint Architecture Development		3Q					
OC 04 Joint Architecture Support			2Q				
OC 04 Support and After Action				2-4Q			
OC 06 Joint Architecture Support					2Q		
OC 06 Support and After Action						2-4Q	
Technology Insertion for BCT		4Q					

ARMY RDT&E COST ANALYSIS(R-3)

February 2002

BUDGET ACTIVITY
5 - Engineering and manufacturing development

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
589

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Government Systems Engineering Support	In House	ASEO, Fort Monmouth, NJ	4579	1700	1-4Q	1616	1-4Q	1723	1-4Q	Continue	Continue	0
b . Engineering Support	MIPR	ISEC, Fort Huachuca, AZ	842	315	1-4Q	200	1-3Q	200	1-4Q	Continue	Continue	0
c . Contract Systems Engineering Support	C & FPI	CSC, Eatontown, NJ	3521	1861	1-4Q	1620	1-3Q	1397	1-4Q	0	8399	0
d . Contract Systems Engineering Support	SS & FP	MITRE, Tinton Falls, NJ	2264	1168	1-4Q	2120	1-3Q	2220	1-4Q	0	7772	0
e . Contract Systems Engineering Support	C & FP	GTE/BBN, Cambridge, MA	410	350	1-4Q	200	1-4Q	200	1-4Q	0	1160	0
f . Contract Systems Engineering Support	C & FP	Litton, Reading, MA	245	0		0		0		0	245	0
g . Contract Systems Engineering Support	C & FP	Battelle, Alexandria, VA	300	54	1-4Q	0		0		0	354	0
h . Contract Systems Engineering Support	C & FP	SRI, Menlo Park, CA	0	0		0		0		0	0	0
i . Contract Systems Engineering Support	C & FP	SRC, Atlanta, GA	302	150	1-4Q	160	1-4Q	165	1-4Q	0	777	0

ARMY RDT&E COST ANALYSIS(R-3)

February 2002

BUDGET ACTIVITY
5 - Engineering and manufacturing development

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
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I. Product Development (continued)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
j . Contract Systems Engineering Support	C & FP	HTPi, Shrewsbury, NJ	125	20	1-4Q	0		0		0	145	0
k . Contract Systems Engineering Support	C & FP	Gemini, Billerica, MA	137	0		0		0		0	137	0
l . Systems Engineering and Integration	MIPR	WTS - ISIO CECOM, Fort Monmouth, NJ	1111	734	1-4Q	496	1-4Q	560	1-4Q	Continue	Continue	0
m . Contract Support	C & T&M -R	C3ISGI, Tinton Falls, NJ	1580	472	1-4Q	1000	1-4Q	1100	1-4Q	0	4152	0
n . Contract Support	C & T&M	BAE, Tinton Falls, NJ	0	90	1-4Q	49	1-4Q	55	1-4Q	0	194	0
o . Contract Support	C & T&M	SAIC, Falls Church, VA	932	409	1-4Q	170	1-4Q	173	1-4Q	0	1684	0
p . Contract Support	IPA Agreement	Rutgers University, New Brunswick, NJ	88	110	1-4Q	180	1-4Q	200	1-4Q	0	578	0
q . Contract Support	C & T&M	Datron, Simi Valley, CA	305	0		0		0		0	305	0
r . System Development and Integration	MIPR	PEO C3S, PM TOCS, Fort Monmouth, NJ	25	0		0		0		0	25	0
s . Contract Support	C & FP	CSC, Eatontown, NJ	1600	146	1-4Q	0		0		0	1746	0
t . Contract Support	C & FP	TRW, Domingues Hills, CA	1281	0		0		0		0	1281	0

ARMY RDT&E COST ANALYSIS(R-3)

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BUDGET ACTIVITY
5 - Engineering and manufacturing development

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
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I. Product Development (continued)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
u . Contract Support	C & FP	Lockheed Martin, Eatontown, NJ	545	0		0		0		0	545	0
v . Travel	In House	ASEO/ISIO CECOM, Fort Monmouth, NJ	728	178	1-4Q	190	1-4Q	200	1-4Q	Continue	Continue	0
w . Overhead	In House	ASEO/ISIO CECOM, Fort Monmouth, NJ	662	380	1-3Q	380	1-3Q	432	1-4Q	0	1854	0
Subtotal:			21582	8137		8381		8625		Continue	Continue	0

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

ARMY RDT&E COST ANALYSIS(R-3)

February 2002

BUDGET ACTIVITY
5 - Engineering and manufacturing development

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

Project Total Cost:			21582	8137		8381		8625		Continue	Continue	0

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2002

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - Engineering and manufacturing development	**0604805A - Command, Control, Communications Systems - Eng Dev**	**591**

COST (In Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
591	WPN SYS TECH ARCH (WSTA)	2361	2386	2372	1990	1959	1956	1952	0	17316

A. Mission Description and Budget Item Justification: Weapons System Technical Architecture: The Joint Technical Architecture-Army (JTA-A) provides the "building code" foundation for designing, building, fielding, and supporting interoperable systems in an expedient and cost-effective manner. The Weapons System Technical Architecture (WSTA) identifies new and emerging standards for integration of new technologies into existing Army Weapon Systems in support of Army digitization efforts. WSTA will define weapon system domain exceptions and extensions to the JTA and JTA-Army. It will promote an open systems approach in Army weapon systems. It will work to expand the Defense Information Infrastructure Common Operation Environment concept to properly accommodate Army weapon systems. This program supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

FY 2001 Accomplishments:

- 350 Update the WSTAWG Framework Version 4.0, develop reference architecture, and perform cost analyses.
- 538 Mature the Mapping API and OE API.
- 284 Develop & mature interoperability threads; certify threads interoperable threads
- 310 Develop Security Architecture and continue to work with National Security Agency on security certification of a Real Time Operating System.
- 600 Develop the Weapon COE Prototype and software components.
- 279 Engineering and Program Development

Total 2361

FY 2002 Planned Program

•	229	Update the WSTA Framework to Version 5.0
•	110	Develop and test OE Version 3.0 and WSMS 2.5
•	435	Develop and certify interoperability threads for Army Certification Events: Second Digitized Division and First Digitized Corps
•	475	Test and certify a WSTA security architecture
•	500	Field Weapon COE in two weapon subdomains; establish COE as an AMC system
•	262	Maintain and update the JTA-A and JTA
•	375	Engineering and Program Development
Total	2386	

FY 2003 Planned Program

•	230	Update the WSTA Framework and perform cost analysis of modular software
•	119	Develop and test a distributed computing OE
•	420	Certify, test, and assess mission critical interoperability threads
•	450	Modify, test, and support Embedded Battle Command (EBC) software
•	550	Provide field test and engineering support for weapon COE integration
•	220	Maintain and update the JTA-A/JTA
•	383	Engineering and Program Development
Total	2372	

B. Other Program Funding Summary: Not applicable for this item.

C. Acquisition Strategy: The efforts funded in this project are non-system specific, interoperability experimentation, evaluation and certification across multiple systems. The contractual efforts/services are obtained from existing competitive Omnibus support services contracts.

D. Schedule Profile	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Develop/refine reference Architecture for Weapons mapping software	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q		
Conduct interoperability demonstration	2-3Q						
Complete Version 3.0 OE							
Update WSTAWG Framework Version 4.0	1-4Q						
Develop Weapon Common Operating Environment Prototype	2-4Q						
Insert/update new computer science technology advances into weapon system software	3-4Q	1Q		3-4Q			
Institutionalize processes for life cycle software maintenance			1-4Q		1-4Q		

ARMY RDT&E COST ANALYSIS(R-3)

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BUDGET ACTIVITY
5 - Engineering and manufacturing development

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
591

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . USAISSC	MIPR	Fort Belvoir, VA	64	0		0		0		Continue	Continue	0
b . TACOM-ARDEC	MIPR	Picatinny Arsenal, NJ	254	355	1-4Q	250	1-4Q	235	1-4Q	0	1094	0
c . TACOM	MIPR	Warren, MI	1071	1083	1-4Q	1079	1-4Q	1060	1-4Q	0	4293	0
d . GSA	MIPR	Huntsville, AL	550	555	1-4Q	682	1-4Q	699	1-4Q	0	2486	0
e . Nichols Research Corporation	C/CPFF	Huntsville, AL	171	0		0		0		0	171	0
Subtotal:			2110	1993		2011		1994		Continue	Continue	0

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

ARMY RDT&E COST ANALYSIS(R-3)

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BUDGET ACTIVITY
5 - Engineering and manufacturing development

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . AMCOM	In House	Redstone Arsenal, AL	230	368	1-4Q	375	1-4Q	378	1-4Q	Continue	Continue	Continue
Subtotal:			230	368		375		378		Continue	Continue	Continue
Project Total Cost:			2340	2361		2386		2372		Continue	Continue	Continue

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2002

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - Engineering and manufacturing development	**0604805A - Command, Control, Communications Systems - Eng Dev**	**615**

COST (In Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
615 JTRS-GROUND DOMAIN INTEGRATION	27447	93238	63551	61136	46335	28797	4882	Continuing	Continuing

A. Mission Description and Budget Item Justification: Project D615 supports the Joint Tactical Radio System (JTRS)-RDTE effort. FY03 funding supports development of the JTRS program. The JTRS-Army RDTE program will enable the Army to acquire and field a family of affordable, scaleable, high capacity, interoperable radio sets based on a common JTRS Software Communications Architecture (SCA). The JTRS is a key enabler of the Army Transformation and will provide critical communications capabilities across the spectrum of operations in a Joint environment. The Cluster 1 JTRS is a Joint program encompassing the specific requirements of the JTRS Joint Program Office (JPO), US Army Ground Vehicular and Rotary Wing Aircraft, US Air Force Tactical Control Party (TACP), and US Marine Corps applications. This project supports RDT&E efforts for the JTRS Cluster 1 program while the Services provide funding for their unique requirements. Project also supports the JTRS Step 2C initiative and the Near Term Digital Radio System (NTDRS). This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

FY 2001 Accomplishments:

- 5302 NTDRS Product Development (NTDRS Completion of development, and upgrade of engineering development models)
- 2479 NTDRS Support Costs (NTDRS Technical and Exercise Support)
- 29 NTDRS Test and Evaluation (Customer Test EPG)
- 4141 JTRS Product Development (JTRS Step 2C Contract)
- 2130 JTRS Product Development (JTRS Step 2C ancillary equipment and logistics and engineering services)
- 3728 Test and Evaluation (JTRS Step 2C EPG Testing/Validation/Cluster 1 Modeling and Simulation)
- 1983 JTRS Support Costs (JTRS Engineering and Technical Support)
- 504 JTRS Support Costs (Antenna Studies)
- 3309 JTRS Management Services (JTRS Program Management Office Support)
- 959 JTRS Management Services (JTRS Analysis of Alternatives/Milestone Preparation/Source Selection Start-up Activities)
- 2883 Product Development (Tactical Internet Integration/ABCS System Engineering and Integration Efforts)

Total 27447

FY 2002 Planned Program

- 1397 JTRS Product Development (JTRS Step 2C Contract)
- 1703 JTRS Product Development (JTRS Step 2C Logistics and Engineering Services and Ancillary Equipment)
- 75915 JTRS Product Development (JTRS Cluster 1 Ground Vehicular and Airborne Rotary Wing Design, Development of Prototypes, and waveform development, and technical engineering support)
- 800 JTRS Test and Evaluation (JTRS - JTRS Testbed, Testing and Evaluation Support)
- 2580 JTRS Support Costs (Systems Engineering and Technical Support)
- 7443 JTRS Management Services (JTRS Program Management Office Support)
- 3400 NTDRS Support Costs(NTDRS Testbed/Fixes and Technical Support)

Total 93238

FY 2003 Planned Program

- 4899 JTRS Product Development (JTRS Step 2C Logistics and Engineering Services)
- 36579 JTRS Product Development (JTRS Cluster 1 Vehicular and Airborne Hardware Design and Development of Prototypes and technical engineering support)
- 10028 JTRS Product Development (JTRS Cluster procurement of up to 10 Vehicular and up to 14 Airborne pre-engineering models for Early Operational Assessment testing)
- 1517 JTRS Test and Evaluation (JTRS EPG Testbed and Test Planning/Test Support/Electronic and Information Warfare Test and Evaluation/Labor)
- 5540 JTRS Management Services (JTRS Program Management Office Support)
- 2744 JTRS Support Costs (Systems Engineering & Technical Support)
- 1557 NTDRS Support Costs (NTDRS Testbed and Technical Support)
- 687 JTRS Product Development (System Engineering and Integration (SE&I))

Total 63551

B. Other Program Funding Summary	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Compl	Total Cost
OPA, Army, ADDS, BU1400/EPLRS/JTRS*	80831	63839	74835	95370	117812	119562	120017	Continuing	Continuing
RDTE, JTRS, 0604280A/D162***	59814	74814	65804	50909	40053	63489	47106	Continuing	Continuing
RDTE, JTRS, 0603713A/D370 - Army Data Distribution System**	17	0	0	0	0	0	0	0	3741
RDTE, Air Force PE 27423F Advanced Comm (Cluster 1 Funding) ****	0	4100	14500	0	0	0	0	Continuing	Continuing
PROC, Air Force PE 27423F Advanced Comm (Cluster 1 Funding)	0	0	0	0	6738	18933	19366	Continuing	Continuing
RDTE, PEO AVN, JTRS A-Kit PE 64201/C97***	40527	50838	40308	59535	31645	30893	6327	Continuing	Continuing
APA, PEO AVN, JTRS A-Kit Procurement AA0702***	0	0	0	1941	2155	21604	131329	Continuing	Continuing
Marine Corps -RDTE PE 0206313M/Project C225 Radio Systems, BA7***	0	0	593	1393	1787	991	990	Continuing	Continuing
Marine Corps- Proc- (PMC) BA4, 463300***	0	0	0	0	4518	17295	17262	Continuing	Continuing

Note: *The BU1400 SSN is a shared line between EPLRS and JTRS. It procures EPLRS through FY04 and supports EPLRS fielding through FY07. This same SSN is the core procurement funding line for JTRS beginning in FY05. **RDTE 0603713A/D370 FY2001 funding of $17K supports NTDRS efforts. ***Joint Program Office, Marine Corps, and PEO AVN funding for Cluster 1 are a portion of the entire funding lines reflected above.****Air Force funding reflects FY02/03 Cluster 1 budgeted funding only.

C. Acquisition Strategy: Near Term Digital Radio System(NTDRS): The NTDRS program maximizes the use of Non-Developmental Item (NDI) and Commercial Off-the-Shelf (COTS) hardware and software. An RDTE contract was awarded competitively in January 1996. In FY2001, the NTDRS participated in various test exercises such as the FBCB2 Field Test 3 at Fort Huachuca, and the 4th Infantry Divisions' Division Capstone Exercise (DCX-1) at Fort Irwin. The 4th ID and 1 IBCT were issued NTDRS to provide the Tactical Operation Center (TOC) to TOC data link for the Brigade to Battalion level. In FY02, the 2nd IBCT and the 1st Calvary Division will be issued NTDRS to support their TOC to TOC requirements. FY02 tests and exercises will include FBCB2 Field Tests 4 and 5, FBCB2 IOT&E, three NTC rotations, and participation in the Millennium Challenge 02 exercise.

In FY01 and out NTDRS will provide the TOC to TOC function in the first and second Brigade Combat Teams, FBCB2 exercises, and future NTC rotations. The TOC to TOC radio requirements are being met with NTDR and JTRS Step 2C assets for the 1st Digitized Corps and the 1st through 4th Initial Brigade Combat Teams.
Joint Tactical Radio System (JTRS): Beginning in FY2001, project D615 also supports JTRS Army hardware developments for JTRS Step 2C and Cluster 1 activities. The JTRS Cluster 1 supports an evolutionary acquisition strategy. The Cluster 1 JTRS set will be a software-reprogrammable, multi-band/multi-mode capable, networkable system that provides simultaneous voice, data, and video communications to increase interoperability, flexibility, and adaptability in support of varied mission requirements. The JTRS Joint Program Office (JPO) is responsible for common core activities including developing, maintaining, and evolving the JTRS open standards architecture, providing re-coded versions of legacy waveforms to operate on JTRS architecture compliant hardware, and provides a certifying infrastructure for hardware/software compliance. Following the architecture's validation and market surveys of industry's capabilities, Defense Acquisition Executive program reviews were held in 1QFY01 and 4QFY01. Following the 1QFY01 review, the Army, which retained acquisition and weapon system integration responsibility, began planning a scaleable JTRS systems acquisition commensurate with Service migration plans. At the August FY01 review, the JPO Software Communications Architecture (SCA) and Waveform Program and the Cluster 1 JTRS Army program were each designated as separate ACAT 1D programs. In addition, the JTRS Capstone Acquisition and Annex for the JTRS Cluster 1 Acquisition Strategy were approved by the Defense Acquisition Executive. In FY02, the Cluster 1 development will be awarded to develop multi-channel ground and airborne configurations. A Milestone B Decision is planned for 3QFY02. The FY03-07 budget supports continued development and support of the Step 2C radios, development of Cluster 1 Ground and Airborne sets, design of A-kits (installation kits) for platforms required for testing, Early Operational Assessment and Development Test (DT)/Operational Test (OT) and Multi-Service Operational Test and Evaluation (MOT&E) testing for Cluster 1.

D. Schedule Profile	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
NTDRS CTSF ABCS Software Updates	1-4Q	1-4Q					
NTDRS Participation in Millennium Challenge 02		4Q					
NTDR JCF AWE Participation	1Q						
NTDRS EPG NTDRS Field Test III	1-2Q						
NTDRS Deployment to Brigade Combat Team 1	2Q						
NTDRS Deployment to Brigade Combat Team 2		3-4Q					
NTDRS Participation NTC/01-06/02-05/02-08/03-03/03-05	2-3Q	2-4Q	1-3Q				
NTDRS Support Division Combat Exercise (DCX 1 and 2)	2-3Q						
NTDRS Participation FBCB2 Field Test III & Limited User Test 3	1-2Q						
NTDRS Participation FBCB2 Field Test IV and V	4Q	1-4Q					
NTDRS Complete NTDRS FDD Deployment	2Q						
NTDRS Participation in FBCB2 IOT&E		1Q					

D. Schedule Profile (continued)	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
JTRS-Army Architecture Provided by JTRS-JPO - 2.0 SCA Architecture	1Q						
JTRS-JPO DAE Review - OCT	1Q						
JTRS-JPO DAE Review - AUG	4Q						
JTRS-Army Milestone B		3Q					
JTRS-Army Cluster 1 Ground & Airborne EMD Award		3Q					
JTRS-Army Step 2C EPG Testing/Validation		3Q					
JTRS-Army Step 2C EPG Operational Assessment		4Q					
JTRS-Early Operational Assessment				3-4Q			
JTRS Cluster 1 Milestone C					4Q		
JTRS-Army Cluster 1 LRIP Long Lead Option Award					1Q		
JTRS-Army Cluster 1 Ground & Airborne DT/OT					2-4Q		
JTRS-Army Cluster 1 Ground & Airborne MOT&E						3Q	

ARMY RDT&E COST ANALYSIS(R-3)

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BUDGET ACTIVITY
5 - Engineering and manufacturing development

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
615

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . NTDRS CPIF/T&M/FFP Efforts*	C/T&M/CPIF/FFP	ITT, Fort. Wayne, IN	3463	5152	2-4Q	0		0		0	8615	8968
b . NTDRS (Ancillary Equip & Misc)	Misc	Misc	0	402	2-4Q	0		0		0	402	325
c . Brigade Combat Team Support	T&M	ITT, Fort Wayne, IN	1100	0		0		0		0	1100	1100
d . NTDRS Ancillary Equip (Network Management Terminal Upgrade)	MIPR	PM, CHS, Fort Monmouth, NJ	28	0		0		0		0	28	28
e . JTRS Army Step 2C Hardware Development and Cost of Prototypes	C/OTA	BAE Systems, Wayne, NJ	0	4141	1Q	1397	1Q	0		Continue	Continue	0
f . JTRS Step 2C Anc Equip/Log & Engrg	C/OTA/T&M	BAE Systems, Wayne, NJ	0	461	2-4Q	1703	1-4Q	4899	1-3Q	Continue	Continue	0
g . JTRS Cluster 1 Development	CPAF	TBD	0	0		74608	3-4Q	45193	1-2Q	Continue	Continue	0
h . NMT Step 2C	FFP	PM, CHS, Fort Monmouth, NJ	0	421	2Q	0		0		0	421	0

ARMY RDT&E COST ANALYSIS(R-3)

February 2002

BUDGET ACTIVITY
5 - Engineering and manufacturing development

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
615

I. Product Development (continued)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
i . Tactical Internet Integration	T&M	ITT, Ft. Wayne,IN	0	1792	3-4Q	0		0		0	1792	0
j . JTRS Development - System Engrg Spt	various	MISC	0	1054	2-4Q	1307	1-4Q	1414	1-4Q	Continue	Continue	0
k . JTRS 2C DTD and Antenna Adapters	FFP	MISC	0	195	2-4Q	0		0		0	195	0
l . ABCS System Engineering and Integration Efforts	Various	MISC	137	1090	2-4Q	0		687	1-4Q	Continue	Continue	0
Subtotal:			4728	14708		79015		52193		Continue	Continue	10421

Remarks: *NTDRS efforts prior to FY 2000 were funded in PE 0603713A, Proj D370

ARMY RDT&E COST ANALYSIS(R-3)

February 2002

BUDGET ACTIVITY
5 - Engineering and manufacturing development

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
615

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . *NTDRS Test Support - RDEC	MIPR	RDEC, Fort Monmouth, NJ	143	0		0		0		0	143	0
b . *NTDRS Training Support -EPS	PWD	EPS, Fayetteville, NC	61	0		0		0		0	61	61
c . *NTDRS Technical Support -Mykotronx	PWD	Mykotronx, Torrance, CA	15	0		0		0		0	15	15
d . *NTDRS Technical Support -C3I Systems	PWD	C3I Systems, Tinton Falls, NJ	168	0		0		0		0	168	168
e . *NTDRS Logistics & Technical /Exercise Support	PWD	ITT, Fort Wayne, IN	0	2226	1-4Q	3400	1-3Q	1557	1-2Q	Continue	Continue	0
f . JTRS Antenna Studies	PWD	ARINC, Annapolis, MD	0	504	4Q	0		0		0	504	0
g . JTRS Technical Support	Various	Miscellaneous	0	1983	1-2Q	2580	1-2Q	2744	1-2Q	Continue	Continue	0
Subtotal:			387	4713		5980		4301		Continue	Continue	244

Remarks: *NTDRS efforts prior to FY 2000 were funded in PE 0603713A, Proj D370

ARMY RDT&E COST ANALYSIS(R-3)

February 2002

BUDGET ACTIVITY
5 - Engineering and manufacturing development

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
615

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . *NTDRS Field Testing	MIPR	EPG, Fort Huachuca, AZ	66	29	2Q	0		0		0	95	0
b . JTRS Step 2C EPG Qual Testing/Customer Testing	MIPR	EPG, Fort Huachuca, AZ	0	1950	2-3Q	0		0		0	1950	0
c . JTRS EPG Testbed and Test Planning	MIPR	EPG, Fort Huachuca, AZ	0	1084	1Q	400	2Q	1101	1Q	Continue	Continue	0
d . JTRS Modeling & Simulation	MIPR	USAIC	0	350	4Q	0		0		0	350	0
e . JTRS Test Inhouse Spt/Lab	MIPR	Various	0	344	3-4Q	400	1-4Q	416	1-4Q	Continue	Continue	0
Subtotal:			66	3757		800		1517		Continue	Continue	0

Remarks: *NTDRS efforts prior to FY 2000 were funded in PE 0603713A, Proj D370

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BUDGET ACTIVITY
5 - Engineering and manufacturing development

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
615

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . *NTDRS Program Support	MIPR	Fort Monmouth, NJ	655	0		0		0		0	655	0
b . JTRS Business/Engineering Management	MIPR	Various	0	1682	1-4Q	1867	1-2Q	3061	1-2Q	Continue	Continue	0
c . Tactical Radio Comm Sys Project Management Office Support	MIPR	Various	0	1396	1-3Q	3723	1-3Q	1543	1-3Q	Continue	Continue	0
d . JTRS MITRE Support	PWD	MITRE Corp., Mclean, VA	0	232	2Q	857	1-2Q	936	1Q	Continue	Continue	0
e . JTRS Analysis of Alternatives/Milestone & Source Selection Start-up Activities	Misc	Various	0	959	4Q	996	1-4Q	0		Continue	Continue	0
Subtotal:			655	4269		7443		5540		Continue	Continue	0

Remarks: *NTDRS efforts prior to FY 2000 were funded in PE 0603713A, Proj D370

Project Total Cost:			5836	27447		93238		63551		Continue	Continue	10665

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2002

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - Engineering and manufacturing development	**0604805A - Command, Control, Communications Systems - Eng Dev**	**629**

COST (In Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
629	TACTICAL COMMUNICATIONS SYSTEM - ENGINEERING DEVEL	13802	8776	1993	1370	1387	1486	1481	0	32083

A. Mission Description and Budget Item Justification: This element primarily funds the Protocol Investigation for Next Generation (PING) program. The PING program's focus is on the evaluation of emerging communication protocols such as Internet Protocol version 6 in a controlled lab/testing environment for future Army networks, Objective Force and beyond the First Digitized Division (FDD). This program will determine the benefits of Army co-existence/migration from Internet Protocol version 4 (IPv4) to IPv6 and analyze the consequences of limited IPv4 addresses and the need for interoperability with future systems. This approach also provides a method to address and discover interoperability issues early in the development cycle. By providing continuous feedback to the Army System Engineering Office (ASEO), it is anticipated that technologies can be selected for future versions of the Joint Technical Architecture - Army (JTA-A) and in support of the Army Enterprise Architecture (AEA) faster and with more confidence. Execution of this mission is a critical step in the evolution and maturation of communications networks beyond FDD, while at the same time enhancing the Army's tactical communications and demonstrating interoperability within the Army and Joint Community.

FY 2001 Accomplishments:

- 1732 - Evaluated interoperability and evaluate advanced technologies (i.e., reliable multicast, Internet Protocol version 6 (IPv6), mobile technologies, quality of service (QoS), Voice over IP (VOIP), secure protocols, etc) for the Army tactical communications. Provide recommendations/assessments to the Army System Engineering Office (ASEO) for incorporation into the JTA-A and Weapons System Technical Architecture working group. Participate in the Space and Naval Warfare (SPAWAR) ACTD.

  - Evaluated weapons system communications issues under the Weapons System Technical Architecture Working Group (WSTAWG) communications Integrated Process Team (IPT) and analyze and recommend communications network interoperability roadmap.

  - Participated in SPAWARS led ACTD on IPv6. Perform interoperability and Joint experiments.

  - Evaluated architectural capabilities, feasibility, interoperability transmission capabilities of emerging protocols for higher data rate communications on an airborne platform. Provide recommendations to ASEO for inclusion into the JTA-A.

- 12070 - Investigated, identified and adapted emerging commercial wireless technologies that can be rapidly integrated into the DoD communications architecture.

FY 2001 Accomplishments: (Continued)

- Adapted network access security technologies and security architectures, based on existing commercial implementations of biometrics coupled with user profiles, to provide users with secure and immediate access to required services and information.

- Established a set of seminars to educate DoD personnel in emerging innovative DoD-driven applications of information technology that can realize the vision of network centric warfare.

- Investigated the feasibility of using FCC adopted Advanced Television Systems Committee (ATSC) commercial broadcast technologies (Digital TV and Orthogonal Frequency Multiplexing (OFDM)) to provide mobile military users with greatly improved high data rate wireless communications.

- Investigated and analyzed techniques to afford information assurance and networking integrity for Tactical Networks.

- Demonstrate an ad-hoc networked system with commercially based communications technologies for autonomously communicating critical battlefield sensor information to the warfighter to enhance force protection capabilities.

- Continuing to investigate and provide proof of concept demo for a low cost. ruggedized hands free radio communications between soldiers and command in warfare and high noise environments.

- Developing a smart antenna system which increases channel capacity, coverage, and quality of secure communications for multiple users operating in high interference environments.

Total 13802

FY 2002 Planned Program

• 2676

- Upgrade the advanced and distributed Internet Protocol Version 6 (IPv6) and IPv4 laboratory/testbed environment with latest versions of IPv4 services employed in the current digitized force, latest releases of IPv6, and latest data collection equipment.

- Analyze Army digitized forces systems being fielded as part of the First Digitized Division (FDD), review the lessons learned from the Joint Contingency Force (JCF) Advanced Warfighting Experiment (AWE) and next generation systems being developed as part of the Future Combat System (FCS) to identify islands of IPv6/IPv4 co-existence that will exist due to organizational structure or limitations on communications systems.

- Conduct laboratory experiments that demonstrate and characterize IPv6 protocols for: Addressing and the effect on mobility-both micro-mobility and network mobility; Routing and effects on bandwidth usage, Static addressing versus auto-configuration; Interoperability of IPv6 and IPv4, d) IPv6 QoS performance in a tactical environment; and IPSec mechanisms and implementations

FY 2002 Planned Program (Continued)

- Present to ASEO, PEOs, industry participation in CRDAs, and commercial forums the findings from the analysis and laboratory evaluations to facilitate modifications to the IPv6 protocol suite during development

- Participate in the CINC 21 Next Generation Information Operations Advanced Concept Technology Development (ACTD) to compare/evaluate the IPv6 security capabilities of IPv6 network with that of the USPACOM IPv4 network. Conduct experiments for the ACTD security analysis comparison report.

• 6100

- Integrate user empowering access control system using iris scan with fingerprint activated Smart Card.

- Develop and evaluate broadband wide bandgap 50 watt amplifier which addresses requirements of JTRS.

- Demonstrate data rate and security enhancements with a 50 node ad-hoc networked battlefield sensor system.

- Fully integrate and package intra-aural transducer and body electronics system developed under Phase 1. Conduct field tests under high noise environmental conditions.

- Develop transmit Ka band antenna. Integrate and demonstrate with receive antenna developed in Phase 1.

- Delivery of three prototype packages; a lightweight conformal antenna, a lightweight PCS package for UAV evaluation, and a video wireless LAN system for Dragon Warrior.

- Refine workshops toward customer specific concerns regarding the impact of technology on emerging architecture.

- Evaluate new WLAN standards. Assess 802.11a 54 Mbps and HiperLAN.

Total 8776

FY 2003 Planned Program

• 1993

- Replicate tactical to enterprise systems architectures and increase connectivity with other laboratories and utilize the latest versions of IPv4 services employed in the current digitized force and latest releases of IPv6.

- Investigate lessons learned from the Joint Contingency Force (JCF) Advanced Warfighting Experiment (AWE) and next generation systems being developed as part of FCS as a baseline for IPv6 evaluations and transition mechanisms. Examine the current FDD organizational structure and perform laboratory evaluations to mitigate migrating to IPv6 environment

- Support implementation of IPv4/IPv6 transition in the Army Military digitized forces systems.

FY 2003 Planned Program (Continued)

- Conduct experiments in actual unique military conditions and generate test reports that demonstrate and characterize IPv6 enhancements and effects on Army network digitized communications as outlined as part of the system analysis. Present to ASEO, Communications Integrated Process Team (IPT) and commercial forums the findings from the analysis and laboratory evaluations to facilitate modifications to the IPv6 protocol suite during development

- Support implementation of IPv6 addressing schemes and evaluate address space management Mechanisms

Total 1993

B. Other Program Funding Summary: Not applicable for this item.

C. Acquisition Strategy: The objectives of this program are to: 1.) utilize a unique analysis/laboratory capability to evaluate emerging communications/networking technologies in a realistic tactical environment with focus on the Army Enterprise Architecture technical architecture (TA) 2.) make technical recommendations to ASEO in support of the JTA-A and WSTAWG 3.) help mitigate the risk normally associated with fie lding new protocols and help to insure that interoperable and seamless bandwidth-on-demand communications is provided.

D. Schedule Profile	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
System Integration	3Q	3Q					
Address Architecture Issues	2-4Q	2-4Q					
Laboratory Testing	1-4Q	1-4Q	1-4Q				
Systems Integration (Airborne Communications)	2-4Q						
Video Demonstration	4Q						

ARMY RDT&E COST ANALYSIS(R-3)

February 2002

BUDGET ACTIVITY
5 - Engineering and manufacturing development

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
629

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Systems Engineering	In House	CECOM RDEC, Fort Monmouth, NJ	1112	1824	1-4Q	1976	1-4Q	1293	1-4Q	Continue	6205	0
b . Contract Services			0	0		0		0		0	0	0
c . 1)	C & FP	MITRE	406	410	1-4Q	410	1-4Q	410	1-4Q	Continue	Continue	0
d . 2)	C-T&M PSLA	SRI, Eatontown, NJ	270	280	1-4Q	290	1-4Q	290	1-4Q	Continue	Continue	0
e . ACIN		Drexel Univ, Philadelphia, Pa	0	11288	2Q	6100	2Q	0		0	17388	0
Subtotal:			1788	13802		8776		1993		Continue	Continue	0

ARMY RDT&E COST ANALYSIS(R-3)

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BUDGET ACTIVITY
5 - Engineering and manufacturing development

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

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629

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

Remarks: Not Applicable

Project Total Cost:			1788	13802		8776		1993		Continue	Continue	0