

UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)	DATE February 2000
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BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303140A Information Systems Security Program
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<i>COST (In Thousands)</i>	FY1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	14650	15247	8140	8839	9243	9590	10325	Continuing	Continuing
D491 Information Assurance Development	9624	13954	6854	7708	7973	8203	8869	Continuing	Continuing
D501 Army Key Management System (AKMS)	5026	1293	1286	1131	1270	1387	1456	Continuing	Continuing

A. Mission Description and Budget Item Justification: The Communications Security Equipment Program develops Information Systems Security (ISS) equipment and techniques required to combat threat Signal Intelligence capabilities and to insure the integrity of data network. This program will also develop, integrate, and demonstrate C2 Protect Common Tools into C4I systems that consist of hardware, software, and applications that can manage, protect, detect and react to C2 system vulnerabilities, threats, reconfigurations, and reconstitution. The Army's Research Development Test and Evaluation (RDTE) ISS program objective is to implement National Security Agency (NSA) developed security technology in Army information systems. The Communications Security Equipment Technology (COMSEC) insures total signals and data security of all Army information systems, to include any operational enhancement and specialized Army configurations. The Army Key Management System (AKMS) automates key generation and distribution while supporting joint interoperability. It provides communications and network planning with key management. AKMS is a part of the management/support infrastructure for the Warfighter Information Network (WIN) program. Additional modifications to the AKMS baseline shall be required to support the emerging WIN architecture. System security engineering, integration of available Information Security (INFOSEC) products, development (when required), and testing are services provided to ensure that C4I systems are protected against malicious or accidental attacks by our enemies or friends. Modeling, simulation, and risk management tools will be used to develop C2 Protect capabilities that will enable the warfighter to distribute complete and unaltered information while maintaining a dynamic, continuous synchronous operational force. Several joint service/NSA working groups exist in the area of key management to avoid duplication and to assure interoperability between all Services' systems to include standards and testing. For the emerging multilevel network security, the Defense Information Systems Agency (DISA) Multi-Level Security (MLS) working group coordinates the Services different technology efforts.

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BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0303140A Information Systems Security Program

B. Program Change Summary	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Previous President's Budget (<u>FY 2000/2001</u> PB)	11338	9426	8178
Appropriated Value	11433	15426	
Adjustments to Appropriated Value			
a. Congressional General Reductions	-95		
b. SBIR / STTR	-281		
c. Omnibus or Other Above Threshold Reductions		-59	
d. Below Threshold Reprogramming	+3639		
e. Rescissions	-46	-120	
Adjustments to Budget Years Since <u>FY 2000/2001</u> PB			-38
Current Budget Submit (<u>FY 2001</u> PB)	14650	15247	8140

Change Summary Explanation: Funding - FY1999 funds increased (+3900) in project D501 for Electronic Key Management System (EKMS) Tier 1 – A joint effort with NSA and the Navy.
 FY2000 funds increased (+6000) in Project D491 for initiating deployment of defense healthcare information assurance system.

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BUDGET ACTIVITY 7 - Operational System Development			PE NUMBER AND TITLE 0303140A Information Systems Security Program					PROJECT D491			
COST (In Thousands)			FY1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
D491 Information Assurance Development			9624	13954	6854	7708	7973	8203	8869	Continuing	Continuing
<p>A. <u>Mission Description and Budget Item Justification:</u> Project D491 – Command and Control (C2) Protect Development: Project implements National Security Agency (NSA) developed security technology in Army information systems. Project objectives are to provide systems security mechanisms through encryption, trusted software or standard operating procedures to protect the information and to integrate these mechanisms into specified systems so secure operations are as transparent as possible to the users. This entails performing architecture studies and modeling, development models, system integration and testing, installation kits and certifications and accreditation of Automation Information Systems. Project will also assess, develop, integrate and demonstrate C2 Protect Common tools (hardware and software) that will provide protection for fixed infrastructure post, camp and station networks as well as efforts on tactical networks. Results of this effort are also leveraged into and complement the Tactical C2 Protect ATD in PEs 0602782A and 0603006A.</p> <p>FY 1999 Accomplishments:</p> <ul style="list-style-type: none"> • 700 Completed the development of TACLANE/FASTLANE Internet Security Manager (TISM). • 200 Provided support to NSA TACLANE program. • 408 Completed KY-100 AIRTERM Type Classification and design of installation kits; started Type Classification action on TACLANE; performed Evaluation on latest NSA Information Security (INFOSEC) crypto chips. • 3347 Supported development and evaluation of Common Protect Tools as follows: <ul style="list-style-type: none"> - Investigated and evaluated Commercial-off-the-Shelf (COTS)/Government-Off –the-Shelf (GOTS) of host systems in the areas of purge tools and user identification and authentication. Developed and exercised scripts to stress protect tools during evaluation process to validate true functionality. - Investigated and evaluated COTS/GOTS products for Security Management. - Developed, integrated, tested and evaluated Tactical Internet Intrusion Detection System tool. - Developed first generation graphical interface for security management. • 3969 Executed Demonstration Program for Military Health Care Information Protection. • 1000 Army Electronic Key Management System (EKMS) support. <p>Total 9624</p> <p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 1097 Perform in-house evaluations and integration of INFOSEC Non-Developmental Item (NDI) equipment into both trusted and untrusted computer platforms and secure applications. • 470 In-house support for TACLANE/FASTLANE thru doing development of installation kits and providing engineering support during system fielding. 											
Project D491			Page 3 of 9 Pages				Exhibit R-2A (PE 0303140A)				

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FY 2000 Planned Program: (continued)

- 250 Perform in-house study/evaluation for Secure Gateway (SEGAT) providing seamless, secure connectivity between major Army tactical communications networks and different security levels.
 - 3964 Develop and evaluate C2 Protect Common Tools as follows:
 - Select and adapt COTS/GOTS Security Management tools, and develop for use in First Digitized Division (FDD) and beyond.
 - Investigate and evaluate COTS/GOTS C2 protect tools for tactical and/or sustaining base security requirements to include updates to currently selected tools in the areas of vulnerability assessment, host and network based intrusion detection, and firewall.
 - Stress and evaluate commercial or developmental protect tools being considered for use in Army tactical networks.
 - Conduct code analysis of C2 protect tools for weaknesses, Trojan Horses and vulnerabilities that can render systems and networks vulnerable to attack.
 - 1949 Support for Army Electronics Key Management System (EKMS) Tier One
 - 5873 Support for Defense Health Care Information Assurance Program, continue development of two-phased program for the protection of sensitive data integral to the military healthcare information system.
 - 351 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs
- Total 13954

FY 2001 Planned Program:

- 950 Support development efforts on Secure Gateway program.
 - 1000 Support in-house evaluations of NDI and NSA INFOSEC devices and chips, provide engineering/fielding support to TACLANE and Asynchronous Transfer Mode (ATM) encryption program with development of necessary installation kits.
 - 4904 Support the development and evaluation of C2 Protect Common Tools as follows:
 - Ensure remote monitoring and host agent operation.
 - Extend security management concept for framework that can manage echelons, corps and below.
 - Tie in protect tools at sustaining base.
 - Support sync events to verify robustness of network tools.
- Total 6854

B. Other Program Funding Summary	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Comp	Total Cost
OPA TA0600	34157	57187	54374	45578	25006	19261	19242	cont'd	cont'd

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BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303140A Information Systems Security Program	PROJECT D491
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C. Acquisition Strategy: The object of the C2 Protect Program is to develop, integrate, and validate hardware and software tools that will secure the Tactical Internet (TI) in the FDD. FY 1999 and beyond focuses on completing development and evaluation of C2 Protect tools for the FDD and beyond that will support the procurement of C2 Protect tools that will secure the TI for the lower and upper levels of the Tactical Internet.

D. <u>Schedule Profile</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
AIRTERM (KY-100)							
• OEC Test							
• Type Classification (conditional)	4QTR						
• Installation Kit Development	4QTR						
• Installation Kit Test & Evaluation	4QTR						
• Acquisition of Installation Kits		4QTR					
• OEC Test of Wideband Mode of KY-100		4QTR					
• Type Classification Standard (TC Standard)		4QTR					
• Full fielding of AIRTERM			4QTR				
TISM							
• Prototype Development							
• Laboratory Testing	4QTR						
Secure Gateway							
• Study		3QTR					
• Prototype Development Initiation			3QTR	3QTR	3QTR	3QTR	
C2 Protect							
• Network Access Control	4QTR						
• Intrusion Detection Control	4QTR						
• Host Machine Vulnerabilities	4QTR						
• Risk Management	4QTR						
• Anti-Viruses	4QTR						
• Purge Tools	4QTR						
• Audit Analysis	4QTR						

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ARMY RDT&E COST ANALYSIS (R-3)										DATE February 2000		
BUDGET ACTIVITY 7 - Operational System Development				PE NUMBER AND TITLE 0303140A Information Systems Security Program						PROJECT D491		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. TISM	C-CPFF	GTE, Waltham, MA	5618	640	11/20/98					0	6258	
b. System Engineering	PO	CECOM, RDEC	10149	2406	1/1/99	4676	01/01/00	5254	01/01/01	Cont'd	Cont'd	
c. TACLANE	MIPR	NSA	2452							0	2452	
d. SEGAT	CPFF	TBA				250	01/01/00	980	01/01/01	Cont'd	Cont'd	
e. EKMS	MIPR	Navy, Washington		1000	1/1/99	1949	01/01/00			0	2949	
f. Contracted Services												
(1)	C-CPFF	Booz, Allen & Hamilton, Linthicum MD	1197	598	2/4/99	375	02/04/00	375	02/04/01	2250	4795	
(2)	C-CPFF	SYTEX, Inc Tinton Falls, NJ	937			245	02/10/00	245	02/10/01	1470	2897	
(3)	C-Reimb.	Mitre, McLean, VA		540	12/16/98	513	12/03/99				1053	
(4)	CPAF	Telos, Tinton Falls, NJ		471	3/15/99						471	
g. DHIAP	TBD	Army Medical Command	6307	3969		5946				TBD	TBD	
Subtotal Product Development:			26660	9624		13954		6854		Cont'd	Cont'd	
II. Support Costs: Not applicable												
III. Test and Evaluation: Not applicable												
IV. Management Services: Not applicable												
Project Total Cost:			26660	9624		13954		6854		Cont'd	Cont'd	

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								DATE February 2000				
BUDGET ACTIVITY 7 - Operational System Development				PE NUMBER AND TITLE 0303140A Information Systems Security Program				PROJECT D501				
COST (In Thousands)				FY1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
D501 Army Key Management System (AKMS)				5026	1293	1286	1131	1270	1387	1456	Continuing	Continuing
<p>A. <u>Mission Description and Budget Item Justification:</u> Project D501 - Army Key Management System (AKMS): This program provides decentralized and automated key generation, distribution and management while enhancing joint interoperability. It eliminates paper encryption key and provides communications network planning with key management.</p> <p>FY 1999 Accomplishments:</p> <ul style="list-style-type: none"> • 1126 Provided software development upgrades to the AKMS Workstation development environment that allows continued support of emerging and future weapons systems. Funding for development of “modules” for specific weapon systems was provided by the respective weapon system. • 3900 Supported Electronic Key Management System (EKMS) Tier One. <p>Total 5026</p> <p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 1258 Continue software development upgrades to the AKMS Workstation development environment that allows continued support of emerging and future weapons systems. Funding for development of “modules” for specific weapon systems is provided by the respective weapon system. • 35 Small Business Innovation Research (33) /Small Business Technology Transfer Program (2) <p>Total 1293</p> <p>FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • 1286 Develop next set of software tools for the AKMS Workstation development environment. Funding for development of “modules” for specific weapon systems is provided by the respective weapon system. <p>Total 1286</p>												
B. <u>Other Program Funding Summary</u>				<u>FY 1999</u>	<u>FY 2000</u>	<u>FY2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Comp</u>	<u>Total Cost</u>
OPA BA1201				10194	10988	11051	12154	10126	3756	3970	cont'd	cont'd
<p>C. <u>Acquisition Strategy:</u> AKMS Initial Operational Test and Evaluation (IOTE) occurred in August – September FY97. Direction was provided to separate the Local COMSEC Management Software (LCMS) from the Automated Communication Engineering System (ACES). Milestone III was conducted in June 1999 and the acquisition strategy and type classification for LCMS were approved. The IOC for LCMS is scheduled for 3Q00 and the IOC for ACES is scheduled for 2Q01.</p>												

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D. Schedule Profile	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
PEO IPR							
Critical Design Review	2Q						
Milestone III (LCMS)	3Q						
ACES Software Functional Testing		1Q					
Materiel Release (LCMS)		2Q					
LCMS IOC		2Q					
FOT&E		3Q					
Materiel Release (ACES)			4Q				
ACES IOC			1Q				
AKMS Materiel Release for new Army Acquisition Programs				1-4Q	1-4Q	1-4Q	1-4Q

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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Software development	C/T&M	GTC, Tampa, FL	19013	1126	1/99	1293	2/00			Cont'd	Cont'd	Cont
b. Software development	C/T&M	TBD						1286	1/01	Cont'd	Cont'd	Cont
c. EKMS	MIPR	Navy, Washington		3900	1/99						3900	
Subtotal Product Development:			19013	5026		1293		1286		Cont'd	Cont'd	Cont

II. Support Costs: Not applicable

III. Test and Evaluation: Not applicable

IV. Management Services: Not applicable

Project Total Cost:			19013	5026		1293		1286		Cont'd	Cont'd	Cont
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