

<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)</b>									DATE <b>June 2001</b>		
BUDGET ACTIVITY <b>07 - Operational System Development</b>					PE NUMBER AND TITLE <b>0303140F Information Systems Security Program</b>						
COST (\$ in Thousands)	FY 2000 Actual	FY 2001 Estimate	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	20,274	29,232	7,936	8,010	8,152	8,300	8,467	8,647	Continuing	TBD	
4579 Information Warfare	9,536	5,640	1,892	1,881	1,920	1,959	2,028	2,071	Continuing	TBD	
4585 Cryptologic 2020	1,228	0	0	0	0	0	0	0	0	TBD	
4871 Information Operations Technology	0	982	996	996	997	997	1,017	1,038	Continuing	TBD	
7820 Computer Security RDT&E: Firestarter	9,510	22,610	5,048	5,133	5,235	5,344	5,422	5,538	Continuing	TBD	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0	

This administrations has not addressed FY 2003-2007 requirements. All FY 2003-2007 budget estimates included in this book are notional only and subject to change.

BPAC 674585, Cryptologic 2020, will be funded under PE 33401F, Comm Sec, BPAC 674861, Cryptologic 2020, beginning in FY01.

(U) **A. Mission Description**

This program provides the capability to protect and defend USAF Command, Control, Communications, Computers, and Intelligence, Surveillance, and Reconnaissance (C4ISR) and Weapon Systems from Information Warfare (IW) attacks; and to recover from those attacks. Primarily, the project does research and development of information protection tools and transitions them to operational systems. The program element consists of several complimentary BPACs. The Information Warfare BPAC provides the acquisition community and operational warfighters the ability to manage their own risks relative to mission, task, threat, and vulnerability information; and to mitigate IW risks based on rank-ordered countermeasure recommendations. The Cryptologic 2020 project comprises R&D for the Air Force Electronic Key Management System (AFEKMS). The AFEKMS, in concert with National Security Agency's (NSA's) EKMS, provides a secure and flexible capability for the electronic generation, distribution, and management of key material, voice callwords, and Communications Security (COMSEC) publications for the F-22. AFEKMS replaces the existing physical distribution and management system providing COMSEC KEYS for USAF Information Protection. The Air Force unique AFEKMS software is required because the production software developed by NSA cannot provide the capabilities to distribute the system keys in the format needed by the F-22 Mission Support System. The Info Ops (IO) Technology BPAC concentrates on transitioning state-of-the-art IO capabilities to the warfighter through demonstrations of those technologies and rapid prototyping of warfighter tools. It also funds the IW Mission Area Team (MAT), the IW Technology Planning IPT (IW

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BUDGET ACTIVITY

**07 - Operational System Development**

PE NUMBER AND TITLE

**0303140F Information Systems Security Program**(U) **A. Mission Description Continued**

TPIPT), and the Panther Den program office. The computer security project directs the R&D of information protection technology and tools to defend C4ISR systems, with emphasis on computer and network systems security, damage assessment and recovery, and multi-level systems security. It provides access control, integrity, assured services and meets warfighter's requirements. This includes the Public Key Infrastructure (PKI) integration work which will ensure user identification, non-repudiation, digital signatures and encryption for electronic business and network transactions for all AF network users.

(U) **B. Budget Activity Justification**

This program is in budget activity 7, Operational System Development, because it addresses the development and transition of information security, protection and defensive capabilities and technologies.

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Total Cost</u>
(U) Previous President's Budget (FY 2001 PBR)	7,992	7,212	6,944	TBD
(U) Appropriated Value	19,492	29,503		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions				
b. Small Business Innovative Research	-484			
c. Omnibus or Other Above Threshold Reprogram	-5			
d. Below Threshold Reprogram	1,347			
e. Rescissions	-76	-271		
(U) Adjustments to Budget Years Since FY 2001 PBR			992	
(U) Current Budget Submit/FY 2002 PBR	20,274	29,232	7,936	TBD
(U) <b><u>Significant Program Changes:</u></b>				

Funding: Congressional \$3.8M add in FY01 for management of the Cyber Lighthouse Security Technology Program (BPAC 4579); \$10M add for continued development of the Coordinated Distributed Attack Detection System (CDADS) (BPAC 7820); \$5.5M add for PKI; and \$2.0M add for exploration/modification of COTS products for Government PKI purposes (BPAC 7820).

FY2000 program total does not reflect an additional \$-2,546 K BTR.

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PROJECT

4579

COST (\$ in Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4579 Information Warfare	9,536	5,640	1,892	1,881	1,920	1,959	2,028	2,071	Continuing	TBD

This administration has not addressed FY 2003-2007 requirements. All FY 2003-2007 budget estimates included in this book are notional only and subject to change.

(U) **A. Mission Description**

Builds information protection into all AF Command and Control (C2), Intelligence, Surveillance, and Reconnaissance (ISR), and weapons systems. The project provides the acquisition community and operational warfighters the ability to manage the IW risks to their missions and operational tasks based on system threat and vulnerability information. Provides decision makers with countermeasure recommendations, rank-ordered based on operational utility and relative cost. Looking across all assessments conducted on AF systems, the project also provides the USAF a unique system-of-systems perspective for managing shared IW risks.

Information Warfare Vulnerability Assessment and Risk Management (IW VA/RM): Development and sustainment of a new capability to manage both individual and shared Information Warfare (IW) risks across all AF C2 and weapon systems. This will enable AF acquisition programs to meet the information assurance requirements of AFD 10-20, Para 12. The IW VA/RM program enhances a commercially-available risk management tool so that it (1) provides risk management solutions based on mission impact and user cost; and (2) seamlessly combines Government Threat, Vulnerability and Countermeasure (TVC) data with commercial TVC data at the point of use. The IW VA/RM program also initiates the production of the Government TVC data; and the process of setting up a management infrastructure to coordinate all future TVC data production and distribution, similar to that established under AFI 10-703, Electronic Warfare Integrated Reprogramming (EWIR). Together, the tool with the data and supporting infrastructure will enable all AF System Program Offices (SPOs) to evaluate their system's IW risks and propose mission-based mitigation strategies to their users as part of a coordinated, coherent effort. To provide the overview needed to manage the shared risk across all AF systems, the IW VA/RM program establishes the means to aggregate individual SPO risk assessment results and report them based on higher-echelon mission impact. These reports will provide vital information on trends, deficiencies, and rationale for the AF Modernization Planning Process.

IW Technical Planning Integrated Product Team (IW TPIPT): Supports modernization planning for Counterinformation (CI) Mission Area and Technology Planning Processes (i.e. MAP and TPIPT). Continuously identifies and evaluates commercial and Government inventory of available products that can be used to meet Counterinformation mission deficiencies. Develops and coordinates technology development and acquisition plans for resolving mission area deficiencies. Provides Government laboratories and private industry guidance on new technologies needed for the next 10 to 25 years.

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<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>		DATE <b>June 2001</b>																																								
<b>BUDGET ACTIVITY</b> <b>07 - Operational System Development</b>	<b>PE NUMBER AND TITLE</b> <b>0303140F Information Systems Security Program</b>	<b>PROJECT</b> <b>4579</b>																																								
<p>(U) <b><u>A. Mission Description Continued</u></b></p> <p>(U) <u>FY 2000 (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">(U) \$1,300</td> <td>Continue exportable VA/RM process and toolset development</td> </tr> <tr> <td>(U) \$261</td> <td>Establish infrastructure: Intelligence support, metrics, etc.</td> </tr> <tr> <td>(U) \$315</td> <td>Continue to develop and update libraries and databases, system-of-systems model</td> </tr> <tr> <td>(U) \$313</td> <td>Continue IW TPIPT activities, analyses, database support</td> </tr> <tr> <td>(U) \$326</td> <td>Continue integrated cross program assessments and solution development</td> </tr> <tr> <td>(U) \$7,021</td> <td>Manage Cyber Lighthouse Security Technology Development Program (Congressional add)</td> </tr> <tr> <td>(U) \$9,536</td> <td>Total</td> </tr> </table> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">(U) \$1,024</td> <td>Continue exportable VA/RM process and toolset development</td> </tr> <tr> <td>(U) \$80</td> <td>Establish and support existing infrastructure: Intelligence support, metrics, etc.</td> </tr> <tr> <td>(U) \$80</td> <td>Continue to develop and update libraries and databases, system-of-systems model</td> </tr> <tr> <td>(U) \$186</td> <td>Continue IW TPIPT activities, analyses, database support</td> </tr> <tr> <td>(U) \$472</td> <td>Continue to integrate cross program assessments and solution development</td> </tr> <tr> <td>(U) \$3,798</td> <td>Manage Cyber Lighthouse Security Technology Development Program (Congressional Add)</td> </tr> <tr> <td>(U) \$5,640</td> <td>Total</td> </tr> </table> <p>The following net transactions are not reflected in the FY01 program total: BTR=-122 K, ATR=0 K, and SBIR=-251 K. These transactions are not reflected in other sections of the R-docs where an FY01 total is shown.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">(U) \$1,035</td> <td>Continue exportable VA/RM process and toolset development</td> </tr> <tr> <td>(U) \$89</td> <td>Establish and support existing infrastructure: Intelligence support, metrics, etc.</td> </tr> <tr> <td>(U) \$90</td> <td>Continue to develop and update libraries and databases, system-of-systems model</td> </tr> <tr> <td>(U) \$196</td> <td>Continue IW TPIPT activities, analyses, database support</td> </tr> <tr> <td>(U) \$482</td> <td>Continue to integrate cross program assessments and solution development</td> </tr> <tr> <td>(U) \$1,892</td> <td>Total</td> </tr> </table> <p>(U) <b><u>B. Project Change Summary</u></b> N/A</p>			(U) \$1,300	Continue exportable VA/RM process and toolset development	(U) \$261	Establish infrastructure: Intelligence support, metrics, etc.	(U) \$315	Continue to develop and update libraries and databases, system-of-systems model	(U) \$313	Continue IW TPIPT activities, analyses, database support	(U) \$326	Continue integrated cross program assessments and solution development	(U) \$7,021	Manage Cyber Lighthouse Security Technology Development Program (Congressional add)	(U) \$9,536	Total	(U) \$1,024	Continue exportable VA/RM process and toolset development	(U) \$80	Establish and support existing infrastructure: Intelligence support, metrics, etc.	(U) \$80	Continue to develop and update libraries and databases, system-of-systems model	(U) \$186	Continue IW TPIPT activities, analyses, database support	(U) \$472	Continue to integrate cross program assessments and solution development	(U) \$3,798	Manage Cyber Lighthouse Security Technology Development Program (Congressional Add)	(U) \$5,640	Total	(U) \$1,035	Continue exportable VA/RM process and toolset development	(U) \$89	Establish and support existing infrastructure: Intelligence support, metrics, etc.	(U) \$90	Continue to develop and update libraries and databases, system-of-systems model	(U) \$196	Continue IW TPIPT activities, analyses, database support	(U) \$482	Continue to integrate cross program assessments and solution development	(U) \$1,892	Total
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<div style="display: flex; justify-content: space-between;"> <span>Project 4579</span> <span>Page 4 of 23 Pages</span> <span>Exhibit R-2A (PE 0303140F)</span> </div>																																										

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(U) **C. Other Program Funding Summary (\$ in Thousands)**

	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E										
(U) Other APPN										
none										

(U) **D. Acquisition Strategy**

All major contracts within this Program Element are awarded after full and open competition.

(U) **E. Schedule Profile**

		<u>FY 2000</u>				<u>FY 2001</u>				<u>FY 2002</u>			
		1	2	3	4	1	2	3	4	1	2	3	4
(U) Develop and iterate versions of the Exportable VA/RM process & tool set	*			*		*		X		X		X	
(U) Develop and iterate versions of the infrastructure, libraries, and database	*			*		*	*		X		X		X
(U) Intelligence Support Plan signed	*												
(U) Estab VA/RM infrastructure: Intell support, metrics measurement, etc.	*					*		X		X		X	
(U) Periodic check to ensure integration of cross program assessments	*			*		*		X		X		X	
(U) Sustain IW TPIPT technology database (quarterly reviews)	*	*	*	*	*	*	*	X	X	X	X	X	X
(U) Sustain IW TPIPT technology development plan (annual)			*					X				X	
(U) Continue IW TPIPT activities, analysis, database support	*		*			*		X		X		X	
(U) Continue exportable VA/RM process & tool set devel. Build bus model							*	X	X	X	X	X	X
(U) Develop training, equipping, & manning for the business model							*	X	X	X	X	X	X
(U) Develop government source vulnerability database. Execute bus model									X	X	X	X	X
(U) Integrate cross program assessment & solution development	*	*	*	*	*	*	*	X	X	X	X	X	X
* Denotes Completed Events													
X Denotes Planned Events													

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE		June 2001	
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT	
07 - Operational System Development					0303140F Information Systems Security Program					4579	
(U) A. Project Cost Breakdown (\$ in Thousands)											
					FY 2000		FY 2001		FY 2002		
(U) Software development					4,523		2,730		848		
(U) Systems engineering support					4,307		2,802		920		
(U) Program management support					706		108		124		
(U) Total					9,536		5,640		1,892		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
Contractor or Government		Contract Method/Type		Award or Obligation		Performing Activity		Project Office		Total	
Performing Activity		or Funding Vehicle		Date		EAC		EAC		Program	
Product Development Organizations											
Trident Data Systems		FFP		Aug 98		0		1,108		811	
MITRE		FFRDC		On-going		0		2,342		2,491	
Lincoln Labs		FFRDC		On-going		0		2,344		491	
Carnegie-Mellon Software Engineering Institute (SEI)		FFRDC		On-going		0		2,344		791	
Support and Management Organizations											
MITRE		FFRDC		On-going		0		750		758	
ITSP (various)		ID/IQ		On-going		0		393		227	
Test and Evaluation Organizations											
Test & Evaluation						0		255		71	
						Total Prior		Budget		Budget	
						to FY 2000		FY 2000		FY 2001	
								FY 2002		Budget to	
										Complete	
										Total	
Subtotals											
Subtotal Product Development						0		8,138		4,584	
Subtotal Support and Management						0		1,143		985	
Subtotal Test and Evaluation						0		255		71	
Total Project						0		9,536		5,640	
								1,892		TBD	
										TBD	
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## RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

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BUDGET ACTIVITY

**07 - Operational System Development**

PE NUMBER AND TITLE

**0303140F Information Systems Security Program**

PROJECT

**4585**

COST (\$ in Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4585 Cryptologic 2020	1,228	0	0	0	0	0	0	0	Continuing	TBD

This administration has not addressed FY 2003-2007 requirements. All FY 2003-2007 budget estimates included in this book are notional only and subject to change.

(U) **A. Mission Description**

NOTE: FY99 through FY00 funds are in PE 33140. Beginning in FY01, this effort will be funded in PE 33401.

The Cryptologic project consists of Air Force Electronic Key Management Systems (AFEKMS). AFEKMS, in concert with NSA's EKMS, provides a secure and flexible capability for the electronic generation, distribution, accounting, and management of key material, voice callwords, and communications security (COMSEC) publications for all AF weapon systems. AFEKMS replaces the existing physical distribution and management system providing COMSEC keying material for USAF Information Protection. Information Protection emphasizes access control, multi-level secure databases, trusted computing and information integrity. AFEKMS is a three tier system structure in a hierarchical arrangement. This tiered structure provides 'wholesale' to 'retail' to 'consumer' capability to distribute, manage and account for COMSEC keying material. Tier 1 installations comprise the 'wholesale' capability. Tier 2 installations comprise the distribution network and tier 3 comprises the 'retail locations' where keying material leaves the AFEKMS and enters the End Item COMSEC Equipment (EICE) - the consumer.

Acquisition includes Commercial Off The Shelf (COTS) computers and software, contractor developed application software, Government Furnished Equipment (GFE) and software such as the NSA's Local COMSEC Management Software (LCMS). Also, USAF developed application software (UAS) is necessary for unique systems such as the F-22 and unique key fill requirements of EICE for other airborne platforms.

(U) **FY 2000 (\$ in Thousands)**

(U) \$98 Transition LCMS application software development/sustainment (F-22) to Air Force  
 (U) \$1,130 Complete LMD/DMD software development and system integration  
 (U) \$1,228 Total

(U) **FY 2001 (\$ in Thousands)**

(U) \$0 No Activity  
 (U) \$0 Total

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PROJECT

**4585**(U) **A. Mission Description Continued**(U) **FY 2002 (\$ in Thousands)**

(U) \$0 No Activity

(U) \$0 Total

(U) **B. Project Change Summary**

N/A

(U) **C. Other Program Funding Summary (\$ in Thousands)**

	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E										
(U) Other APPN										
(U) APPN 3600/PE 33401F/ PE Title Comm Security/ BPAC 674861/ Cryptologic 2020	0	4,823	4,107	4,932	4,837	3,883	3,945	4,026	Continuing	TBD
(U) APPN 3600/PE 64239F/PE Title F-22/BPAC 654069/BPAC Title Adv. Tactical Fighter									Continuing	TBD

NOTE: BPAC 674585, Cryptologic 2020, will be funded under PE 33401, Comm Sec, BPAC 674861, Cryptologic 2020, beginning in FY01.

(U) **D. Acquisition Strategy**

All major contracts within this Program Element are awarded after full and open competition.

(U) **E. Schedule Profile**

	<u>FY 2000</u>			<u>FY 2001</u>			<u>FY 2002</u>					
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Compete F-22 UAS Development & Transition							X					
(U) Complete DMD/DTD 2000 hardware/software develop & system integration					X							

\* Denotes Completed Events

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE June 2001			
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development					0303140F Information Systems Security Program				4585		
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>											
					<u>FY 2000</u>		<u>FY 2001</u>		<u>FY 2002</u>		
(U) Hardware Development							0				
(U) Software Development					1,228						
(U) Total					1,228		0				
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>											
(U) <u>Performing Organizations:</u>											
<u>Contractor or</u>		<u>Contract</u>									
<u>Government</u>		<u>Method/Type</u>		<u>Award or</u>		<u>Performing</u>		<u>Project</u>			
<u>Performing</u>		<u>or Funding</u>		<u>Obligation</u>		<u>Activity</u>		<u>Office</u>		<u>Total Prior</u>	
<u>Activity</u>		<u>Vehicle</u>		<u>Date</u>		<u>EAC</u>		<u>EAC</u>		<u>to FY 2000</u>	
<u>Budget</u>		<u>Budget</u>		<u>Budget</u>		<u>Budget</u>		<u>Budget</u>		<u>Budget to</u>	
<u>FY 2000</u>		<u>FY 2001</u>		<u>FY 2002</u>		<u>Complete</u>		<u>Total</u>		<u>Program</u>	
<u>Product Development Organizations</u>											
Motorola Inc.		SS/CPFF		Apr 97		N/A		N/A		51	
(F19628-97-C-0600)										0	
SAIC		BPA		May 98		N/A		N/A		823	
(GS-35F-44616)										1,228	
National Security Agency X35SS/CPFF				Jun 98		N/A		N/A		517	
										0	
<u>Support and Management Organizations</u>											
Trustest S/W Support										159	
MSN Support										90	
<u>Test and Evaluation Organizations</u>											
(U) <u>Government Furnished Property:</u>											
		<u>Contract</u>									
		<u>Method/Type</u>		<u>Award or</u>							
<u>Item</u>		<u>or Funding</u>		<u>Obligation</u>		<u>Delivery</u>				<u>Total Prior</u>	
<u>Description</u>		<u>Vehicle</u>		<u>Date</u>		<u>Date</u>				<u>to FY 2000</u>	
<u>Budget</u>		<u>Budget</u>		<u>Budget</u>		<u>Budget</u>		<u>Budget</u>		<u>Budget to</u>	
<u>FY 2000</u>		<u>FY 2001</u>		<u>FY 2002</u>		<u>Complete</u>		<u>Total</u>		<u>Program</u>	
<u>Product Development Property</u>											
<u>Support and Management Property</u>											
<u>Test and Evaluation Property</u>											
Project 4585					Page 10 of 23 Pages				Exhibit R-3 (PE 0303140F)		

## UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE June 2001	
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
07 - Operational System Development		0303140F Information Systems Security Program			4585	
(U) <u>Government Furnished Property Continued:</u>						
Total Project						
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Total</u>
<u>Subtotals</u>		<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Program</u>
Subtotal Product Development		1,391	1,228	0	TBD	TBD
Subtotal Support and Management		249			TBD	TBD
Subtotal Test and Evaluation						
Total Project		1,640	1,228	0	TBD	TBD

## UNCLASSIFIED

## RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE

June 2001

BUDGET ACTIVITY

07 - Operational System Development

PE NUMBER AND TITLE

0303140F Information Systems Security Program

PROJECT

4871

COST (\$ in Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4871 Information Operations Technology	0	982	996	996	997	997	1,017	1,038	Continuing	TBD

This administrations has not addressed FY 2003-2007 requirements. All FY 2003-2007 budget estimates included in this book are notional only and subject to change.

(U) **A. Mission Description**

(U) This program expedites Information Operations (IO) Technology transition from laboratory, industry, and academia to operational use via studies, rapid prototyping, and demonstrations.

(U) The program office investigates and selects the highest potential IO technologies to meet specific shortfalls and deficiencies documented by major commands (MAJCOMS), unified commands, and IO agencies in Mission Area Plans (MAPs) and Mission Need Statements (MNSs). IO areas considered include: Psychological Operations (PSYOP), Electronic Warfare, Military Deception, Physical Attack, Information Attack, Information Assurance, Operationa Security (OPSEC), Counterintelligence, Counter PSYOP, Electronic Protection, and Counterdeception.

(U) The program office works directly with labs, industry, users and batlabs to set priorities and find synergistic combinations of new technology, doctrine and training. Program efforts will be prioritized and guided by the Information Warfare (IW) Technical Planning Integrated Planning Team (TPIPT) in support of the Air Force IW MAP and the DoD IO Master Plan.

(U) Planned areas of study prototyping, and /or demonstration include techniquet and technologies for defending systems against sophisticated Information Warfare (IW) and computer network attacks, exploiting Integrated Air Defense Systems (IADS), Command and Control systems, and applying advanced IO applications in emerging physics, communications, directed energy, electronic sensors, and intelligence.

(U) This program also funds the Panther Den program office at Hanscom AFB, MA. The Panther Den program office provides technical, program management, and security support to the programs funded by this PE, as well as PD-classified projects funded via other PEs.

(U) Specific program content is classified. Current and historical project information is available in the Panther Den (PD) Special Access Program (SAP) Report.

## UNCLASSIFIED

## RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE

June 2001

BUDGET ACTIVITY

**07 - Operational System Development**

PE NUMBER AND TITLE

**0303140F Information Systems Security Program**

PROJECT

**4871**(U) **A. Mission Description Continued**(U) **FY 2000 (\$ in Thousands)**

(U) \$0 No Activity

(U) \$0 Total

(U) **FY 2001 (\$ in Thousands)**

(U) \$347 Directed Energy Application to IW

(U) \$74 Advanced IO Communication Application

(U) \$65 Advanced Intelligence Applications to IO

(U) \$298 Mitre Chief Engineer Support

(U) \$198 Program Office and Security Structure Support

(U) \$982 Total

The following net transactions are not reflected in the FY01 program total: BTR = -122K, ATR = 0, and SBIR = -251K. These transactions are not reflected in other sections of the R-docs where an FY01 total is shown.

(U) **FY 2002 (\$ in Thousands)**

(U) \$492 The IO Technology program office will support the IW TPIPT and the IW MAT through studies, rapid prototyping, and demonstrations of state-of-the-art IO technologies to meet the warfighters' IO requirements.

(U) \$302 Mitre Chief Engineer Support

(U) \$202 Program Office and Security Structure Support

(U) \$996 Total

(U) **B. Project Change Summary**

In FY01, \$500K was transferred from PE 0208021F, Information Warfare Support, to support information operations development in this program element.

(U) **C. Other Program Funding Summary (\$ in Thousands)**

	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	

(U) AF RDT&amp;E

0

(U) Other APPN

0

PE 0303140F studies will leverage current DoD lab efforts. Studies will be deconflicted with and will complement PE 0208021F, Information Warfare Support. Some aspects of this program will be protected under the PANTHER DEN Special Access Program. Data available upon request.

Project 4871

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Exhibit R-2A (PE 0303140F)

## UNCLASSIFIED

## RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE

June 2001

BUDGET ACTIVITY

**07 - Operational System Development**

PE NUMBER AND TITLE

**0303140F Information Systems Security Program**

PROJECT

**4871**(U) **D. Acquisition Strategy**

All major contracts within this Program Element are awarded after full and open competition unless other than full and open is justified to the Designated Acquisition Commander (DAC).

(U) **E. Schedule Profile**

<u>FY 2000</u>				<u>FY 2001</u>				<u>FY 2002</u>			
1	2	3	4	1	2	3	4	1	2	3	4
	*										
				X							
							X				
							X				
									X		X

(U) Sophisticated IW Defense Study Start

(U) Directed Energy Application to IW

(U) Advanced IO Communication Application

(U) Advanced Intelligence Applications to IO

(U) IO Technology Study/Prototype/Demo

X - Denotes planned event

\* - Denotes completed event

## UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE June 2001		
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development					0303140F Information Systems Security Program				4871	
(U) A. Project Cost Breakdown (\$ in Thousands)										
					FY 2000		FY 2001		FY 2002	
(U) Directed Energy Application to IW							347			
(U) Advanced IO Communication Application							74			
(U) Advanced Intelligence Applications to IO							64			
(U) Mitre Chief Engineer Support							299			
(U) Program Office and Security Support							198			
(U) IO Technology Study/Prototype/Demo									492	
(U) Mitre Chief Engineer Support									302	
(U) Program Office and Security Support									202	
(U) Total							982		996	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
Contractor or Government		Contract Method/Type		Award or Obligation		Performing Activity		Project Office		
Performing Activity		or Funding Vehicle		Date		EAC		EAC		
						Total Prior to FY 2000		Budget FY 2000		
								Budget FY 2001		
								Budget FY 2002		
								Budget to Complete		
										Total Program
Product Development Organizations										
Contractor TBD							347		492	
Contractor TBD							74		Continuing	
Contractor TBD							64		Continuing	
Support and Management Organizations										
Electronic Systems Center							78		80	
Aegis, Inc. (Security Contractor)							120		122	
Mitre (Engineering Support)							299		302	
Test and Evaluation Organizations										

Project 4871

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Exhibit R-3 (PE 0303140F)

## UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE June 2001		
BUDGET ACTIVITY		PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development		0303140F Information Systems Security Program				4871	
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>		<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				485	492	TBD	TBD
Subtotal Support and Management				497	504	TBD	TBD
Subtotal Test and Evaluation							
Total Project				982	996	TBD	TBD



## UNCLASSIFIED

## RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE

June 2001

BUDGET ACTIVITY

07 - Operational System Development

PE NUMBER AND TITLE

0303140F Information Systems Security Program

PROJECT

7820

COST (\$ in Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
7820 Computer Security RDT&E: Firestarter	9,510	22,610	5,048	5,133	5,235	5,344	5,422	5,538	Continuing	TBD

This administration has not addressed FY 2003-2007 requirements. All FY 2003-2007 budget estimates in this book are notional only and subject to change.

FY01 and FY02 PKI funds are in PE 33112F. This submission reflects a Congressional add of \$5.5M to accelerate the PKI program.

(U) **A. Mission Description**

This program directs the Research & Development (R&D) of Information Protect technology/tools to provide the capability to defend USAF Command, Control, Communications, Computer, and Intelligence (C4I) Systems from Information Warfare (IW) Cyber attacks; and to ensure the systems' recovery from these attacks. As the USAF single manager for Information Protect (R&D), this program directs C4I system Information Protect R&D with emphasis in computer/network systems security, damage assessment and recovery, and multi-level security. With the advent of the information age, the battlefield commander's ability to fight and win becomes more dependent upon the availability, timeliness, and integrity of the information flow/processing capability available. The requirement for global presence and global power has demanded increasing reliance on these advanced information systems with global accessibility. The susceptibilities inherent in such reliance and accessibility has heightened the awareness that the National Information Infrastructure (NII), the Defense Information Infrastructure (DII), and the future global Info Grid (GIG) must be protected against attack.

Emphasis is therefore placed on R&D areas that provide deterrence of attack through cyberspace surveillance, Tactical Indications & Warning (I&W), intrusion detection, characterization of attack, decision support, recovery, and active response. Since adversaries may gain access to critical AF Force information systems through a variety of means, this technology will provide the capability of collecting, integrating, and displaying threat, vulnerability, and system data indicating an attack is about to take place and/or is taking place. Current Air Force systems such as the Combat Information Transport Systems (CITS), Theater Deployable Communications (TDC) leverage the technology from this project to meet their info protect needs/requirements. Additionally, this project utilizes info assurance technology investments by DARPA as a jump-start for providing a solution to Air Force requirements and cooperates with DISA and other Services/agencies to ensure DII and the future GIG info protect requirements are complied with.

Public Key Infrastructure (PKI): A Department of Defense (DoD) PKI was mandated by the Deputy Secretary of Defense on 8 Aug 97 and the Services were further directed to use the capabilities in a 6 May 99 memo. PKI, supports the overall Defense-in-Depth Strategy for information assurance capabilities -- user identification, non-repudiation, digital signatures and encryption for government electronic business and network transactions -- protecting/securing all network information.

Project 7820

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Exhibit R-2A (PE 0303140F)

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## UNCLASSIFIED

<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>		DATE <b>June 2001</b>																																		
<b>BUDGET ACTIVITY</b> <b>07 - Operational System Development</b>	<b>PE NUMBER AND TITLE</b> <b>0303140F Information Systems Security Program</b>																																			
		<b>PROJECT</b> <b>7820</b>																																		
<p>(U) <b><u>A. Mission Description Continued</u></b></p> <p>Funds will be used to support initial implementation and integration of PKI user smart card, PKI registration for both users, devices, servers, and initial training. In particular, the RDT&amp;E funds will be applied to PKI's integration and testing efforts with the Smart Card/Common Access Card (CAC). Current Defense Enrollment Reporting System (DEERS)/Real-Time Automated Personnel Identification Systems (RAPIDS) will be used to issue CACs to all AF military and civilian personnel. Furthermore, we will perform technology integration and testing of a new hardware CAC token into the user desktop environment. Finally, we allotted a small amount for AF SPO program support activities.</p> <p>(U) <b><u>FY 2000 (\$ in Thousands)</u></b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">(U) \$250</td> <td>Continue development of technology for self-healing network systems (to include automated system recovery)</td> </tr> <tr> <td>(U) \$125</td> <td>Begin development of information attack correlation methodologies</td> </tr> <tr> <td>(U) \$569</td> <td>Continue effort to transition DARPA information assurance technology to the Air Force Information Warfare Center (AFIWC) and the Combat Information Transport System (CITS) SPO</td> </tr> <tr> <td>(U) \$300</td> <td>Continue development of methodologies for commercial software evaluation and steganography detection</td> </tr> <tr> <td>(U) \$4,692</td> <td>Continue development of secure interoperable distributed agent computing (\$4.5M Congressional Add)</td> </tr> <tr> <td>(U) \$134</td> <td>Begin development of extensible prototype framework for Enterprise Defense to support protection of warfighter mission critical information flows</td> </tr> <tr> <td>(U) \$350</td> <td>Continue effort to transition secure wrapper technologies into Air Force systems</td> </tr> <tr> <td>(U) \$3,090</td> <td>Initiate Pouncer 4 project - approved FY00 new start effort</td> </tr> <tr> <td>(U) \$9,510</td> <td>Total</td> </tr> </table> <p>(U) <b><u>FY 2001 (\$ in Thousands)</u></b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">(U) \$1,251</td> <td>Continue development of technology for self-healing network systems (to include automated system recovery)</td> </tr> <tr> <td>(U) \$742</td> <td>Continue development of information attack correlation methodologies</td> </tr> <tr> <td>(U) \$2,651</td> <td>Continue development of methodologies for commercial software evaluation and steganography detection (\$2.0M Congressional add)</td> </tr> <tr> <td>(U) \$862</td> <td>Continue development of extensible prototype framework for Enterprise Defense to support protection of warfighter mission critical information flows</td> </tr> <tr> <td>(U) \$461</td> <td>Continue effort to transition secure wrapper technologies into Air Force systems</td> </tr> <tr> <td>(U) \$752</td> <td>Continue effort to transition DARPA information assurance technology into AF Information Protect architecture</td> </tr> <tr> <td>(U) \$402</td> <td>Begin effort to develop metrics for reliable information assurance measurement &amp; testing</td> </tr> <tr> <td>(U) \$9,995</td> <td>Continue development of secure interoperable agent computing</td> </tr> </table>			(U) \$250	Continue development of technology for self-healing network systems (to include automated system recovery)	(U) \$125	Begin development of information attack correlation methodologies	(U) \$569	Continue effort to transition DARPA information assurance technology to the Air Force Information Warfare Center (AFIWC) and the Combat Information Transport System (CITS) SPO	(U) \$300	Continue development of methodologies for commercial software evaluation and steganography detection	(U) \$4,692	Continue development of secure interoperable distributed agent computing (\$4.5M Congressional Add)	(U) \$134	Begin development of extensible prototype framework for Enterprise Defense to support protection of warfighter mission critical information flows	(U) \$350	Continue effort to transition secure wrapper technologies into Air Force systems	(U) \$3,090	Initiate Pouncer 4 project - approved FY00 new start effort	(U) \$9,510	Total	(U) \$1,251	Continue development of technology for self-healing network systems (to include automated system recovery)	(U) \$742	Continue development of information attack correlation methodologies	(U) \$2,651	Continue development of methodologies for commercial software evaluation and steganography detection (\$2.0M Congressional add)	(U) \$862	Continue development of extensible prototype framework for Enterprise Defense to support protection of warfighter mission critical information flows	(U) \$461	Continue effort to transition secure wrapper technologies into Air Force systems	(U) \$752	Continue effort to transition DARPA information assurance technology into AF Information Protect architecture	(U) \$402	Begin effort to develop metrics for reliable information assurance measurement & testing	(U) \$9,995	Continue development of secure interoperable agent computing
(U) \$250	Continue development of technology for self-healing network systems (to include automated system recovery)																																			
(U) \$125	Begin development of information attack correlation methodologies																																			
(U) \$569	Continue effort to transition DARPA information assurance technology to the Air Force Information Warfare Center (AFIWC) and the Combat Information Transport System (CITS) SPO																																			
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(U) \$9,995	Continue development of secure interoperable agent computing																																			
<div style="display: flex; justify-content: space-between;"> <span>Project 7820</span> <span>Page 18 of 23 Pages</span> <span>Exhibit R-2A (PE 0303140F)</span> </div>																																				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
		June 2001
BUDGET ACTIVITY	PE NUMBER AND TITLE	
<b>07 - Operational System Development</b>	<b>0303140F Information Systems Security Program</b>	
	PROJECT <b>7820</b>	
<p>(U) <b><u>A. Mission Description Continued</u></b></p> <p>(U) <b><u>FY 2001 (\$ in Thousands) Continued</u></b></p> <p>(U) (\$10M Congressional Add)</p> <p>(U) \$5,494 Expedite the PKI program--specifically, the prototyping PKI support for Interface/Integration of Registration with Common Access Cards with peripheral readers AF-wide (\$5.5M Congressional Add)</p> <p>(U) \$22,610 Total</p> <p>The following net transactions are not reflected in the FY01 program total: BTR=-122 K, ATR=0 K, and SBIR=-251 K. These transactions are not reflected in other sections of the R-docs where an FY01 total is shown.</p> <p>(U) <b><u>FY 2002 (\$ in Thousands)</u></b></p> <p>(U) \$847 Continue development of technology for self-healing network systems (to include automated system recovery)</p> <p>(U) \$538 Continue development of information attack correlation methodologies</p> <p>(U) \$707 Continue development of methodologies for commercial software evaluation and steganography detection</p> <p>(U) \$888 Continue development of secure agent frameworks for Enterprise Defense to support protection of the warfighter C4ISR systems</p> <p>(U) \$337 Continue effort to transition secure wrapper technologies into Air Force systems</p> <p>(U) \$437 Continue effort to transition DARPA information assurance (IA) technology into AF Information Protection, Detection, &amp; Response architecture</p> <p>(U) \$427 Continue effort to develop metrics for reliable information assurance (IA) measurement and testing</p> <p>(U) \$283 Continue development of secure interoperable distributed agent computing</p> <p>(U) \$210 Begin effort to evaluate biometric systems in conjunction with wired and wireless IA network applications</p> <p>(U) \$374 Begin development of cyber forensic tools and methodologies</p> <p>(U) \$5,048 Total</p> <p>(U) <b><u>B. Project Change Summary</u></b></p>		
<div>Project 7820</div> <div>Page 19 of 23 Pages</div> <div>Exhibit R-2A (PE 0303140F)</div>		

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## RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE

June 2001

BUDGET ACTIVITY

07 - Operational System Development

PE NUMBER AND TITLE

0303140F Information Systems Security Program

PROJECT

7820

(U) **C. Other Program Funding Summary (\$ in Thousands)**

	<u>FY 2000</u> <u>Actual</u>	<u>FY 2001</u> <u>Estimate</u>	<u>FY 2002</u> <u>Estimate</u>	<u>FY 2003</u> <u>Estimate</u>	<u>FY 2004</u> <u>Estimate</u>	<u>FY 2005</u> <u>Estimate</u>	<u>FY 2006</u> <u>Estimate</u>	<u>FY 2007</u> <u>Estimate</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>
(U) AF RDT&E	9,510	22,610	5,048	5,133	5,235	5,344	5,422	5,538		63,840
(U) Other APPN APPN 3600/PE 33112F/ PE Title AF Communica- tions/BPAC 674884/ Title PKI										

(U) **D. Acquisition Strategy**

All major contracts within this Program Element are awarded after full and open competition.

PKI: Electronic Systems Center (ESC) Information Assurance Product Area Directorate (PAD) manages the AF PKI Program. All major contracts within this program element are scheduled to be awarded after full and open competition or through existing government contracting vehicles. The options under review include: GSA, Standard AF contract (through the Standard Systems Group, AL), and Information Technology Services Program (ITSP) to support engineering effort and equipment for the integration of Common Access Card tokens. Current PKI program strategy is to use the ITSP contract.

(U) **E. Schedule Profile**

	<u>FY 2000</u>			<u>FY 2001</u>			<u>FY 2002</u>					
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Requirements Review Boards			*			*				X		
(U) Transition secure wrapper tech development to AF systems										X		
(U) Development of self healing network systems									X			
(U) DARPA information assurance transition					*							X
(U) Devel technology for tracing intrusions										X		
(U) Information attack correlation technology development	*					X					X	
(U) Develop & demo extensible prototype framework for Enterprise Defense	*			*		*		X		X		X
(U) Develop metrics for reliable IA measurement & testing						*				X		
(U) Develop automated info damage assessment and recovery					*				X			

Project 7820

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Exhibit R-2A (PE 0303140F)

## UNCLASSIFIED

## RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE

June 2001

BUDGET ACTIVITY

07 - Operational System Development

PE NUMBER AND TITLE

0303140F Information Systems Security Program

PROJECT

7820

(U) E. Schedule Profile ContinuedFY 2000FY 2001FY 2002

1	2	3	4	1	2	3	4	1	2	3	4
---	---	---	---	---	---	---	---	---	---	---	---

(U) Begin effort to evaluate biometric systems

X

(U) Begin development of cyber forensic tools &amp; methodologies

\*

(U) Prototyping support for PKI interface/integration of tokens

\*

(U) Initiate Pouncer 4

\*

KEY: \* Denotes Completed Events;  
 X Denotes Planned Events.

## UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE June 2001			
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT	
<b>07 - Operational System Development</b>					<b>0303140F Information Systems Security Program</b>				<b>7820</b>	
(U) <b><u>A. Project Cost Breakdown (\$ in Thousands)</u></b>										
						<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>		
(U)	Pouncer 4					3,090				
(U)	DARPA technology insertion/transition					569	752		437	
(U)	Secure distributed computing/collaborative planning					4,692	10,516		283	
(U)	Self-healing network system (to include automated system recovery)					250	346		847	
(U)	Wrappers to secure commercial-off-the-shelf ( COTS)					350	461		337	
(U)	Information attack data correlation					125	752		538	
(U)	Extensible framework for Enterprise Defense					134	862		888	
(U)	COTS software (S/W) evaluation					300	2,651		917	
(U)	Reliable information assurance measurement & testing						402		427	
(U)	PKI						5,494			
(U)	Active response & cyber forensic tools						374		374	
(U)	Total					9,510	22,610		5,048	
(U) <b><u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u></b>										
(U) <b><u>Performing Organizations:</u></b>										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
FFRDC (MITRE)	MIPR	On-Going	N/A	N/A	652	746	6,311	410	Continuing	TBD
Multiple Contractors	CPFF	On-Going	N/A	N/A	2,277	7,918	13,690	4,238	Continuing	TBD
Universities	CPFF	On-Going	N/A	N/A	368	846	2,609	400	Continuing	TBD
<u>Support and Management Organizations</u>										
<u>Test and Evaluation Organizations</u>										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE June 2001	
BUDGET ACTIVITY		PE NUMBER AND TITLE				PROJECT
07 - Operational System Development		0303140F Information Systems Security Program				7820
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
		<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>
<u>Subtotals</u>						<u>Total</u>
Subtotal Product Development		3,297	9,510	22,610	5,048	TBD
Subtotal Support and Management						TBD
Subtotal Test and Evaluation						
Total Project		3,297	9,510	22,610	5,048	TBD

Project 7820

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Exhibit R-3 (PE 0303140F)

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