

<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)</b>	DATE <b>February 1999</b>
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<b>BUDGET ACTIVITY</b> <b>7 - Operational System Development</b>	<b>PE NUMBER AND TITLE</b> <b>0303140F Information Systems Security Program</b>
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COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	5,654	9,277	7,992	7,284	7,011	7,088	7,235	7,385	Continuing	TBD
7820 Computer Security RDT&E: Firestarter	4,014	5,378	4,835	5,375	5,113	5,202	5,310	5,421	Continuing	TBD
4585 Cryptologic 2020	1,640	1,968	1,240	0	0	0	0	0	0	4,848
4579 Information Warfare	0	1,931	1,917	1,909	1,898	1,886	1,925	1,964	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

**(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 recover from those attacks. Primarily, the project does research and development of information protection tools and transitions them to operational systems. It also 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 program element consists of three complimentary projects.

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. 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 Information Warfare project comprises R&D for Vulnerability Assessment/Risk Management (IW VA/RM) and Technology planning to build information protection into all AF C4ISR and weapons systems.

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**(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 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total Cost</u>
(U) Previous President's Budget (FY 1999 PB)	4,961	8,420	8,137	7,422	TBD
(U) Appropriated Value	5,298	9,420			
(U) Adjustments to Appropriated Value					
a. Cong Reductions	-215	-143			
b. SBIR	-123				
c. Omnibus or Other Above Threshold Reprogram	-34				
d. Below Threshold Reprogramming	+728				
(U) Adjustments to Budget Years Since FY 1999 PB			-145	-138	
(U) Current Budget Submit/FY 2000 PB	5,654	9,277	7,992	7,284	TBD

**(U) Significant Program Changes:**

Funding: Congressional \$1,000 add in FY99 for continued development of the Secure Interoperable Distributed Computing Systems project.

FY99: \$273 identified as a source for SBIR

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BUDGET ACTIVITY <b>7 - Operational System Development</b>	PE NUMBER AND TITLE <b>0303140F Information Systems Security Program</b>	PROJECT <b>7820</b>
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COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
7820 Computer Security RDT&E: Firestarter	4,014	5,378	4,835	5,375	5,113	5,202	5,310	5,421	Continuing	TBD

**(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 recover from those 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) and the Defense Information Infrastructure (DII) 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 and characterization of attack. As 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) and Theater Battle Management - Core Systems (TBMCS) 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 info protect requirements are complied with.

This effort was used to "jump start" the new FY99 BPAC 4579, Information Warfare. Specifically, funds have been expended to initiate the development of the exportable VA/RM process and the defining of the criteria for toolset development; and for preparing both the Exportable VA/RM Process and Toolset Development Contract and the Intelligence Support Plan Contract

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<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>		DATE <b>February 1999</b>
BUDGET ACTIVITY <b>7 - Operational System Development</b>	PE NUMBER AND TITLE <b>0303140F Information Systems Security Program</b>	PROJECT <b>7820</b>
<p>(U) <u>FY 1998 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> <li>- (U) \$ 426 Continued development of secure interoperable distributed computing systems</li> <li>- (U) \$ 426 Prototyped security analysis tools for Base Information Protection (BIP)</li> <li>- (U) \$ 426 Continued effort to transition Defense Advanced Research Projects Agency (DARPA) intrusion detection technology to the Air Force Information Warfare Center (AFIWC) and BIP</li> <li>- (U) \$ 426 Continued effort to demonstrate Information Security (INFOSEC) for Air Force Network Control Centers (AFNCCs)</li> <li>- (U) \$ 427 Continued effort to develop technology for secure distributed collaborative planning</li> <li>- (U) \$ 547 Continued investigation of techniques for commercial software evaluation</li> <li>- (U) \$ 617 Developed prototype secure wrapper to protect systems from Commercial Off-the-Shelf (COTS) software security risks</li> <li>- (U) \$ 267 Developed exportable VA/RM process and toolset development criteria</li> <li>- (U) \$ 383 Awarded exportable VA/RM process and toolset development contract</li> <li>- (U) \$ 69 Awarded Intelligence Support Plan contract</li> <li>- (U) \$4,014 Total</li> </ul> <p>(U) <u>FY 1999 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> <li>- (U) \$ 226 Continue development of secure data handling system for multi-level database</li> <li>- (U) \$1,680 Continue development of secure interoperable distributed computing systems</li> <li>- (U) \$ 720 Initiate development of technology for self-healing network system</li> <li>- (U) \$ 714 Develop methodologies for commercial software evaluation</li> <li>- (U) \$ 480 Complete effort to transition DARPA intrusion detection technology the Air Force Information Warfare Center (AFIWC) and BIP</li> <li>- (U) \$ 460 Complete effort to demonstrate INFOSEC for Air Force Network Operations System Centers (AF NOSCs)</li> <li>- (U) \$ 470 Initiate effort to transition secure wrapper technologies into Air Force systems.</li> <li>- (U) \$ 470 Initiate effort for automatic capability to trace source of intrusions</li> <li>- (U) \$ 158 Identified as a source for SBIR</li> <li>- (U) \$5,378 Total</li> </ul>		
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BUDGET ACTIVITY <b>7 - Operational System Development</b>		February 1999
PE NUMBER AND TITLE <b>0303140F Information Systems Security Program</b>		PROJECT <b>7820</b>
<p>(U) <u>FY 2000 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> <li>- (U) \$ 710 Continue development of technology for self-healing network systems</li> <li>- (U) \$ 489 Begin development of Information Attack correlation methodologies</li> <li>- (U) \$ 872 Continue effort to transition DARPA information assurance technology to Air Force Information Warfare Center (AFIWC) and BIP</li> <li>- (U) \$ 589 Continue effort for automatic capability to trace source of intrusions</li> <li>- (U) \$ 489 Continue development of methodologies for commercial software evaluation</li> <li>- (U) \$ 425 Continue development of secure interoperable distributed computing systems</li> <li>- (U) \$ 764 Begin development of extensible prototype for Information Command &amp; Control to support protection of warfighter mission critical information flows.</li> <li>- (U) \$ 497 Continue effort to transition secure wrapper technologies into Air Force systems.</li> <li>- (U) \$ 4,835 Total</li> </ul> <p>(U) <u>FY 2001 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> <li>- (U) \$ 738 Continue development of technology for self-healing network systems</li> <li>- (U) \$ 587 Continue development of Information Attack correlation methodologies</li> <li>- (U) \$ 687 Continue development of methodologies for commercial software evaluation</li> <li>- (U) \$ 887 Continue development of extensible prototype for Information Command &amp; Control to support protection of warfighter mission critical information flows</li> <li>- (U) \$ 487 Continue effort to transition secure wrapper technologies into Air Force systems.</li> <li>- (U) \$ 787 Continue effort to transition DARPA information assurance technology into standard Information Protect architecture</li> <li>- (U) \$ 437 Begin effort to develop metrics for reliable information assurance measurement &amp; testing</li> <li>- (U) \$ 765 Begin technology development effort for Automated Information damage assessment, recovery and forensics</li> <li>- (U) \$ 5,375 Total</li> </ul> <p>(U) <b>B. <u>Project Change Summary - Description of Significant Changes:</u></b> Funding: +\$1,000 in FY99 for continued development of secure interoperable distributed computing systems.</p> <p>(U) <b>C. <u>Other Program Funding Summary (\$ in Thousands)</u></b> Not applicable</p> <p><b>D: <u>Acquisition Strategy:</u></b></p> <p>All major contracts within this Program Element are awarded after full and open competition.</p>		
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BUDGET ACTIVITY <b>7 - Operational System Development</b>						PE NUMBER AND TITLE <b>0303140F Information Systems Security Program</b>						PROJECT <b>7820</b>				
(U) E. <u>Schedule Profile</u>	<u>FY 1998</u>				<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(U) Requirements Review Board			*				X				X				X	
(U) AF NOSC INFOSEC Transition/demonstration				*				X								
(U) Secure Wrapper Tech Devel					*										X	
(U) Self Healing Network Systems					*											X
(U) MLS DB technology transition	*							X								
(U) Secure Interoperable Distributed Computing System	*											X				
(U) Development of methodologies for Commercial Software Evaluation	*															X
(U) DARPA Information Assurance Technology Transition			*									X				
(U) Devel tech for tracing intrusions					*						X					
(U) Information attack correlation technology development									X						X	
(U) Extensible prototype for Information Command & Control									X							X
(U) Development for reliable information assurance measurement & testing													X			
(U) Technology development for automated Information damage assessment, recovery and forensics													X			
(U) Develop exportable VA/RM process and toolset development criteria	*		*													
(U) Award Exportable VA/RM process & toolset development contract (see Note)				*												
(U) Award Intelligence Support Plan contract (see Note)				*												

NOTE: Acceleration of VA/RM Development continues in 1999 under BPAC 4579  
 KEY: \* Denotes Completed Events;

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**7 - Operational System Development**

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**0303140F Information Systems Security Program**

X Denotes Planned Events.

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)		DATE		
7 - Operational System Development		February 1999		
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT		
	0303140F Information Systems Security Program	7820		
<b>(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u></b>				
	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
(U) Secure Data Handling System	0	226		
(U) Database Protection Mechanisms	407			
(U) Security Analysis Tools	427			
(U) DARPA Technology Insertion/Transition	852	480	872	787
(U) Secure Distributed Computing/Collaborative Planning	852	1,680	425	
(U) IP Integration Framework	757	460		
(U) Self-Healing Network System		720	710	738
(U) Traceback/Forensics		470	589	
(U) Wrappers to Secure COTS		470	497	487
(U) Information Attack Data Correlation			489	587
(U) Extensible Prototype for Information Command & Control			764	887
(U) COTS S/W Evaluation		714	489	687
(U) Reliable Information Assurance measurement & testing				437
(U) Automated Information Damage assessment, recovery & forensics				765
(U) VARM software development	455			
(U) VARM systems engineering support	162			
(U) VARM program management support	102			
(U) Identified as a source for SBIR		158		
(U) Total	4,014	5,378	4,835	5,375

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE February 1999	
BUDGET ACTIVITY 7 - Operational System Development					PE NUMBER AND TITLE 0303140F Information Systems Security Program					PROJECT 7820	
<b>(U) B. <u>Budget Acquisition History and Planning Information (\$ in Thousands)</u></b>											
<b>Performing Organizations:</b>											
<u>Contractor or Government Performing Activity</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 1998</u>	<u>Budget FY 1998</u>	<u>Budget FY 1999</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	Identified as a source for SBIR				158				158		
<u>Product Development Organizations</u>											
FFRDC (MITRE)	MIPR	On-Going	N/A	N/A	0	652	620	521	566	Continuing	TBD
Multiple Contractors	CPFF	On-Going	N/A	N/A	0	2,277	3,755	3,693	4,143	Continuing	TBD
Universities	CPFF	On-Going	N/A	N/A	0	368	845	621	666	Continuing	TBD
Trident Data Systems	FFP	Aug 98	N/A	N/A	0	383	0	0	0	0	383
<u>Support and Management Organizations</u>											
MITRE	FFRDC	On-going	N/A	N/A	0	162	0	0	0	0	162
TEMS (Various)	ID/IQ	On-going	N/A	N/A	0	102	0	0	0	0	102
ZEL TEC	FFP	Jun 98	N/A	N/A	0	70	0	0	0	0	70
NOTE: The monies in FY 98 to Support and Management contracts was used to jump start the new BPAC 4579, Information Warfare. In the future these costs will be reported under that BPAC.											
<u>Test and Evaluation Organizations</u>											
N/A											
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BUDGET ACTIVITY  
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 1999			
BUDGET ACTIVITY <b>7 - Operational System Development</b>				PE NUMBER AND TITLE <b>0303140F Information Systems Security Program</b>					PROJECT <b>7820</b>	
<b>Government Furnished Property:</b>										
<u>Item Description</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Delivery Date</u>	<u>Total Prior to FY 1998</u>	<u>Budget FY 1998</u>	<u>Budget FY 1999</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Property</u>										
N/A										
<u>Support and Management Property</u>										
N/A										
<u>Test and Evaluation Property</u>										
N/A										
Identified as a source for SBIR							158			
158										
Subtotal Product Development				0	3,680	5,220	4,835	5,375	Cont	TBD
Subtotal Support and Management				0	334	0	0	0	Cont	TBD
Subtotal Test and Evaluation				0	0	0	0	0	0	TBD
Total Project				0	4,014	5,378	4,835	5,375	Cont	TBD

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<b>BUDGET ACTIVITY</b> <b>7 - Operational System Development</b>	<b>PE NUMBER AND TITLE</b> <b>0303140F Information Systems Security Program</b>	<b>PROJECT</b> <b>4585</b>
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COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
4585 Cryptologic 2020	1,640	1,968	1,240	0	0	0	0	0	0	4,848

**(U) A. Mission Description**

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.

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BUDGET ACTIVITY		PROJECT
<b>7 - Operational System Development</b>	<b>0303140F Information Systems Security Program</b>	<b>February 1999</b> <b>4585</b>
<p>(U) <u>FY 1998 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> <li>- (U) \$ 159 Trustest Software Support</li> <li>- (U) \$ 90 Mission Support</li> <li>- (U) \$ 51 LCMS application software development (F-22)</li> <li>- (U) \$ 823 DMD/DTD software development</li> <li>- (U) \$ 517 DTD 2000 (NSA)</li> <li>- (U) \$1,640 Total</li> </ul> <p>(U) <u>FY 1999 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> <li>- (U) \$ 814 LCMS application software development (F-22)</li> <li>- (U) \$1,096 DMD/DTD software development and system integration</li> <li>- (U) \$ 58 Identified as a source fo SBIR</li> <li>- (U) \$1,968 Total</li> </ul> <p>(U) <u>FY 2000 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> <li>- (U) \$1,101 DMD/DTD software support development and system integration</li> <li>- (U) \$ 139 Transition LCMS application software development/sustainment (F-22) to Air Force</li> <li>- (U) \$1,240 Total</li> </ul> <p>(U) <u>FY 2001 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> <li>- (U) \$ No further funding in this project</li> <li>- (U) \$ 0 Total</li> </ul> <p>(U) <b>B. <u>Project Change Summary - Description of Significant Changes:</u></b> N/A</p>		
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**(U) C. Other Program Funding Summary (\$ in Thousands)**

<u>APPN</u>	<u>PE</u>	<u>PE Title</u>	<u>BPAC</u>	<u>BPAC Title</u>	<u>FY1998</u>	<u>FY1999</u>	<u>FY2000</u>	<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>	<u>FY2004</u>	<u>FY2005</u>	<u>To Comp</u>	<u>Total Cost</u>
3600	64239F	F-22	654069	Adv. Tactical Fighter	250		0	0	0	0	0	0	0	0
250														
3600	63011F	Special Programs	671200	SAF/FMBMB-AFOY	790	0	0	0	0	0	0	0	0	790

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

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

**(U) E. Schedule Profile**

	<u>FY 1998</u>				<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(U) Trustest Software Support	*			*												
(U) Mission Support	*			*												
(U) F-22 UAS Development & Transition	*												X			
(U) DMD/DTD 2000 hardware/software development and system integration			*										X			

\* Denotes Completed Events  
X Denotes Planned Events

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BUDGET ACTIVITY 7 - Operational System Development					PE NUMBER AND TITLE 0303140F Information Systems Security Program					PROJECT 4585	
<b>(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u></b>											
					<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>			
(U) Hardware Development					517						
(U) Software Development					1,123	1,910	1,240				
(U) Identified as a source for SBIR						58					
(U) Total					1,640	1,968	1,240				
<b>(U) B. <u>Budget Acquisition History and Planning Information (\$ in Thousands)</u></b>											
<b>Performing Organizations:</b>											
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1998</u>	Budget <u>FY 1998</u>	Budget <u>FY 1999</u>	Budget <u>FY 2000</u>	Budget <u>FY 2001</u>	Budget to <u>Complete</u>	Total <u>Program</u>
Identified as a source for SBIR								58			
<b><u>Product Development Organizations</u></b>											
Motorola Inc. (F19628-97-C-0600)	SS/CPFF	Apr 97	N/A	N/A	0	51	813	139	0	0	1,003
SAIC (GS-35F-44616)	BPA	May 98	N/A	N/A	0	823	1,097	1,101	0	0	3,021
National Security Agency X35	SS/CPFF	Jun 98	N/A	N/A	0	517	0	0	0	0	517
Project 4585											

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BUDGET ACTIVITY <b>7 - Operational System Development</b>					PE NUMBER AND TITLE <b>0303140F Information Systems Security Program</b>					PROJECT <b>4585</b>	
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1998	Budget FY 1998	Budget FY 1999	Budget FY 2000	Budget FY 2001	Budget to Complete	Total Program
<u>Support and Management Organizations</u>											
Trustest S/W Support						159					159
MSN Support						90					90
<u>Test and Evaluation Organizations</u>											
N/A											
<b>(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)</b>											
<b>Government Furnished Property:</b>											
Item Description	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Delivery Date		Total Prior to FY 1998	Budget FY 1998	Budget FY 1999	FY 2000	FY 2001	Budget to Complete	Total Program
<u>Product Development Property</u> Not Applicable											
<u>Support and Management Property</u> Not Applicable											
<u>Test and Evaluation Property</u> Not Applicable											
Identified as a source for SBIR								58			
58											
Subtotal Product Development					0	1,391	1,910	1,240	0	0	4,541
Subtotal Support and Management					0	249	0	0	0	0	249

DATE **February 1999**

BUDGET ACTIVITY	PE NUMBER AND TITLE							
<b>7 - Operational System Development</b>	<b>0303140F Information Systems Security Program</b>							
Subtotal Test and Evaluation	0	0	0	0	0	0	0	0
Total Project	0	1,640	1,968	1,240	0	0	4,848	

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<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>	DATE <b>February 1999</b>
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<b>BUDGET ACTIVITY</b> <b>7 - Operational System Development</b>	<b>PE NUMBER AND TITLE</b> <b>0303140F Information Systems Security Program</b>	<b>PROJECT</b> <b>4579</b>
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COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
4579 Information Warfare	0	1,931	1,917	1,909	1,898	1,886	1,925	1,964	Continuing	TBD

**(U) A. Mission Description**

Builds information protection into all AF C2, 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 countermeasures recommendations, rank-ordered based on most operational utility and relative cost. Looking across all assessment conducted on AF systems, the project also provide the USAF a unique system-of-systems perspective for managing IW risks, policy, and solutions that cut across individual system boundaries. The project consists of two complementary R&D efforts

Information Warfare Vulnerability Assessment & Risk Management (IW VA/RM). The development and sustainment of an IW VA/RM process and toolset comprising procedures, analytical resources, supporting threat, countermeasure, and vulnerability databases, and instruction and training materials. These will enable program acquisition and operational unit customer to conduct their own IW risk assessments. Provides sustainment for tool set, databases, and procedures. Libraries and databases of vulnerabilities, countermeasures, tools, and techniques will be developed and continually updated to allow customers to assess current information and quickly update their assessments and risk posture as threat and vulnerability information changes. Project accumulates results of individual assessments to synthesize and integrate USAF system-of-systems risk posture, supporting JFACC theater-level IW defense.

IW Technical Planning Integrated Product Team (IW TPIPT). Supports modernization planning for Counterinformation (CI) Mission Area and technology planning processes. 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>February 1999</b>
BUDGET ACTIVITY <b>7 - Operational System Development</b>	PE NUMBER AND TITLE <b>0303140F Information Systems Security Program</b>	PROJECT <b>4579</b>
<p>(U) <u>FY 1998 (\$ in Thousands):</u> (\$0 dollars expended. BPAC 7820 was used to “jump start” the project. (See BPAC 7820 for \$ expended to jump start project.))</p> <ul style="list-style-type: none"> <li>- (U) \$ 0 Total</li> </ul>		
<p>(U) <u>FY 1999 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> <li>- (U) \$ 691 Continue developing exportable VA/RM process and toolset development</li> <li>- (U) \$ 424 Establish infrastructure: Intelligence support, metrics measurement, etc.</li> <li>- (U) \$ 353 Continue developing libraries and databases, system-of-systems model</li> <li>- (U) \$ 274 Continue IW TPIPT activities, analyses, database support</li> <li>- (U) \$ 132 Conduct integrated cross program assessments and solution development</li> <li>- (U) \$ 57 Identified as a source for SBIR</li> <li>- (U) \$1,931 Total</li> </ul>		
<p>(U) <u>FY 2000 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> <li>- (U) \$ 1,018 Continue developing exportable VA/RM process and toolset development</li> <li>- (U) \$ 397 Establish and support existing infrastructure: Intelligence support, metrics measurement, etc.</li> <li>- (U) \$ 197 Continue to develop and update libraries and databases, system-of-systems model</li> <li>- (U) \$ 193 Continue IW TPIPT activities, analyses, database support</li> <li>- (U) \$ 112 Continue to integrate cross program assessments and solution development</li> <li>- (U) \$ 1,917 Total</li> </ul>		
<p>(U) <u>FY 2001 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> <li>- (U) \$ 1,017 Continue developing exportable VA/RM process and toolset development</li> <li>- (U) \$ 397 Establish and support existing infrastructure: Intelligence support, metrics measurement, etc.</li> <li>- (U) \$ 197 Continue to develop and update libraries and databases, system-of-systems model</li> <li>- (U) \$ 193 Continue IW TPIPT activities, analyses, database support</li> <li>- (U) \$ 105 Continue to integrate cross program assessments and solution development</li> <li>- (U) \$ 1,909 Total</li> </ul>		

<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)</b>	DATE <b>February 1999</b>
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BUDGET ACTIVITY <b>7 - Operational System Development</b>	PE NUMBER AND TITLE <b>0303140F Information Systems Security Program</b>	PROJECT <b>4579</b>
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**(U) B. Project Change Summary - Description of Significant Changes:**

Not Applicable

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

Not Applicable

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

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

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)											DATE February 1999					
BUDGET ACTIVITY 7 - Operational System Development					PE NUMBER AND TITLE 0303140F Information Systems Security Program							PROJECT 4579				
<b>(U) E. <u>Schedule Profile</u></b>																
		<u>FY 1998</u>				<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>		
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(U) Begin VA/RM tool set development					*											
(U) Begin infrastructure, libraries, and databases development					*											
(U) Begin developing system of systems model								X								
(U) Develop & sustain AFMC fix plan					*											
(U) Develop & sustain IW TPIPT technology database (quarterly reviews)					*	X	X	X								
(U) Develop & sustain IW TPIPT technology development plan (annual)							X									
(U) Exportable VA/RM process and toolset development									X							X
(U) Establish & Support existing infrastructure: Intelligence support, metrics measurement, etc.				*					X							
(U) Continue to develop & update libraries & databases, system-of-systems model									X							X
(U) IW TPIPT activities, analyses, database support									X							X
(U) Continue to integrate cross program assessments and solution development									X							X
(U) Intelligence Support Plan finished					*											
* Denotes Completed Events X Denotes Planned Events																
Project 4579					Page 18 of 20 Pages					Exhibit R-2A (PE 0303140F)						

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE February 1999	
BUDGET ACTIVITY 7 - Operational System Development					PE NUMBER AND TITLE 0303140F Information Systems Security Program					PROJECT 4579	
<b>(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u></b>											
					<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>			
(U)	Software development				0	686	1,018	1,017			
(U)	Systems engineering support				0	1,067	787	787			
(U)	Program management support				0	121	112	105			
(U)	Identified as a source for SBIR					57					
(U)	Total				0	1,931	1,917	1,909			
<b>(U) B. <u>Budget Acquisition History and Planning Information (\$ in Thousands)</u></b>											
<b>Performing Organizations:</b>											
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1998	Budget FY 1998	Budget FY 1999	Budget FY 2000	Budget FY 2001	Budget to Complete	Total Program
Identified as a source for SBIR							57				
<u>Product Development Organizations</u>											
Trident Data Systems	FFP	Aug 98			0	0	792	1,018	1,017	Continuing	TBD
<u>Support and Management Organizations</u>											
MITRE	FFRDC	On-going			0	0	474	394	393	Continuing	TBD
TEMS (various)	ID/IQ	On-going			0	0	478	393	394	Continuing	TBD
<u>Test and Evaluation Organizations</u>											
Test & Evaluation					0	0	130	112	105	Continuing	TBD
Project 4579					Page 19 of 20 Pages				Exhibit R-3 (PE 0303140F)		

DATE  
**February 1999**

BUDGET ACTIVITY  
**7 - Operational System Development**

PE NUMBER AND TITLE  
**0303140F Information Systems Security Program**

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 1999			
BUDGET ACTIVITY <b>7 - Operational System Development</b>				PE NUMBER AND TITLE <b>0303140F Information Systems Security Program</b>			PROJECT <b>4579</b>			
<b>(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)</b>										
<b>Government Furnished Property:</b>										
<u>Item Description</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Delivery Date</u>	<u>Total Prior to FY 1998</u>	<u>Budget FY 1998</u>	<u>Budget FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Property</u>										
N/A										
<u>Support and Management Property</u>										
N/A										
<u>Test and Evaluation Property</u>										
N/A										
Identified as a source for SBIR						57				
Subtotal Product Development				0	0	792	1,018	1,017	Continuing	TBD
Subtotal Support and Management				0	0	952	787	787	Continuing	TBD
Subtotal Test and Evaluation				0	0	130	112	105	Continuing	TBD
Total Project				0	0	1,931	1,917	1,909	Continuing	TBD