

UNCLASSIFIED

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

DATE

February 2003

BUDGET ACTIVITY

07 - Operational System Development

PE NUMBER AND TITLE

0305099F Global Air Traffic Management (GATM)

PROJECT

4689

COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4689 Global Access Architecture	8,843	7,041	7,164	7,310	7,519	7,789	7,899	8,008	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) **A. Mission Description**

Global Air Traffic Management: GATM is the Air Force program designed to meet the evolving aviation requirements of the International Civil Aviation Organization (ICAO). GATM, Navigation and Safety, and Navigation Warfare (NAVWAR) are major components of the AF's Global Access, Navigation, and Safety (GANS) management effort. The Global Air Traffic Operations/Mobility Command and Control (GATO/MC2) System Program Office (SPO) supports GATM as the AF's central focal point for analyzing and evaluating operational requirements, developing aircraft system architectures, acquiring aviation equipment, and certifying weapon system implementation. Per AFPD 63-13, SPO support funds engineering services, acquisition support, and certification of platform integration. The system architectures identify necessary equipment and aircraft capability shortfalls across the Air Force inventory, for mobility, information dominance, bombers, fighters, trainers, helicopters, and unmanned aerial vehicles. For those capabilities where no current solution exists, development activities are undertaken in conjunction with existing DoD communications, navigation, surveillance, and safety program offices. Dual-use capabilities of avionics to satisfy GATM and military requirements of the Air Force fleet will be explored. The SPO will continue projections of studies and prototype efforts necessary to ensure AF aviation weapon systems are postured to meet civil standards and future changes to the civil standards leading to free flight. This project supports the definition of requirements for ACAT III projects across multiple weapon systems. No existing program satisfies the requirements of the GATM initiatives.

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

(U) \$2,524	Accomplishment/Planned Program: Continue system architecture definitions, development, and certification
(U) \$1,484	Continue operational requirements analysis, demonstration, and evaluation
(U) \$2,839	Continue development of common avionics and technologies
(U) \$1,347	Continue acquisition of ID/IQ aviation equipment
(U) \$649	Continue Nav/Safety and GPS/NAVWAR integration and interoperability evaluations
(U) \$8,843	Total

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DATE

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BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

07 - Operational System Development**0305099F Global Air Traffic Management (GATM)****4689**(U) **A. Mission Description Continued**(U) **FY 2003 (\$ in Thousands)**

(U) \$2,092 Accomplishment/Planned Program: Continue system architecture definitions, development, and certification

(U) \$1,154 Continue operational requirements analysis, demonstration, and evaluation

(U) \$2,364 Continue development of common avionics and technologies

(U) \$852 Continue acquisition of ID/IQ aviation equipment

(U) \$579 Continue Nav/Safety and GPS/NAVWAR integration and interoperability evaluations

(U) \$7,041 Total

(U) **FY 2004 (\$ in Thousands)**

(U) \$2,112 Accomplishment/Planned Program: Continue system architecture definitions, development, and certification.

(U) \$1,159 Continue operational requirements analysis, demonstration, and evaluation

(U) \$2,388 Continue development of common avionics and technologies

(U) \$891 Continue acquisition of ID/IQ aviation equipment

(U) \$614 Continue Nav/Safety and GPS/NAVWAR integration and interoperability evaluations

(U) \$7,164 Total

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

This program upgrades avionics to add air traffic control capabilities to currently fielded weapon systems and is assigned Budget Activity 7, Operational Systems Development.

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

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	9,331	7,200	7,311	TBD
(U) Appropriated Value	9,331	7,200		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-488			
b. Small Business Innovative Research				
c. Omnibus or Other Above Threshold Reprogram		0		
d. Below Threshold Reprogram				
e. Rescissions		-159		

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BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0305099F Global Air Traffic Management (GATM)			PROJECT 4689				
(U) <u>C. Program Change Summary (\$ in Thousands) Continued</u>											
		<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>						
(U)	Adjustments to Budget Years Since FY 2003 PBR			-147							
(U)	Current Budget Submit/FY 2004 PBR	8,843	7,041	7,164	TBD						
(U) <u>Significant Program Changes:</u>											
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</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>FY 2008</u>	<u>FY 2009</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)	Aircraft Procurement, AF, BA-5, C-5 Avionics Modernization Program, PE 0401119F	90,531	125,067	80,524	12,062						308,184
(U)	RDT&E, AF, BA-7, C-5 AMP, PE 0401119F, C-5 Airlift Squadrons	64,240	10,030								74,270
(U)	Aircraft Procurement, AF, BA-5, C-5, FM Immunity, PE0401119F										
(U)	Aircraft Procurement, AF, BA-5, C-9 NAVSTAR GPS, PE 0401314F										
(U)	Aircraft Procurement, AF, BA-5, C-9 RVSM, PE 0401314F										
(U)	Aircraft Procurement, AF, BA-5, C-9 TAWS, PE 0401314F										
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(U) D. Other Program Funding Summary (\$ in Thousands)										
	<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>FY 2008</u>	<u>FY 2009</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) Aircraft Procurement, AF, BA-5, KC-10 NAVSTAR GPS, PE 0401219F										
(U) RDT&E, AF, BA-7, KC-10 GATM, PE 0401219F	22,774	10,584	2,422							35,780
(U) Aircraft Procurement, AF, BA-5, KC-10 GATM, PE 0401219F	15,093	8,163	14,085	1,973						39,314
(U) Aircraft Procurement, AF, BA-5, KC-10 FM Immunity, PE 0401219F										
(U) Aircraft Procurement, AF, BA-5, KC-10 TCAS/TAWS, PE 0401219F										
(U) Aircraft Procurement, AF, BA-5, C-17 HFDL, PE 0401130F	3,128	2,820	7,967	3,651	1,667					19,233
(U) Aircraft Procurement, AF, BA-5, C-17 GPS Integrity Monitoring Capability, PE 0401130F										
(U) Aircraft Procurement, AF, BA-5, C-17 GATM II, PE 0401130F			54,372	57,640	55,089	52,547			29,324	248,972
(U) Aircraft Procurement, AF, BA-5, C-17 RNP-4, PE 0401130F	3,128	2,820	7,967	3,651	1,667					19,233
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BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development				0305099F Global Air Traffic Management (GATM)				4689	
(U) D. Other Program Funding Summary (\$ in Thousands)									
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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) Aircraft Procurement, AF, BA-5, C-17 TAWS, PE 0401130F	11,701	18,796	5,082						35,579
(U) Aircraft Procurement, AF, BA-5, C-17 GATM PE 0401130F	39,516	30,029							69,545
(U) Aircraft Procurement, AF, BA-5, C-20 TAWS, PE 0401314F									
(U) Aircraft Procurement, AF, BA-5, C-21 TCAS, PE 0401314F									
(U) Aircraft Procurement, AF, BA-5, C-21 TAWS, PE 0401314F									
(U) Aircraft Procurement, AF, BA-5, VC-25 Windshear Warning, PE 0401314F									
(U) Aircraft Procurement, AF, BA-5, VC-25 GATM, PE 0401314F	11,364	11,124	1,780						24,268
(U) Aircraft Procurement, AF, BA-5, VC-25 TAWS, PE 0401314F									
(U) Aircraft Procurement, AF, BA-5, T-43 TCAS, PE 0804742F			1,924	4,910	3,239	55			10,128
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07 - Operational System Development				0305099F Global Air Traffic Management (GATM)				4689		
(U) D. Other Program Funding Summary (\$ in Thousands)										
	<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>FY 2008</u>	<u>FY 2009</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) Aircraft Procurement, AF, BA-5, T-43 TAWS, PE 0804742F	3,404	1,868	5,184	2,722						13,178
(U) Aircraft Procurement, AF, BA-5, C-130 Avionics Modernization Program, PE 0401115F			80,800	180,200	213,600	303,300			1,982,700	2,760,600
(U) Aircraft Procurement, AF, BA-5, C-130 ETCAS, PE 0401115F	2,105	3,635	250							5,990
(U) Aircraft Procurement, AF, BA-5, C-135 8.33 radio, PE 0401218F										
(U) Aircraft Procurement, AF, BA-5, C-135 Interphone replacement, PE 0401218F										
(U) Aircraft Procurement, AF, BA-5, C-135 GATM, PE 0401218F	91,200	159,307	157,549	151,846	131,427	137,257			125,213	953,799
(U) Aircraft Procurement, AF, BA-5, C-135 RVSM, PE 0401218F	19,290									19,290
(U) Aircraft Procurement, AF, BA-5, C-135 TAWS, PE 0401218F	8,788									8,788
(U) Aircraft Procurement, AF, BA-5, C-135 FDR/CVR, PE	36,504	1,598								38,102
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(U) D. Other Program Funding Summary (\$ in Thousands)										
	<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>FY 2008</u>	<u>FY 2009</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>	
0401218F										
(U) Aircraft Procurement, AF, BA-5, C-135 Pacer CRAG, PE 0401218F	1,549									1,549
(U) Aircraft Procurement, AF, BA-5, C-135 FM Immunity, PE0401218F										
(U) Aircraft Procurement, AF, BA-5, C-141 TCAS, PE 0401118F										
(U) RDT&E , AF, BA-7, E-3 GATM, PE 0207417F			16,876	66,568	20,429					103,873
(U) Aircraft Procurement, AF, BA-5, E-3 GATM, PE 0207417F					26,515	69,475				95,990
(U) Aircraft Procurement, AF, BA-5, E-4 8.33 radio, PE 0302015F										
(U) Aircraft Procurement, AF, BA-5, E-4 TCAS, PE 0302015F	720									720
(U) Aircraft Procurement, AF, BA-5, E-4 TAWS, PE 0302015F										
(U) RDT&E, AF BA-5, E-4 , INFRASTRUCTURE MODERNIZATION, PE	17,257	9,017	29,351	21,703						77,328
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(U) D. Other Program Funding Summary (\$ in Thousands)										
	<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>FY 2008</u>	<u>FY 2009</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>	
0302015F										
(U) Aircraft Procurement, AF, BA-5, E-4 INFRASTRUCTURE MODERNIZATION, PE 0302015F		28,262	20,139	31,883	7,306	17,292				104,882
(U) Aircraft Procurement, AF, BA-5, E-4 FDR/CVR, PE 0302015F	480									480
(U) Aircraft Procurement, AF, BA-5, E-8 GATM, PE 0207581F	8,820			22,632	17,993	24,660				74,105
(U) RDT&E, AF, BA-7, E-8 GATM, PE 0207581F			49,600	63,800	36,300	7,700				157,400
(U) Aircraft Procurement, AF, BA-5, H-1 TCAS, PE 0101235F		292	488							780
(U) Aircraft Procurement, AF, BA-5, B-52, GATM, PE 0101113F					340	51,300			118,800	170,440
(U) RDT&E, AF, BA07, B-52 GATM, PE 0101113F			4,676	15,836	40,000					60,512
(U) Aircraft Procurement, AF, BA-5, C-12 TAWS, PE 0401314F										
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(U) **E. Acquisition Strategy**

The GATM Global Access Architecture acquisition strategy enables the GATO/MC2 SPO to guide equipment acquisition supporting global air traffic operations. The SPO will ensure standardization and certification of USAF platforms/systems that operate in the national and global air traffic environments. The SPO will also provide technical expertise and interface with appropriate product/support centers, battle labs, and Department of Defense (DOD) research and development facilities in the execution of assigned tasks. Program Research and Development Agreements (PRDAs), Cooperative Research and Development Agreements (CRDAs), and Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts will be competitively awarded.

(U) **F. Schedule Profile**

	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) System Architecture Definitions	*				X				X			
(U) Operational Requirements Analysis	*				X				X			
(U) Development of common avionics and technologies	*				X				X			
(U) Acquisition of ID/IQ equipment	*				X				X			
(U) GPS/NAVWAR Integration Activities	*				X				X			

* Denotes Completed Event for the FY - All GATM activities are on-going level of effort activities

X Denotes Beginning of scheduled event

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2003		
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development					0305099F Global Air Traffic Management (GATM)				4689	
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>										
					FY 2002		FY 2003		FY 2004	
(U) System architecture definitions, development, and certification					2,524		2,092		2,112	
(U) Operational requirements analysis, demonstration, and evaluation					1,484		1,154		1,159	
(U) Acquisition of ID/IQ aviation equipment					1,347		852		2,388	
(U) Development of common avionics and technologies					2,839		2,364		891	
(U) Nav/Safety and GPS/NAVWAR integration and interoperability evaluations					649		579		614	
(U) Total					8,843		7,041		7,164	
(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>Activity</u>		<u>Vehicle</u>		<u>Date</u>		<u>EAC</u>		<u>EAC</u>		
<u>Product Development Organizations</u>										
MIT		FFP		Nov 98		N/A		N/A		
Honeywell		FFP		Nov 98		N/A		N/A		
Allied Signal		FFP		Nov 98		N/A		N/A		
Rockwell Collins		FFP		Nov 98		N/A		N/A		
MITRE Corporation		CPAF		Oct 99		N/A		N/A		
Horizons Technology Inc		FFP		Feb 99		N/A		N/A		
TASC		CPFF		Jan 99		728		728		
Smiths Industries		FFP		Apr 00		N/A		N/A		
SAIC		T&M		Dec 99		N/A		N/A		
ARINC Inc		FFP		July 99		N/A		N/A		
Lockheed Martin		CPAF		Jun 00		159		159		
Bremmer Associates		FFP		Feb 99		729		729		
Northop Grumman		CPAF		Feb 99		2,499		2,499		
MCR		IDIQ		Feb		N/A		N/A		
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(U) <u>Performing Organizations Continued:</u>										
<u>Product Development Organizations</u>										
Federal Tech Services	FFP	Aug 99	300	300	300	0	0	0	300	
DISA/DIT	FFP	Sep 00	N/A	N/A	0	0	0	0	Continuing	TBD
Various	various	various	N/A	N/A	2,188	0	0	0	Continuing	TBD
<u>Support and Management Organizations</u>										
MITRE Corporation	CPAF	Oct 99	N/A	N/A	761	315	115	120	Continuing	TBD
Various	Various	Various	N/A	N/A	788	210	100	105	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
412th FLTS (Edwards AFB)		Various	N/A	N/A	111	60	52	45	Continuing	TBD
					<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 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					26,773	8,258	6,774	6,894	TBD	TBD
Subtotal Support and Management					1,549	525	215	225	TBD	TBD
Subtotal Test and Evaluation					111	60	52	45	TBD	TBD
Total Project					28,433	8,843	7,041	7,164	TBD	TBD

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