

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE June 2001		
BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0305099F Global Air Traffic Management (GATM)					PROJECT 4689	
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
4689	Global Access Architecture	5,653	8,430	9,331	7,372	7,510	7,666	7,966	8,276	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
FY03-FY07 budget numbers do not reflect the DoD strategic review results											
<p>(U) <u>A. Mission Description</u> 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.</p>											
<p>(U) <u>FY 2000 (\$ in Thousands)</u></p> <p>(U) \$1,309 System architecture definitions, development, and certification</p> <p>(U) \$975 Operational requirements analysis, demonstration, and evaluation</p> <p>(U) \$1,254 Development of common avionics and technologies</p> <p>(U) \$1,426 Acquisition of ID/IQ aviation equipment</p> <p>(U) \$689 Nav/Safety and GPS/NAVWAR integration and interoperability evaluations</p> <p>(U) \$5,653 Total</p>											
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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT		
07 - Operational System Development	0305099F Global Air Traffic Management (GATM)	4689		
(U) <u>A. Mission Description Continued</u>				
(U) <u>FY 2001 (\$ in Thousands)</u>				
(U) \$2,403	System architecture definitions, development, and certification			
(U) \$1,358	Operational requirements analysis, demonstration, and evaluation			
(U) \$2,786	Development of common avionics and technologies			
(U) \$1,248	Acquisition of ID/IQ aviation equipment			
(U) \$635	Nav/Safety and GPS/NAVWAR integration and interoperability evaluations			
(U) \$8,430	Total			
(U) <u>FY 2002 (\$ in Thousands)</u>				
(U) \$2,746	System architecture definitions, development, and certification			
(U) \$1,484	Operational requirements analysis, demonstration, and evaluation			
(U) \$3,061	Development of common avionics and technologies			
(U) \$1,391	Acquisition of ID/IQ aviation equipment			
(U) \$649	Nav/Safety and GPS/NAVWAR integration and interoperability evaluations			
(U) \$9,331	Total			
(U) <u>B. Budget Activity Justification</u>				
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) <u>C. Program Change Summary (\$ in Thousands)</u>				
	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Total Cost</u>
(U) Previous President's Budget (FY 2001 PBR)	6,517	8,508	9,496	
(U) Appropriated Value	6,517	8,508		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-80			
b. Small Business Innovative Research	-202			
c. Omnibus or Other Above Threshold Reprogram				
d. Below Threshold Reprogram	-528			
e. Rescissions	-54	-78		
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07 - Operational System Development				0305099F Global Air Traffic Management (GATM)			4689		
(U) C. Program Change Summary (\$ in Thousands) Continued									
				<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>		<u>Total Cost</u>	
(U)	Adjustments to Budget Years Since FY 2001 PBR					-165			
(U)	Current Budget Submit/FY 2002 PBR			5,653	8,430	9,331		TBD	
(U)	<u>Significant Program Changes:</u>								
	FY00 reflects a below threshold reprogramming to support the C-130 Avionics Modernization Program source selection activities.								
(U) D. 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>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)	AF RDT&E								
(U)	Other APPN								
(U)	22,328	33,003	90,531	125,067	80,524	12,062			363,515
	Aircraft Procurement, AF, BA-5, C-5 Avionics Modernization Program, PE 0401119F								
(U)	37,180	44,489	64,240	10,030					155,939
	RDT&E, AF, BA-7, C-5 AMP, PE 0401119F, C-5 Airlift Squadrons								
(U)	699								699
	Aircraft Procurement, AF, BA-5, C-5, FM Immunity, PE0401119F								
(U)	2,846	882							3,728
	Aircraft Procurement, AF, BA-5, C-9 NAVSTAR GPS, PE 0401314F								
(U)	963								963
	Aircraft Procurement, AF, BA-5, C-9 RVSM, PE 0401314F								
(U)	5,460								5,460
	Aircraft Procurement, AF, BA-5, C-9 TAWS, PE								
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(U) D. 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>	
0401314F										
(U) Aircraft Procurement, AF, BA-5, KC-10 NAVSTAR GPS, PE 0401219F	2,229									2,229
(U) RDT&E, AF, BA-7, KC-10 GATM, PE 0401219F	27,016	19,347	22,774	10,584	2,422					82,143
(U) Aircraft Procurement, AF, BA-5, KC-10 GATM, PE 0401219F		39,321	15,093	8,163	14,085	1,973				78,635
(U) Aircraft Procurement, AF, BA-5, KC-10 FM Immunity, PE 0401219F	3,104									3,104
(U) Aircraft Procurement, AF, BA-5, KC-10 TCAS/TAWS, PE 0401219F	17,279	547								17,826
(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	10,140	1,160								11,300
(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			3,128	2,820	7,967	3,651	1,667			19,233
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(U) D. 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>	
0401130F										
(U) Aircraft Procurement, AF, BA-5, C-17 TAWS, PE 0401130F		1,840	11,701	18,796	5,082					37,419
(U) Aircraft Procurement, AF, BA-5, C-17 GATM PE 0401130F	16,268	31,246	39,516	30,029						117,059
(U) Aircraft Procurement, AF, BA-5, C-20 TAWS, PE 0401314F	505									505
(U) Aircraft Procurement, AF, BA-5, C-21 TCAS, PE 0401314F	2,614	370								2,984
(U) Aircraft Procurement, AF, BA-5, C-21 TAWS, PE 0401314F	3,199	157								3,356
(U) Aircraft Procurement, AF, BA-5, VC-25 Windshear Warning, PE 0401314F	188									188
(U) Aircraft Procurement, AF, BA-5, VC-25 GATM, PE 0401314F	13,540		11,364	11,124	1,780					37,808
(U) Aircraft Procurement, AF, BA-5, VC-25 TAWS, PE 0401314F	296									296
(U) Aircraft Procurement, AF, BA-5, T-43 TCAS, PE					1,924	4,910	3,239	55		11,325
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(U) D. 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>	
0804742F										
(U) Aircraft Procurement, AF, BA-5, T-43 TAWS, PE 0804742F		3,002	3,404	1,868	5,184	2,722				16,180
(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	18,042	20,100	2,105	3,635	250					44,132
(U) Aircraft Procurement, AF, BA-5, C-135 8.33 radio, PE 0401218F	24,795	33,247								58,042
(U) Aircraft Procurement, AF, BA-5, C-135 Interphone replacement, PE 0401218F	4,259	1,158								5,417
(U) Aircraft Procurement, AF, BA-5, C-135 GATM, PE 0401218F	16,728	19,130	91,200	159,307	157,549	151,846	131,427	137,257	125,213	989,657
(U) Aircraft Procurement, AF, BA-5, C-135 RVSM, PE 0401218F	43,112	42,801	19,290							105,203
(U) Aircraft Procurement, AF, BA-5, C-135 TAWS, PE 0401218F	24,394	11,800	8,788							44,982
(U) Aircraft Procurement, AF, 0401218F	16,313	44,043	36,504	1,598						98,458
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(U) D. 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>	
BA-5, C-135 FDR/CVR, PE 0401218F										
(U) Aircraft Procurement, AF, BA-5, C-135 Pacer CRAG, PE 0401218F	159,021	78,521	1,549							239,091
(U) Aircraft Procurement, AF, BA-5, C-135 FM Immunity, PE0401218F	800	6,424								7,224
(U) Aircraft Procurement, AF, BA-5, C-141 TCAS, PE 0401118F	7,308	10								7,318
(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	523									523
(U) Aircraft Procurement, AF, BA-5, E-4 TCAS, PE 0302015F	439	375	720							1,534
(U) Aircraft Procurement, AF, BA-5, E-4 TAWS, PE 0302015F	450	971								1,421
(U) RDT&E, AF BA-5, E-4 , INFRASTRUCTURE	11,991	34,169	17,257	9,017	29,351	21,703				123,488
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(U) D. 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>	
MODERNIZATION, PE 0302015F										
(U) Aircraft Procurement, AF, BA-5, E-4				28,262	20,139	31,883	7,306	17,292		104,882
INFRASTRUCTURE MODERNIZATION, PE 0302015F										
(U) Aircraft Procurement, AF, BA-5, E-4 FDR/CVR, PE 0302015F	99	100	480							679
(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		4,847			49,600	63,800	36,300	7,700		162,247
(U) Aircraft Procurement, AF, BA-5, H-1 TCAS, PE 0101235F		2,906		292	488					3,686
(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	4,246	1,305								5,551

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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 2000</u>				<u>FY 2001</u>				<u>FY 2002</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) System Architecture Definitions				*	*				X			
(U) Operational Requirements Analysis				*					X			
(U) Development of common avionics and technologies			*						X			
(U) Acquisition of ID/IQ equipment		*					*		X			
(U) GPS/NAVWAR Integration Activities			*				*		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 June 2001			
BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0305099F Global Air Traffic Management (GATM)			PROJECT 4689		
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>										
						<u>FY 2000</u>		<u>FY 2001</u>		<u>FY 2002</u>
(U)	System architecture definitions, development, and certification					1,309		2,403		2,746
(U)	Operational requirements analysis, demonstration, and evaluation					975		1,358		1,484
(U)	Acquisition of ID/IQ aviation equipment					1,426		1,248		1,391
(U)	Development of common avionics and technologies					1,254		2,786		3,061
(U)	Nav/Safety and GPS/NAVWAR integration and interoperability evaluations					689		635		649
(U)	Total					5,653		8,430		9,331
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>										
(U) <u>Performing Organizations:</u>										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2000</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget to Complete</u>	<u>Total Program</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	1,900	520	1,300	1,350	Continuing	TBD
Honeywell	FFP	Nov 98	N/A	N/A	2,642	47	125	240	Continuing	TBD
Allied Signal	FFP	Nov 98	N/A	N/A	1,975	0	0	0	0	1,975
Rockwell Collins	FFP	Nov 98	N/A	N/A	978	526	142	340	Continuing	TBD
MITRE Corporation	CPAF	Oct 99	N/A	N/A	4,163	1,025	3,144	3,120	Continuing	TBD
Horizons Technology Inc	FFP	Feb 99	N/A	N/A	2,429	1,545	1,379	1,420	Continuing	TBD
TASC	CPFF	Jan 99	728	728	728	0	0	0	0	728
Smiths Industries	FFP	Apr 00	N/A	N/A	0	194	120	120	Continuing	TBD
SAIC	T&M	Dec 99	N/A	N/A	0	530	0	0	0	530
ARINC Inc	FFP	July 99	N/A	N/A	840	106	140	150	Continuing	TBD
Lockheed Martin	CPAF	Jun 00	159	159	0	159	0	0	0	159
Bremmer Associates	FFP	Feb 99	729	729	729	0	0	0	0	729
Northrop Grumman	CPAF	Feb 99	2,499	2,499	2,499	0	0	0	0	2,499
MCR	IDIQ	Feb	N/A	N/A	350	400	450	420	Continuing	TBD

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(U) Performing Organizations Continued:										
<u>Product Development Organizations</u>										
Federal Tech Services	FFP	Aug 99	300	300	300	0	0	0	0	300
DISA/DIT	FFP	Sep 00	N/A	N/A	0	0	350	640	Continuing	TBD
Various	various	various	N/A	N/A	2,146	42	786	946	Continuing	TBD
<u>Support and Management Organizations</u>										
MITRE Corporation	CPAF	Oct 99	N/A	N/A	477	284	292	315	Continuing	TBD
Various	Various	Various	N/A	N/A	624	164	169	210	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
412th FLTS (Edwards AFB)		Various	N/A	N/A	0	111	33	60	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 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					21,679	5,094	7,936	8,746	TBD	TBD
Subtotal Support and Management					1,101	448	461	525	TBD	TBD
Subtotal Test and Evaluation					0	111	33	60	TBD	TBD
Total Project					22,780	5,653	8,430	9,331	TBD	TBD