

UNCLASSIFIED

PE NUMBER: 0603840F

PE TITLE: Global Broadcast Service (GBS)

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2007
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BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0603840F Global Broadcast Service (GBS)
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Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	18.648	24.749	29.407	19.067	9.559	2.456	2.503	2.554	Continuing	TBD
4887 Global Broadcast Service (GBS)	18.648	24.749	29.407	19.067	9.559	2.456	2.503	2.554	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

Global Broadcast Service provides DoD with an efficient, high data rate broadcast provided by distributed information sources to dispersed warfighters who receive the broadcast directly on small, inexpensive user terminals in accordance with the GBS Operational Requirements Document (ORD), validated by the Joint Requirements Oversight Council in Apr 1997 and updated (with limits) in May 01 and Jan 05 (ORD III). GBS broadcast data includes video (especially from UAV), imagery, logistics and weather data, maps, and operational orders. GBS space segment includes packages on Navy operational satellites UFO 8, 9, and 10 providing near-worldwide service, augmentation by commercial leased Ku-band packages, and throughput on future Wideband Global SATCOM (WGS) System. GBS Satellite Broadcast Management (SBM) and Terminal segments include uplink sites and receive equipment which integrate with Service fixed- and tactical-network equipment through standard commercial interfaces. Service production Receive Suites (RS) and integration into service networks are funded in other PEs.

The program was rebaselined in FY04 to incorporate a commercial-off-the-shelf (COTS)-based Internet Protocol (IP) architecture that will facilitate satisfaction of IOC 2 and 3 requirements. The IP architecture will provide enhanced throughput (capacity), and greatly reduce operational and maintainability liabilities of the previous architecture that required significant use of obsolete and proprietary software and computer hardware.

The FY08 PB funds the development of a robust architecture and implementation of system transmission security, as well as previously budgeted items such as implementation of IPv6 migration, to include Information Assurance, and continued analysis of alternatives for ORD III requirements.

Funding is in Budget Activity 5, System Development and Demonstration, since program is fielding pre-production equipment.

(U) B. Program Change Summary (\$ in Millions)

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	19.383	23.599	17.716	2.916
(U) Current PBR/President's Budget	18.648	24.749	29.407	19.067
(U) Total Adjustments	-0.735	1.150		
(U) Congressional Program Reductions		-0.056		
Congressional Rescissions	-0.001	-0.094		
Congressional Increases		1.300		
Reprogrammings				
SBIR/STTR Transfer	-0.734			

(U) Significant Program Changes:

FY08-09: Funds added to: 1) develop hardware/software architecture to transfer the Satellite Broadcast Manager functions to the Defense Enterprise Computing Centers

Exhibit R-2, RDT&E Budget Item Justification

DATE

February 2007

BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0603840F Global Broadcast Service (GBS)

and 2) implement system transmission security

Exhibit R-2a, RDT&E Project Justification

DATE
February 2007

BUDGET ACTIVITY 05 System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0603840F Global Broadcast Service (GBS)			PROJECT NUMBER AND TITLE 4887 Global Broadcast Service (GBS)		
Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
4887 Global Broadcast Service (GBS)	18.648	24.749	29.407	19.067	9.559	2.456	2.503	2.554	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

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The program was rebaselined in FY04 to incorporate a commercial-off-the-shelf (COTS)-based Internet Protocol (IP) architecture that will facilitate satisfaction of IOC 2 and 3 requirements. The IP architecture will provide enhanced throughput (capacity), and greatly reduce operational and maintainability liabilities of the previous architecture that required significant use of obsolete and proprietary software and computer hardware.

The FY08 PB funds the development of a robust architecture and implementation of system transmission security, as well as previously budgeted items such as implementation of IPv6 migration, to include Information Assurance, and continued analysis of alternatives for ORD III requirements.

Funding is in Budget Activity 5, System Development and Demonstration, since program is fielding pre-production equipment.

(U) B. Accomplishments/Planned Program (\$ in Millions)

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue System Development and Test	10.918	17.767	20.504	12.129
(U) Continue Phase 2 Government System Integration	2.950	3.817	4.960	3.617
(U) Continue System Test & Evaluation Support	0.919	0.870	1.002	1.053
(U) Continue Program Office and other related support activities, including Systems Engineering and Integration	3.861	2.295	2.941	2.268
(U) Total Cost	18.648	24.749	29.407	19.067

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

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Complete</u>							
(U) Other APPN OPAF, PE 0303600F, WGS PIPs	0.000	0.000	0.000	0.000	1.724	1.724	0.000	0.000	0.000	55.464

Exhibit R-2a, RDT&E Project Justification	DATE February 2007
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BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0603840F Global Broadcast Service (GBS)	PROJECT NUMBER AND TITLE 4887 Global Broadcast Service (GBS)
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(U) C. Other Program Funding Summary (\$ in Millions)

(U) OPAF, PE 0303601F, Receive Suites/TIPs	14.353	0.526	3.854	12.139	2.332	0.000	0.000	0.000	0.000	79.784
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Note: All the Services and several DoD agencies have many programs which interface with or support GBS. Examples include: Defense Information System Network (DISN); DISA Content Staging; DISA Tactical Service Provider (TSP); Advanced Concept Technology Demonstrations (ACTD); DISA-CENTCOM Digital Video Broadcast Return Channel over Satellite (DVB-RCS) Demonstration; Navy UFO Program; Air Force WGS Program; Army Ground Terminal Programs; Navy SATCOM Ship Terminal Program; and Air Force MILSATCOM Terminals (PE 0303601F): AF GBS Receive Terminals (WSC 836780, line P-66, PE 0303601F, Milstar Satellite Comm Sys, Other Procurement; AF Ground Multiband Terminal (GMT) Development; and AF Family of Advanced Beyond Line-of-Sight Terminals (FAB-T).

(U) D. Acquisition Strategy

The acquisition strategy is a spiral development/incremental build, within discreet blocks, using an Integrated Product Development (IPD)/Integrated Product Team (IPT) approach.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE
February 2007

BUDGET ACTIVITY			PE NUMBER AND TITLE								PROJECT NUMBER AND TITLE				
05 System Development and Demonstration (SDD)			0603840F Global Broadcast Service (GBS)								4887 Global Broadcast Service (GBS)				
<u>(U) Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2006 Cost</u>	<u>FY 2006 Cost</u>	<u>FY 2006 Award Date</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>	
<u>(U) Product Development</u>															
Raytheon System Corp	CPAF		73.452	5.614	Oct-05	15.054	Dec-06						94.120		
- (FY07: IPv6 Migration/Information Assurance)													0.000		
IPv6 Migration/Information Assurance	Various			5.304	Oct-05	2.713	Nov-06	1.064	Dec-07	1.086	Dec-08	Continuing	TBD		
Robust Architecture Development	Various							19.440	Dec-07	11.043	Dec-08	Continuing	TBD		
Phase 2 Government System Integration	Various		21.537	2.950	Oct-05	3.817	Oct-06	4.960	Dec-07	3.617	Dec-08	Continuing	TBD		
Subtotal Product Development			94.989	13.868		21.584		25.464		15.746		Continuing	TBD	0.000	
Remarks:															
<u>(U) Support</u>															
Program Support - Various			10.682	3.861	Nov-05	2.295	Nov-06	2.941	Dec-07	2.268	Dec-08	Continuing	TBD		
Fielding - Various			1.200										1.200		
Sustainment (Vendor TBD)													0.000		
Subtotal Support			11.882	3.861		2.295		2.941		2.268		Continuing	TBD	0.000	
Remarks:															
<u>(U) Test & Evaluation</u>															
Various			5.694	0.919	Oct-05	0.870	Nov-06	1.002	Dec-07	1.053	Dec-08	Continuing	TBD		
Subtotal Test & Evaluation			5.694	0.919		0.870		1.002		1.053		Continuing	TBD	0.000	
Remarks:															
<u>(U) Management</u>															
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	
Remarks:															
<u>(U) Total Cost</u>			112.565	18.648		24.749		29.407		19.067		Continuing	TBD	0.000	

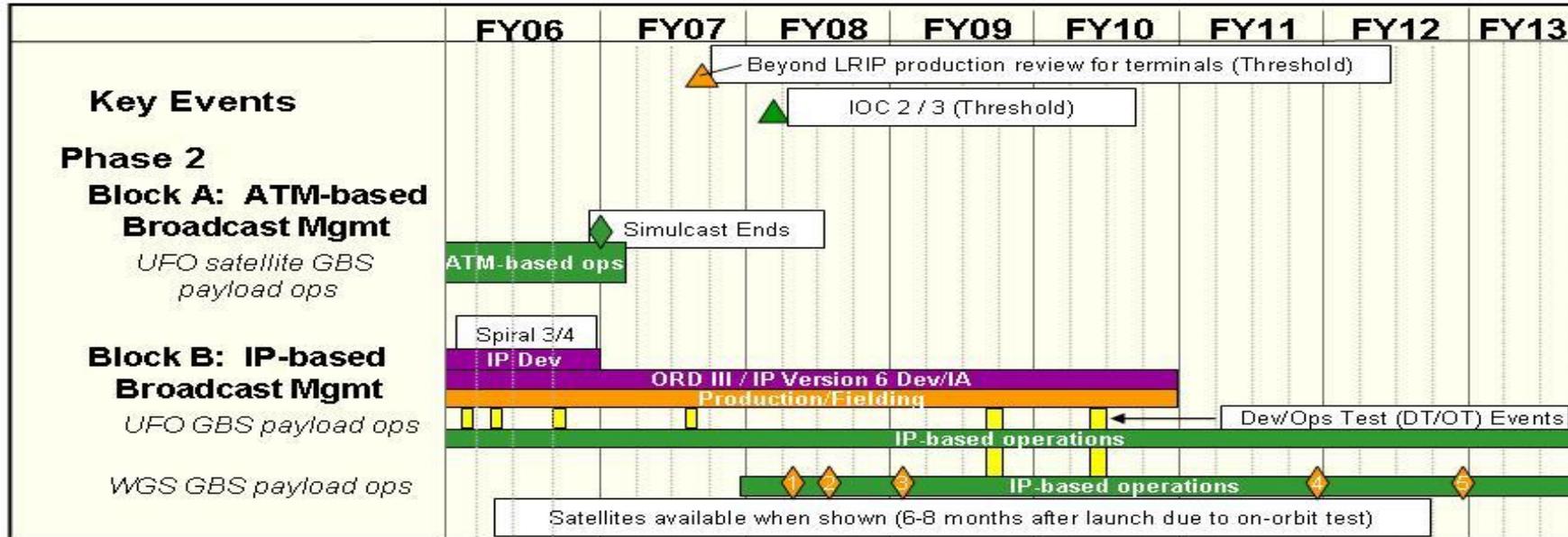
Exhibit R-4, RDT&E Schedule Profile

DATE
February 2007

BUDGET ACTIVITY
05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0603840F Global Broadcast Service (GBS)

PROJECT NUMBER AND TITLE
4887 Global Broadcast Service (GBS)



- **IOC 1 (Dec 03):** PIPs operational on UFO 8, 9, 10; field 20% of program office receive suites (19 units); full personnel ops/maintenance training; logistics support; full satellite broadcast mgmt capability; independently assess capabilities; satisfy interoperability Key Performance Parameter
- **IOC 2/3:** Demonstrate classified video dissemination; remote receive suite enable/disable; Tactical Transportable Ground Receive Suite (2-person lift)

ATM: Asynchronous Transfer Mode
LRIP: Low Rate Initial Production
WGS: Wideband Gapfiller System

IOC: Initial Operational Capability
PIP: Primary Injection Point

IP: Internet Protocol
UFO: Ultra High Frequency (UHF) Follow-on

Concept activities
 Production / fielding
 Design / development
 Operations / sustainment
 Integration / test
 Key events

UNCLASSIFIED

Exhibit R-4a, RDT&E Schedule Detail	DATE February 2007
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BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0603840F Global Broadcast Service (GBS)	PROJECT NUMBER AND TITLE 4887 Global Broadcast Service (GBS)
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(U) <u>Schedule Profile</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Begin development of Internet Protocol Version 6 (IPv6)/ORD III Analysis of Alternatives	1Q			
(U) Beyond Low Rate Initial Production (LRIP) Review (threshold)		3Q		
(U) Conduct combined Dev/Ops test event		3Q		
(U) IOC 2 and 3 (threshold)			1Q	
(U) GBS operates on WGS SV1			2Q	
(U) GBS operates on WGS SV2			3Q	
(U) GBS operates on WGS SV3				1Q