Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-237

Global Broadcast Service (GBS)

As of FY 2017 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
$B - Billions of Dollars
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
PAUC - Program Acquisition Unit Cost

PB - President’s Budget
PE - Program Element
PEO - Program Executive Officer
PM - Program Manager
POE - Program Office Estimate
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting
U.S. - United States
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

Program Information

Program Name

Global Broadcast Service (GBS)

DoD Component

Air Force

Joint Participants

Army; Navy; Marine Corps

Responsible Office

Mr. Robert Tarleton
MILSATCOM Systems Directorate
483 N. Aviation Blvd.
El Segundo, CA 90245-2802

Robert.Tarleton@us.af.mil

Phone: 310-653-9001
Fax: 310-653-9636
DSN Phone: 633-9001
DSN Fax: 633-9636
Date Assigned: February 10, 2014

References

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated November 14, 1997

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated September 15, 2006

Mission and Description

The Global Broadcast Service (GBS) is an extension of the Global Information Grid that provides worldwide, high capacity, one-way transmission of video (especially from Unmanned Aerial Vehicles), imagery and geospatial intelligence products, and other high-bandwidth information supporting the nation's command centers and joint combat forces in garrison, in transit, and deployed within global combat zones. It employs readily available satellite-based commercial technologies that are relatively inexpensive and easily integrated into existing systems and processes, yet are not so unwieldy as to be unusable by smaller and more mobile units. To this end, GBS currently uses broadcast payloads on two Ultra-High Frequency Follow-On satellites and the Wideband Global Satellite Communications constellation.

Information sources deliver products for daily broadcast via Defense Enterprise Computing Centers operated by the Defense Information Systems Agency. Content is based on defined mission profiles approved by the Combatant Commander's Theater Information Managers. The GBS Operations Center provides broadcast planning and coordinates beam movement as well as 24/7/365 support to users worldwide.

Executive Summary

The GBS program office is proceeding with its non-transmission security (TRANSEC) solution to address obsolescence issues and vulnerabilities and enable fielding of new receive suite products. Activities include testing new versions of GBS specific software with new hardware components, coordinating test resources, and executing path check-outs through teleport gateways and the Defense Enterprise Computing Center Satellite Broadcast Manager. Government Qualification Testing was successfully held in October 2015 as planned. Forty-nine deficiencies were identified of which 16 have been closed; courses of action have been identified for those remaining. The program office continues to plan and coordinate resources for regression testing starting in February 2016 followed by Operational Testing in May/June 2016. Operational Acceptance (OA) is projected for November 2016.

The program office continues to support the DoD effort to develop a replacement TRANSEC solution. Defense Information Systems Agency (DISA), the lead agency for this effort, has a program entitled Enterprise Satellite Communications (SATCOM) Gateway Modem. DISA issued a Request for Information in May 2015 to support Commercial Product Analysis. From that, DISA down-selected potential modems to undergo demonstration and performance testing at the Joint SATCOM Engineering Center December 2015 – March 2016. GBS technical staff participates in stakeholder meetings to ensure GBS requirements will be met.

On April 24, 2015, the Army announced it no longer has a requirement for the Theater Injection Point (TIP), which is GBS's transportable broadcast capability. The five TIPs (three Army, one Air Force, and one for testing) were being upgraded for obsolescence issues and vulnerabilities and were to be part of the OA process. The Air Force later determined that the cost of operating and maintaining its TIP outweighed the operational requirement. On June 25, 2015, Headquarters Air Force Space Command removed the TIP from the Digital Video Broadcast – SATCOM Generation 2 non-TRANSEC architecture test requirements.

On September 24, 2015, an Indefinite Delivery/Indefinite Quantity production contract was awarded to AQYR Technologies for Portable Receive Suites (PRS). This is Phase III of a Small Business Innovative Research effort. The contract has a $100M ceiling and pricing tables through CY 2020. The first Delivery Order (DO) was placed on September 28, 2015, for 150 Rucksack PRSs and associated spares for the Air Force. The DO totals $13.95M. Details of this contract are not included in the Contracts section of this SAR since the value is currently below the $40M threshold for SAR reporting.

There are no significant software-related issues with this program at this time.

Threshold Breaches

APB Breaches		
Schedule		☑
Performance		☐
Cost	RDT&E	☐
	Procurement	☑
	MILCON	☐
	Acq O&M	☐
O&S Cost		☐
Unit Cost	PAUC	☐
	APUC	☐

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Explanation of Breach

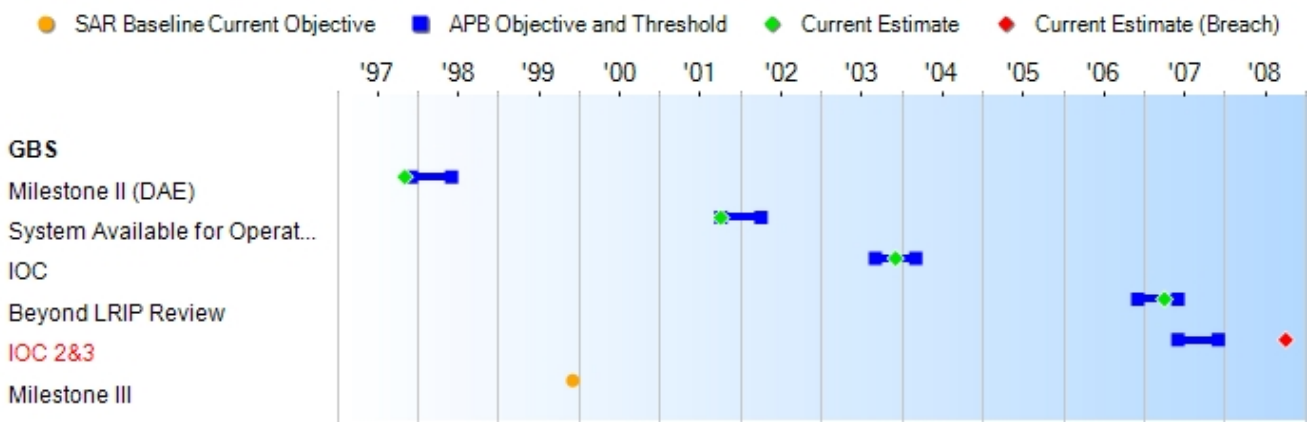
The schedule and the total procurement cost breaches were previously reported in the December 2010 SAR.

A Program Deviation Report (PDR) was issued for the schedule breach on January 30, 2008.

Throughout the budgeting process the Services have increased procurement funding to buy additional receive suites. These increases led to a procurement breach in the FY 2011 PB. A PDR for the procurement cost breach was submitted to the Secretary of the Air Force on April 23, 2010 and to USD(AT&L) August 31, 2010.

The program office was not directed to update the APB.

Schedule



Schedule Events				
Events	**SAR Baseline Development Estimate**	**Current APB Development Objective/Threshold**		**Current Estimate**
Milestone II (DAE)	Dec 1997	Dec 1997	Jun 1998	Nov 1997
System Available for Operational Use	Jun 1999	Oct 2001	Apr 2002	Oct 2001
IOC	Dec 1999	Sep 2003	Mar 2004	Dec 2003
Beyond LRIP Review	N/A	Dec 2006	Jun 2007	Apr 2007
IOC 2&3	N/A	Jun 2007	Dec 2007	**Oct 2008**[1]
Milestone III	Dec 1999	N/A	N/A	N/A

[1] *APB Breach*

Change Explanations

None

Notes

All Schedule Events have been fulfilled.

An incremental IOC approach was approved by the JROC memo 111-00, dated June 27, 2000. GBS Phase II requirements are grouped into IOC 1, 2 and 3. The following summarizes the threshold requirements associated with each IOC:

IOC 1:
- PIPs operational on UFO satellites 8, 9, 10.
- Full Satellite Broadcast Manager capability.
- Field 20% of JPO Receive Suites (19 units).
- Personnel training in operations and maintenance of fielded equipment.
- Logistically support the system to effectively sustain GBS.
- Independently assess system capabilities.
- Augment UFO GBS with leased commercial satellite services to cover gaps over CONUS.

- Demonstrate smart push and user pull capability.
(Note: IOC 1 is based on the performance of the then-fielded ATM based system.)

IOC 2:

- Field 90% of JPO Receive Suites (86 units).
- Provide classified video capability.
- Remote Receive Suite enable/disable.

IOC 3:

- Tactically suitable Ground Receive Suite (two-person lift).
- Protect all information from exploitation.

Acronyms and Abbreviations

ATM - Asynchronous Transfer Mode
CONUS - Continental United States
JPO - Joint Program Office
PIP - Primary Injection Point
UFO - Ultra High Frequency Follow-On

Performance

Performance Characteristics				
SAR Baseline Development Estimate	**Current APB Development Objective/Threshold**		**Demonstrated Performance**	**Current Estimate**
System Coverage				
65 deg South to 65 deg North	65 deg South to 65 deg North	65 deg South to 65 deg North	65 deg South to 65 deg North	65 deg South to 65 deg North
Space Segment Resources				
N/A	WGS with UFO GBS	WGS with UFO GBS	WGS with UFO GBS	WGS with UFO GBS
Spot Beams				
Two 500nm steerable, one 2000 nm steerable	Two 500nm steerable, one 2000 nm steerable	Two 500nm steerable, One 2000 nm steerable	Two 500nm steerable, One 2000 nm steerable	Two 500nm steerable, One 2000 nm steerable
Simultaneous Uplinks				
One PIP and up to 3 TIPs simultan-eously	One PIP and up to 3 TIPs simultan-eously	One PIP and one TIP	One PIP and one TIP	One PIP and one TIP
Security				
Pass unclassified to TS/SCI traffic	Pass unclassified toTS/SCI traffic	Pass unclassified toTS/SCI traffic	Pass unclassified to TS/SCI traffic	Pass unclassified to TS/SCI traffic
Receive Frequency Band				
20.2-21. 2 GHz UFO GBS, one or more commercial satellite frequency bands	N/A	N/A	N/A	N/A
Support operations with multiple satellite beams and terminal types (i.e., Receive Variable Data Rates)				
2000nm: add SSRS and ART 500nm: add ART	2000nm: add SSRS and ART 500nm: Add ART	2000nm: FGRS, TGRS and SRS 500nm: FGRS, TGRS, SRS and SSRS	2000nm: FGRS, TGRS and SRS 500nm: FGRS, TGRS, SRS and SSRS	2000nm: FGRS, TGRS and SRS 500nm: FGRS, TGRS, SRS and SSRS
Pointing of Steerable Spot Beam Antenna				
Frequent	Frequent	Frequent	Frequent	Frequent
Steerable Antenna Tasking				
SBM Primary means	SBM Primary Means	SBM Primary Means	SBM Primary Means	SBM Primary Means
Interoperability				
N/A	100% IERs	100% critical IERs	100% IERs satisfied	100% IERs satisfied

	satisfied	satisfied		
Network Ready				
N/A	TBD	TBD	Certification granted May 16, 2013	Certification granted May 16, 2013

Requirements Reference

Operational Requirements Document (ORD) dated January 12, 2005

Change Explanations

None

Notes

The Demonstrated Performance and Current Estimate for Network Ready was updated to acknowledge a Joint Staff Memorandum for United States Air Force, dated May 16, 2013, that granted full Net-Ready KPP certification of the GBS program. With this certification, all Performance Characteristics have been fulfilled.

Acronyms and Abbreviations

ART - Airborne Receive Terminal
deg - Degrees
FGRS - Fixed Ground Receive Suite/Terminal
GHz - Gigahertz
IERs - Information Exchange Requirements
nm - Nautical Miles
PIP - Primary Injection Point
SBM - Satellite Broadcast Manager
SRS - Shipboard Receive Suite/Terminal
SSRS - SubSurface (submarine) Receive Suite/Terminal
TGRS - Transportable Ground Receive Suite/Terminal
TIP - Theater Injection Point
TS/SCI - Top Secret/Sensitive Compartmented Information
UFO - Ultra High Frequency Follow-on Satellite
WGS - Wideband Global SATCOM

Track to Budget

RDT&E

Appn		BA	PE		
Navy	1319	07	0303109N		
	Project		**Name**		
	3398		Enterprise SATCOM Gateway Modems (ESGM)	(Shared)	
Air Force	3600	07	0303601F		
	Project		**Name**		
	2487		MILSATCOM Space	(Shared)	(Sunk)
Air Force	3600	05	0603840F		
	Project		**Name**		
	4887		Global Broadcast Service	(Shared)	(Sunk)
Air Force	3600	04	0603854F		
	Project		**Name**		
	2679		Global Broadcast Service 1 & 2		(Sunk)
Air Force	3600	04	0604775F		
	Project		**Name**		
	6004		Defense Rapid Innovation Program	(Shared)	(Sunk)

Procurement

Appn		BA	PE		
Navy	1109	04	0206313M		
	Line Item		**Name**		
	4633		Radio Systems	(Shared)	
Navy	1810	02	0303109N		
	Line Item		**Name**		
	3215		Satellite Communications Systems	(Shared)	
Army	2035	02	0310703A		
	Line Item		**Name**		
	BC4120		GBS	(Shared)	
Air Force	3021	05	0303601F		
	Line Item		**Name**		
	199		AF - Space Equipment	(Shared)	
Air Force	3080	03	0303601F		
	Line Item		**Name**		
	836780		MILSATCOM Space	(Shared)	(Sunk)
Defense-Wide	0350	02	0505001D		
	Line Item		**Name**		
	21005		Misc Equipment - Army National Guard	(Shared)	(Sunk)

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 1997 $M			BY 1997 $M	TY $M		
	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Development Estimate	Current APB Development Objective	Current Estimate
RDT&E	397.5	423.5	465.9	399.7	439.2	450.5	424.2
Procurement	53.9	361.3	397.4	**569.0**[1]	57.9	412.3	707.7
Flyaway	--	--	--	545.4	--	--	679.5
Recurring	--	--	--	360.6	--	--	443.2
Non Recurring	--	--	--	184.8	--	--	236.3
Support	--	--	--	23.6	--	--	28.2
Other Support	--	--	--	5.3	--	--	5.6
Initial Spares	--	--	--	18.3	--	--	22.6
MILCON	0.0	0.0	--	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	451.4	784.8	N/A	968.7	497.1	862.8	1131.9

[1] *APB Breach*

Total Quantity			
Quantity	SAR Baseline Development Estimate	Current APB Development	Current Estimate
RDT&E	221	136	136
Procurement	125	1085	1903
Total	346	1221	2039

Quantity Notes

The RDT&E quantity of 136 is comprised of 10 First Generation Increment One (I1E) Air Force Receive Suites (RS), 27 I1E Shipboard RS, 96 Joint Program Office funded Air Force RS, and 3 Primary Injection Points (PIPs).

The Procurement quantity includes 3 Army Theater Injection Points (TIPs) and 2 Air Force TIPs; all others are RS.

The quantity increase of 25 receive suites on the following page breaks out as follows:

3 - increase in Air Force (APPN 3080) receive suites FY 2014 - 2015
11 - increase and redistribution in Navy (APPN 1810) receive suites FY 2016 - 2021
11 - increase and redistribution in Marine Corps (APPN 1109) receive suites FY 2014 - 2017
25 - total increase from prior SAR

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2017 President's Budget / December 2015 SAR (TY$ M)									
Appropriation	Prior	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
RDT&E	419.4	0.0	2.4	1.5	0.9	0.0	0.0	0.0	424.2
Procurement	631.5	22.3	26.2	8.5	7.2	5.0	5.1	1.9	707.7
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2017 Total	1050.9	22.3	28.6	10.0	8.1	5.0	5.1	1.9	1131.9
PB 2016 Total	1045.4	24.9	11.8	5.0	5.0	3.3	0.0	0.0	1095.4
Delta	5.5	-2.6	16.8	5.0	3.1	1.7	5.1	1.9	36.5

Quantity Summary										
FY 2017 President's Budget / December 2015 SAR (TY$ M)										
Quantity	Undistributed	Prior	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Development	136	0	0	0	0	0	0	0	0	136
Production	0	1803	19	38	6	12	12	13	0	1903
PB 2017 Total	136	1803	19	38	6	12	12	13	0	2039
PB 2016 Total	136	1807	25	15	7	12	12	0	0	2014
Delta	0	-4	-6	23	-1	0	0	13	0	25

Cost and Funding

Annual Funding By Appropriation

Annual Funding 3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1996	--	--	--	--	--	--	14.0
1997	--	--	--	--	--	--	37.9
1998	--	--	--	--	--	--	70.2
1999	--	--	--	--	--	--	64.3
2000	--	--	--	--	--	--	41.1
2001	--	--	--	--	--	--	31.6
2002	--	--	--	--	--	--	34.0
2003	--	--	--	--	--	--	20.8
2004	--	--	--	--	--	--	35.8
2005	--	--	--	--	--	--	21.8
2006	--	--	--	--	--	--	17.9
2007	--	--	--	--	--	--	23.1
2008	--	--	--	--	--	--	0.5
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	1.8
2011	--	--	--	--	--	--	4.6
Subtotal	136	--	--	--	--	--	419.4

Annual Funding 3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	BY 1997 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1996	--	--	--	--	--	--	14.1
1997	--	--	--	--	--	--	37.7
1998	--	--	--	--	--	--	69.3
1999	--	--	--	--	--	--	62.9
2000	--	--	--	--	--	--	39.6
2001	--	--	--	--	--	--	30.0
2002	--	--	--	--	--	--	31.9
2003	--	--	--	--	--	--	19.3
2004	--	--	--	--	--	--	32.4
2005	--	--	--	--	--	--	19.2
2006	--	--	--	--	--	--	15.3
2007	--	--	--	--	--	--	19.3
2008	--	--	--	--	--	--	0.4
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	1.4
2011	--	--	--	--	--	--	3.6
Subtotal	136	--	--	--	--	--	396.4

Annual Funding 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2017	--	--	--	--	--	--	2.4
2018	--	--	--	--	--	--	1.5
2019	--	--	--	--	--	--	0.9
Subtotal	--	--	--	--	--	--	4.8

Annual Funding 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	BY 1997 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2017	--	--	--	--	--	--	1.7
2018	--	--	--	--	--	--	1.0
2019	--	--	--	--	--	--	0.6
Subtotal	--	--	--	--	--	--	3.3

Annual Funding 2035 | Procurement | Other Procurement, Army							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1998	1	3.0	--	2.2	5.2	2.1	7.3
1999	8	4.3	--	--	4.3	1.5	5.8
2000	17	9.4	--	4.0	13.4	1.5	14.9
2001	--	--	--	--	--	0.2	0.2
2002	27	7.6	--	--	7.6	0.8	8.4
2003	13	4.9	--	--	4.9	1.0	5.9
2004	24	13.6	--	0.3	13.9	0.1	14.0
2005	1	12.2	--	--	12.2	1.2	13.4
2006	59	12.1	--	--	12.1	1.0	13.1
2007	62	16.7	--	--	16.7	1.2	17.9
2008	332	46.6	--	--	46.6	3.5	50.1
2009	188	34.4	--	--	34.4	3.3	37.7
2010	4	0.5	--	6.3	6.8	--	6.8
2011	--	--	--	4.6	4.6	--	4.6
2012	177	51.3	--	--	51.3	0.5	51.8
2013	89	17.6	--	--	17.6	3.0	20.6
2014	--	--	--	9.1	9.1	--	9.1
2015	--	--	--	15.9	15.9	--	15.9
2016	--	--	--	6.3	6.3	--	6.3
Subtotal	1002	234.2	--	48.7	282.9	20.9	303.8

Annual Funding 2035 | Procurement | Other Procurement, Army							
Fiscal Year	Quantity	BY 1997 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1998	1	2.9	--	2.1	5.0	2.1	7.1
1999	8	4.1	--	--	4.1	1.5	5.6
2000	17	9.0	--	3.7	12.7	1.5	14.2
2001	--	--	--	--	--	0.2	0.2
2002	27	7.1	--	--	7.1	0.7	7.8
2003	13	4.5	--	--	4.5	0.9	5.4
2004	24	12.1	--	0.3	12.4	0.1	12.5
2005	1	10.6	--	--	10.6	1.0	11.6
2006	59	10.2	--	--	10.2	0.9	11.1
2007	62	13.8	--	--	13.8	1.0	14.8
2008	332	37.8	--	--	37.8	2.9	40.7
2009	188	27.5	--	--	27.5	2.7	30.2
2010	4	0.4	--	4.9	5.3	--	5.3
2011	--	--	--	3.6	3.6	--	3.6
2012	177	39.0	--	--	39.0	0.4	39.4
2013	89	13.1	--	--	13.1	2.3	15.4
2014	--	--	--	6.7	6.7	--	6.7
2015	--	--	--	11.5	11.5	--	11.5
2016	--	--	--	4.5	4.5	--	4.5
Subtotal	1002	192.1	--	37.3	229.4	18.2	247.6

Annual Funding 1109 | Procurement | Procurement, Marine Corps							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2004	--	--	--	2.4	2.4	--	2.4
2005	48	5.7	--	--	5.7	--	5.7
2006	20	3.1	--	3.4	6.5	--	6.5
2007	--	--	--	0.1	0.1	--	0.1
2008	--	--	--	2.4	2.4	--	2.4
2009	--	--	--	0.7	0.7	--	0.7
2010	16	2.4	--	--	2.4	--	2.4
2011	--	--	--	--	--	--	--
2012	--	--	--	0.1	0.1	--	0.1
2013	3	0.3	--	1.0	1.3	--	1.3
2014	--	--	--	0.3	0.3	--	0.3
2015	--	--	--	1.3	1.3	--	1.3
2016	--	--	--	0.6	0.6	--	0.6
2017	18	2.0	--	6.3	8.3	0.2	8.5
2018	--	--	--	1.7	1.7	--	1.7
2019	--	--	--	1.7	1.7	--	1.7
2020	--	--	--	1.8	1.8	--	1.8
2021	--	--	--	1.8	1.8	--	1.8
2022	--	--	--	1.9	1.9	--	1.9
Subtotal	105	13.5	--	27.5	41.0	0.2	41.2

Annual Funding 1109 | Procurement | Procurement, Marine Corps							
Fiscal Year	Quantity	BY 1997 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2004	--	--	--	2.1	2.1	--	2.1
2005	48	4.9	--	--	4.9	--	4.9
2006	20	2.6	--	2.8	5.4	--	5.4
2007	--	--	--	0.1	0.1	--	0.1
2008	--	--	--	1.9	1.9	--	1.9
2009	--	--	--	0.6	0.6	--	0.6
2010	16	1.9	--	--	1.9	--	1.9
2011	--	--	--	--	--	--	--
2012	--	--	--	0.1	0.1	--	0.1
2013	3	0.2	--	0.8	1.0	--	1.0
2014	--	--	--	0.2	0.2	--	0.2
2015	--	--	--	0.9	0.9	--	0.9
2016	--	--	--	0.4	0.4	--	0.4
2017	18	1.4	--	4.5	5.9	0.1	6.0
2018	--	--	--	1.2	1.2	--	1.2
2019	--	--	--	1.1	1.1	--	1.1
2020	--	--	--	1.2	1.2	--	1.2
2021	--	--	--	1.2	1.2	--	1.2
2022	--	--	--	1.2	1.2	--	1.2
Subtotal	105	11.0	--	20.3	31.3	0.1	31.4

Annual Funding 3080 | Procurement | Other Procurement, Air Force							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2000	5	2.9	--	--	2.9	--	2.9
2001	16	4.5	--	--	4.5	--	4.5
2002	28	6.7	--	--	6.7	--	6.7
2003	6	1.0	--	13.8	14.8	--	14.8
2004	88	19.1	--	--	19.1	0.1	19.2
2005	2	12.1	--	--	12.1	0.1	12.2
2006	65	13.1	--	--	13.1	0.1	13.2
2007	--	--	--	0.7	0.7	--	0.7
2008	--	--	--	1.1	1.1	--	1.1
2009	2	1.7	--	--	1.7	--	1.7
2010	10	1.4	--	4.9	6.3	0.5	6.8
2011	22	10.1	--	9.9	20.0	0.7	20.7
2012	2	0.4	--	11.1	11.5	0.1	11.6
2013	--	--	--	10.8	10.8	--	10.8
2014	59	5.3	--	6.9	12.2	0.4	12.6
2015	91	10.7	--	19.4	30.1	0.8	30.9
Subtotal	396	89.0	--	78.6	167.6	2.8	170.4

Annual Funding 3080 | Procurement | Other Procurement, Air Force							
Fiscal Year	Quantity	BY 1997 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2000	5	2.7	--	--	2.7	--	2.7
2001	16	4.2	--	--	4.2	--	4.2
2002	28	6.1	--	--	6.1	--	6.1
2003	6	0.9	--	12.8	13.7	--	13.7
2004	88	17.3	--	--	17.3	0.1	17.4
2005	2	10.7	--	--	10.7	--	10.7
2006	65	11.2	--	--	11.2	0.1	11.3
2007	--	--	--	0.6	0.6	--	0.6
2008	--	--	--	0.9	0.9	--	0.9
2009	2	1.4	--	--	1.4	--	1.4
2010	10	1.1	--	3.9	5.0	0.4	5.4
2011	22	7.9	--	7.8	15.7	0.5	16.2
2012	2	0.3	--	8.5	8.8	0.1	8.9
2013	--	--	--	8.2	8.2	--	8.2
2014	59	4.0	--	5.1	9.1	0.3	9.4
2015	91	7.9	--	14.3	22.2	0.6	22.8
Subtotal	396	75.7	--	62.1	137.8	2.1	139.9

Annual Funding 1810 | Procurement | Other Procurement, Navy							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1997	11	0.6	--	--	0.6	--	0.6
1998	--	--	--	--	--	--	--
1999	20	4.2	--	--	4.2	--	4.2
2000	8	0.8	--	--	0.8	--	0.8
2001	13	1.1	--	--	1.1	--	1.1
2002	16	2.1	--	--	2.1	--	2.1
2003	--	--	--	5.5	5.5	--	5.5
2004	--	--	--	19.3	19.3	--	19.3
2005	--	--	--	7.9	7.9	--	7.9
2006	--	--	--	2.7	2.7	--	2.7
2007	2	0.9	--	--	0.9	--	0.9
2008	1	1.8	--	--	1.8	--	1.8
2009	10	13.9	--	11.8	25.7	0.4	26.1
2010	13	4.3	--	2.7	7.0	--	7.0
2011	20	7.7	--	2.8	10.5	0.3	10.8
2012	10	3.9	--	0.5	4.4	0.1	4.5
2013	10	13.0	--	--	13.0	--	13.0
2014	10	5.4	--	0.2	5.6	0.3	5.9
2015	2	0.7	--	3.1	3.8	0.1	3.9
2016	19	7.2	--	6.2	13.4	0.3	13.7
2017	20	7.6	--	1.8	9.4	0.3	9.7
2018	6	1.7	--	1.0	2.7	0.2	2.9
2019	12	3.0	--	--	3.0	0.1	3.1
2020	12	3.0	--	--	3.0	0.2	3.2
2021	13	3.3	--	--	3.3	--	3.3
Subtotal	228	86.2	--	65.5	151.7	2.3	154.0

Annual Funding 1810 | Procurement | Other Procurement, Navy							
Fiscal Year	Quantity	BY 1997 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1997	11	0.6	--	--	0.6	--	0.6
1998	--	--	--	--	--	--	--
1999	20	4.1	--	--	4.1	--	4.1
2000	8	0.8	--	--	0.8	--	0.8
2001	13	1.0	--	--	1.0	--	1.0
2002	16	2.0	--	--	2.0	--	2.0
2003	--	--	--	5.0	5.0	--	5.0
2004	--	--	--	17.2	17.2	--	17.2
2005	--	--	--	6.8	6.8	--	6.8
2006	--	--	--	2.3	2.3	--	2.3
2007	2	0.7	--	--	0.7	--	0.7
2008	1	1.5	--	--	1.5	--	1.5
2009	10	11.1	--	9.4	20.5	0.3	20.8
2010	13	3.4	--	2.1	5.5	--	5.5
2011	20	5.9	--	2.2	8.1	0.2	8.3
2012	10	3.0	--	0.3	3.3	0.1	3.4
2013	10	9.7	--	--	9.7	--	9.7
2014	10	4.0	--	0.1	4.1	0.3	4.4
2015	2	0.5	--	2.2	2.7	0.1	2.8
2016	19	5.2	--	4.4	9.6	0.2	9.8
2017	20	5.3	--	1.3	6.6	0.2	6.8
2018	6	1.2	--	0.7	1.9	0.1	2.0
2019	12	2.0	--	--	2.0	0.1	2.1
2020	12	2.0	--	--	2.0	0.1	2.1
2021	13	2.1	--	--	2.1	--	2.1
Subtotal	228	66.1	--	54.0	120.1	1.7	121.8

Annual Funding 0350 | Procurement | National Guard and Reserve Equipment ,Defense							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2011	172	20.3	--	--	20.3	2.0	22.3
Subtotal	172	20.3	--	--	20.3	2.0	22.3

Annual Funding 0350 | Procurement | National Guard and Reserve Equipment ,Defense							
Fiscal Year	Quantity	BY 1997 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2011	172	15.7	--	--	15.7	1.5	17.2
Subtotal	172	15.7	--	--	15.7	1.5	17.2

Annual Funding 3021 | Procurement | Space Procurement, Air Force							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2016	--	--	--	1.7	1.7	--	1.7
2017	--	--	--	8.0	8.0	--	8.0
2018	--	--	--	3.9	3.9	--	3.9
2019	--	--	--	2.4	2.4	--	2.4
Subtotal	--	--	--	16.0	16.0	--	16.0

Annual Funding 3021 | Procurement | Space Procurement, Air Force							
Fiscal Year	Quantity	BY 1997 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2016	--	--	--	1.2	1.2	--	1.2
2017	--	--	--	5.6	5.6	--	5.6
2018	--	--	--	2.7	2.7	--	2.7
2019	--	--	--	1.6	1.6	--	1.6
Subtotal	--	--	--	11.1	11.1	--	11.1

Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	11/14/1997	6/21/2006
Approved Quantity	500	628
Reference	Milestone II ADM	LRIP ADM
Start Year	1997	1997
End Year	1999	2007

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the following:

Milestone II ADM, dated November 11, 1997, approved the GBS Phase II entry into EMD and an LRIP of up to 500 Receive Suites (RS) and 140 shipboard antennas.

A USD(AT&L) ADM, dated June 2006, authorized an LRIP increase of 128 RS to an approved quantity of 628.

On April 13, 2007, the USD(AT&L) signed an ADM that authorized the Joint Program Office to procure Beyond LRIP quantities of RS.

Foreign Military Sales

None

Nuclear Costs

None

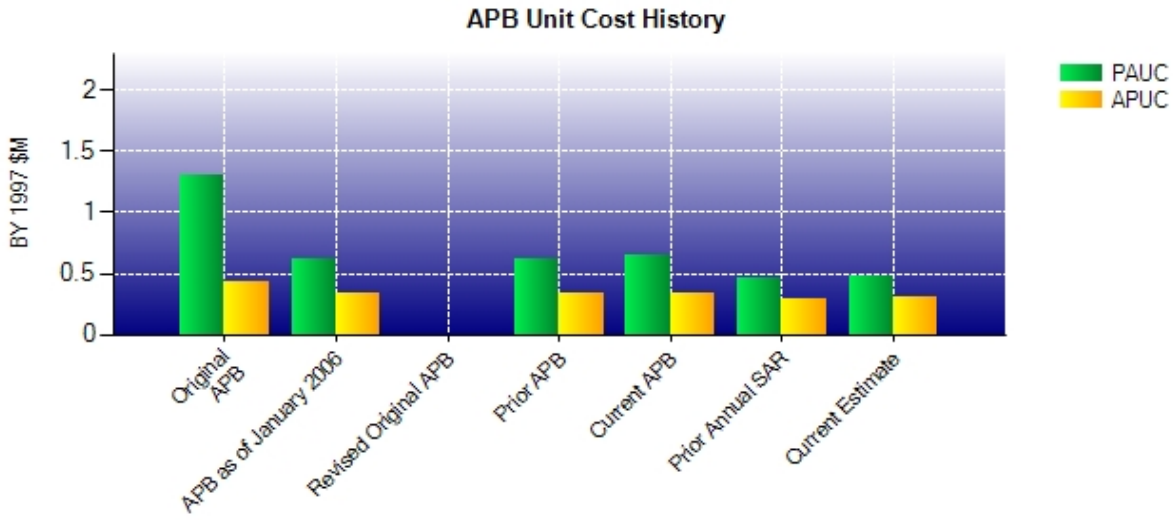
Unit Cost

Unit Cost Report

Item	BY 1997 $M Current UCR Baseline (Sep 2006 APB)	BY 1997 $M Current Estimate (Dec 2015 SAR)	% Change
Program Acquisition Unit Cost			
Cost	784.8	968.7	
Quantity	1221	2039	
Unit Cost	0.643	0.475	-26.13
Average Procurement Unit Cost			
Cost	361.3	569.0	
Quantity	1085	1903	
Unit Cost	0.333	0.299	-10.21

Item	BY 1997 $M Original UCR Baseline (Nov 1997 APB)	BY 1997 $M Current Estimate (Dec 2015 SAR)	% Change
Program Acquisition Unit Cost			
Cost	451.4	968.7	
Quantity	346	2039	
Unit Cost	1.305	0.475	-63.60
Average Procurement Unit Cost			
Cost	53.9	569.0	
Quantity	125	1903	
Unit Cost	0.431	0.299	-30.63

Unit Cost History



Item	Date	BY 1997 $M		TY $M	
		PAUC	APUC	PAUC	APUC
Original APB	Nov 1997	1.305	0.431	1.437	0.463
APB as of January 2006	Feb 2003	0.614	0.333	0.673	0.380
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	Feb 2003	0.614	0.333	0.673	0.380
Current APB	Sep 2006	0.643	0.333	0.707	0.380
Prior Annual SAR	Dec 2014	0.468	0.291	0.544	0.360
Current Estimate	Dec 2015	0.475	0.299	0.555	0.372

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)									
Initial PAUC Development Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
1.437	-0.004	-0.974	0.042	0.070	-0.027	0.000	0.011	-0.882	0.555

Current SAR Baseline to Current Estimate (TY $M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.463	0.003	-0.195	0.045	0.040	0.004	0.000	0.012	-0.091	0.372

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone I	N/A	N/A	N/A	N/A
Milestone II	N/A	Dec 1997	N/A	Nov 1997
Milestone III	N/A	Dec 1999	N/A	N/A
IOC	N/A	Dec 1999	N/A	Dec 2003
Total Cost (TY $M)	N/A	497.1	N/A	1131.9
Total Quantity	N/A	346	N/A	2039
PAUC	N/A	1.437	N/A	0.555

Cost Variance

Summary TY $M				
Item	**RDT&E**	**Procurement**	**MILCON**	**Total**
SAR Baseline (Development Estimate)	439.2	57.9	--	497.1
Previous Changes				
Economic	-14.5	+6.7	--	-7.8
Quantity	-2.7	+447.1	--	+444.4
Schedule	--	+83.3	--	+83.3
Engineering	+65.6	+83.1	--	+148.7
Estimating	-68.2	-23.6	--	-91.8
Other	--	--	--	--
Support	--	+21.5	--	+21.5
Subtotal	-19.8	+618.1	--	+598.3
Current Changes				
Economic	+0.2	-0.4	--	-0.2
Quantity	--	+3.7	--	+3.7
Schedule	--	+2.2	--	+2.2
Engineering	--	-6.1	--	-6.1
Estimating	+4.6	+31.2	--	+35.8
Other	--	--	--	--
Support	--	+1.1	--	+1.1
Subtotal	+4.8	+31.7	--	+36.5
Total Changes	-15.0	+649.8	--	+634.8
CE - Cost Variance	424.2	707.7	--	1131.9
CE - Cost & Funding	424.2	707.7	--	1131.9

Summary BY 1997 $M				
Item	**RDT&E**	**Procurement**	**MILCON**	**Total**
SAR Baseline (Development Estimate)	397.5	53.9	--	451.4
Previous Changes				
Economic	--	--	--	--
Quantity	-2.6	+370.2	--	+367.6
Schedule	--	+64.4	--	+64.4
Engineering	+57.0	+65.9	--	+122.9
Estimating	-55.3	-24.8	--	-80.1
Other	--	--	--	--
Support	--	+17.3	--	+17.3
Subtotal	-0.9	+493.0	--	+492.1
Current Changes				
Economic	--	--	--	--
Quantity	--	+2.5	--	+2.5
Schedule	--	+1.4	--	+1.4
Engineering	--	-4.5	--	-4.5
Estimating	+3.1	+21.8	--	+24.9
Other	--	--	--	--
Support	--	+0.9	--	+0.9
Subtotal	+3.1	+22.1	--	+25.2
Total Changes	+2.2	+515.1	--	+517.3
CE - Cost Variance	399.7	569.0	--	968.7
CE - Cost & Funding	399.7	569.0	--	968.7

Previous Estimate: December 2014

RDT&E	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+0.2
Additional funding for Transmission Security upgrades in FY 2017 to FY 2019 (Navy). (Estimating)	+3.3	+4.8
Adjustment for current and prior escalation. (Estimating)	-0.2	-0.2
RDT&E Subtotal	+3.1	+4.8

Procurement	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-0.4
Stretch-out of procurement buy profile (FY 2016 - FY 2021) (Navy). (Schedule)	0.0	+0.1
Quantity variance resulting from an increase of 11 receive suites from 217 to 228 (Navy). (Subtotal)	+2.1	+3.2
Quantity variance resulting from an increase of 11 receive suites from 217 to 228 (Navy). (Quantity)	(+1.1)	(+1.7)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(+0.6)	(+0.9)
Allocation to Engineering resulting from Quantity change. (Engineering) (QR)	(+0.6)	(+0.9)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(-0.2)	(-0.3)
Quantity variance resulting from an increase of 3 receive suites from 393 to 396 (Air Force). (Subtotal)	+0.6	+0.8
Quantity variance resulting from an increase of 3 receive suites from 393 to 396 (Air Force). (Quantity)	(+0.3)	(+0.4)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(+0.2)	(+0.3)
Allocation to Engineering resulting from Quantity change. (Engineering) (QR)	(+0.2)	(+0.3)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(-0.1)	(-0.2)
Quantity variance resulting from an increase of 11 receive suites from 94 to 105 (Marine Corps). (Subtotal)	+2.1	+3.0
Quantity variance resulting from an increase of 11 receive suites from 94 to 104 (Marine Corps). (Quantity)	(+1.1)	(+1.6)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(+0.6)	(+0.9)
Allocation to Engineering resulting from Quantity change. (Engineering) (QR)	(+0.6)	(+0.9)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(-0.2)	(-0.4)
Decrease related to removal of the Theatre Injection Point (TIP) (FY2013 - FY2015) (Army). (Engineering)	-5.9	-8.2
Decrease in Operational Acceptance activities because of TIP removal (FY 2017) (Army). (Estimating)	-1.7	-2.4
Increase for activities leading to Operational Acceptance (FY 2013 - FY 2017) (Air Force). (Estimating)	+11.5	+15.7
Funding received for Flyaway costs (FY 2020 - FY 2022) (Marine Corps). (Estimating)	+4.8	+7.3
Realignment of appropriation funding in FY 2015 to FY 2021 to align with FY 2017 PB (Navy). (Estimating)	+1.1	+1.4
Revised estimating due to lower unit cost per receive suite (FY 2014 - FY 2015) (Air Force). (Estimating)	-1.4	-1.8

Funds allocated to incorporate hardware and software changes into the production baseline (FY 2017) (Marine Corps). (Estimating)	+1.1	+1.6
Re-alignment of funds from Other Procurement Air Force to Space Procurement Air Force in FY 2016 to FY 2017 (Air Force). (Estimating)	-4.3	-6.0
Re-alignment of funds from Other Procurement Air Force to Space Procurement Air Force in FY 2016 to FY 2017 (Air Force). (Estimating)	+4.2	+6.0
Additional funding for Transmission Security upgrades in FY 2017 to FY 2019 (Air Force). (Estimating)	+6.8	+10.0
Adjustment for current and prior escalation. (Estimating)	+0.2	+0.3
Adjustment for current and prior escalation. (Support)	+0.1	0.0
Increase in Initial Spares (Marine Corps). (Support)	+0.1	+0.2
Increase in Initial Spares (Air Force). (Support)	+0.7	+1.0
Decrease in Initial Spares (Navy). (Support)	0.0	-0.1
Procurement Subtotal	+22.1	+31.7

(QR) Quantity Related

Contracts

Contract Identification

Appropriation: Procurement
Contract Name: Transportable Ground Receive Suite Production
Contractor: General Dynamics C4 Systems, Inc.
Contractor Location: 400 John Quincy Adams Rd
Taunton, MA 02780-1036
Contract Number: FA8307-11-D-0005
Contract Type: Firm Fixed Price (FFP)
Award Date: August 22, 2011
Definitization Date: August 22, 2011

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
8.7	N/A	4	45.7	N/A	283	45.7	45.7

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to orders placed by all services.

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FFP) contract.

Notes

This contract has a $900M ceiling. Current orders total $45.7M. The contract includes pre-negotiated pricing tables that extend through FY 2016. Future contract modifications will extend the pricing tables through FY 2020. The Estimated Price at Completion depends on the future orders placed by all services.

Deliveries and Expenditures

Deliveries				
Delivered to Date	**Planned to Date**	**Actual to Date**	**Total Quantity**	**Percent Delivered**
Development	136	136	136	100.00%
Production	1651	1651	1903	86.76%
Total Program Quantity Delivered	1787	1787	2039	87.64%

Expended and Appropriated (TY $M)			
Total Acquisition Cost	1131.9	Years Appropriated	21
Expended to Date	960.1	Percent Years Appropriated	77.78%
Percent Expended	84.82%	Appropriated to Date	1073.2
Total Funding Years	27	Percent Appropriated	94.81%

The above data is current as of February 09, 2016.

Total Program Quantity breaks out as follows:

RDT&E:

10	First Generation Units
96	Ground Receive Suites (RS)
27	Shipboard RS
3	Primary Injection Points, two of which included Satellite Broadcast Manager (SBM) Facilities
136	Total RDT&E Quantities

Procurement:

5	Theatre Injection Points
1,898	RS - all variants
1,903	Total Procurement Quantities

2,039 Total Program Quantity (136 RDT&E + 1,903 Procurement)

2,021 = total RSs (96 Ground + 27 Shipboard + 1,898 Procurement)

Quantity to Sustain:

2,039	Total Program Quantity
-10	First Generation Units not used
+2	Original SBMs replaced by Defense Enterprise Computer Center Facilities
-1	Primary Injection Point site decommissioned
-5	Theatre Injection Points no longer used
2,025	**Total Quantity to Sustain**

Operating and Support Cost

Cost Estimate Details

Date of Estimate:	September 25, 2015
Source of Estimate:	POE
Quantity to Sustain:	2025
Unit of Measure:	Total Quantity
Service Life per Unit:	17.00 Years
Fiscal Years in Service:	FY 2014 - FY 2031

Assets include: Broadcast facilities, Receive Suites (RSs), and Primary Injection Points (PIPs). The costs include all the operating, logistics and personnel costs associated with operating the transmit sites.

The September 25, 2015 O&S cost estimate assumes one primary and one secondary broadcast facility located at two Defense Enterprise Computing Centers (DECCs), two PIPs, and a total of 2,021 RSs for all configurations and all services. Sustained assets total 2,025. This varies from the total quantity of the December 2014 SAR for the following reason: decommissioning of five Theatre Injection Points (TIPs) (Army and Air Force Assets), and increase of 25 RS procurements across the services.

The POE costs include the sustainment of the GBS DECCs starting in FY 2014 and were updated to reflect the GBS September 2015 Published Centralized Access for Data Exchange and associated Element of Expense Identification Code/ OSD Cost Element Structure mapping. Significant updates include GBS contractor software maintenance transitioning to Ogden organic support as recommended in the December 2014 Product Support Business Case Analysis, planned PIPs decommissioning in FY 2018, and initiating decommissioning of five TIPs.

Sustainment Strategy

The GBS employs a two-level maintenance concept employing Operational level maintenance by the individual GBS RSs users and normalized organic supply support and Depot repair for stock listed parts for the RS, while the DECC Satellite Broadcast Management (SBM) user equipment is currently fully supported through Contractor Logistics Support (CLS).

Ogden - Air Logistics Center is designated as the software depot, including license renewal, for GBS RS and DECC SBM software. While other major stakeholders for GBS sustainment include: System-level Product Support Management, 50th Space Communications Squadron, and Tobyhanna Army Depot.

Antecedent Information

No Antecedent

Annual O&S Costs BY1997 $M		
Cost Element	**GBS Average Annual Cost Per Total Quantity**	**None (Antecedent) N/A**
Unit-Level Manpower	5.606	0.000
Unit Operations	0.000	0.000
Maintenance	0.051	0.000
Sustaining Support	0.847	0.000
Continuing System Improvements	8.039	0.000
Indirect Support	0.000	0.000
Other	0.000	0.000
Total	14.543	--

Unit Operations encompasses all operations of the broadcast facilities.

Maintenance includes Depot hardware maintenance activities.

Sustaining Support encompasses sustaining engineering support costs for all GBS assets.

Continuing System Improvements includes organic software maintenance, software license renewals and other support as required.

Item	Total O&S Cost $M			
	GBS			None (Antecedent)
	Current Development APB Objective/Threshold		Current Estimate	
Base Year	308.1	338.9	247.2	N/A
Then Year	382.5	N/A	393.9	N/A

The current APB dates from February 2003. The APB O&S estimate assumed O&S through FY 2015. The latest OSD inflation indices used for the current estimate indicate a higher rate of inflation than those used for the APB. The current estimate assumes O&S through FY 2031 but also assumes a lower annual cost than the APB. These factors explain the apparent discongruence between BY$ and TY$ for the O&S costs.

Equation to Translate Annual Cost to Total Cost

Total O&S Costs = average annual cost x assumed life in years = $14.543M x 17 = $247.2M (BY$)

O&S Cost Variance		
Category	**BY 1997 $M**	**Change Explanations**
Prior SAR Total O&S Estimates - Dec 2014 SAR	301.3	
Programmatic/Planning Factors	-54.1	Transition to Organic Software, PIPs Decommissioning and TIPs Decommissioning
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	

Labor Rate	0.0
Energy Rate	0.0
Technical Input	0.0
Other	0.0
Total Changes	-54.1
Current Estimate	247.2

Disposal Estimate Details

Date of Estimate:

Source of Estimate:

Disposal/Demilitarization Total Cost (BY 1997 $M):

No disposal estimate at this time.