

UNCLASSIFIED

PE NUMBER: 0603850F
 PE TITLE: Integrated Broadcast Service (DEM/VAL)

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2008
---	------------------------------

BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0603850F Integrated Broadcast Service (DEM/VAL)
--	---

Cost (\$ in Millions)	FY 2007 Actual	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	24.471	21.058	21.105	21.100	21.148	21.343	21.555	Continuing	TBD
4778 Integrated Broadcast Service	24.471	21.058	21.105	21.100	21.148	21.343	21.555	Continuing	TBD

FY07 funding total includes \$4M in GWOT Supplemental

(U) A. Mission Description and Budget Item Justification

The Integrated Broadcast Service (IBS) fulfills the warfighter's requirements for threat warning and situational awareness information with timely dissemination of intelligence and information. It also provides target tracking data to support threat avoidance, targeting, force protection, and situational awareness. This information is continually refined by data provided by strategic, operational and tactical sensors. This request funds the IBS system development as described below.

- A Common Interactive Broadcast (CIB) on UHF satellite channel using a Common Message Format (CMF) and a MIL-STD Demand Assigned Multiple Access (DAMA) compliant waveform and Line of Sight (LOS) using the Wideband Networking Waveform (WNW) and Joint Tactical Radio System (JTRS).
- IBS includes a Global IBS Network Server (GINS), a Co-GINS, and four (4) Theater Interface Nodes (TINs) to support the geographic Combatant Commanders; all built to validated warfighter requirements.
- A centralized GINS and Co-GINS that receives data from each theater and then integrates this data into a worldwide picture available to all network/broadcast users.
- 4 regional TINs, where out-of-theater (and local) users not directly receiving the broadcast can receive the information broadcast on the CIB. Additionally, the TIN will receive and inject data into the CIB for producers without access to the theater CIB.
- An XML Based Common Message Format (CMF) Data Element Dictionary (DED) that defines IBS messages for broadcast of IBS information over available communications paths including the CIB and other Global Information Grid (GIG) networks.
- A Modular Advanced TRanslation Interchange with XML (MATRIX) Reformatter that provides a modular, platform-independent, multi-use translator to both support migration with legacy radios and to provide a long term solution for IBS FOC radio users.

This program is in budget activity 4 because it includes demonstrating and validating the use of technologies to create an operational integrated broadcast service.

Exhibit R-2, RDT&E Budget Item Justification

DATE

February 2008

BUDGET ACTIVITY

04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE

0603850F Integrated Broadcast Service (DEM/VAL)

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	20.471	21.192	21.372
(U) Current PBR/President's Budget	24.471	21.058	21.105
(U) Total Adjustments	4.000	-0.134	
(U) Congressional Program Reductions			
Congressional Rescissions		-0.134	
Congressional Increases	4.000		
Reprogrammings			
SBIR/STTR Transfer			
(U) <u>Significant Program Changes:</u>			

Exhibit R-2a, RDT&E Project Justification

DATE

February 2008

BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)				PE NUMBER AND TITLE 0603850F Integrated Broadcast Service (DEM/VAL)			PROJECT NUMBER AND TITLE 4778 Integrated Broadcast Service		
Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
4778 Integrated Broadcast Service	24.471	21.058	21.105	21.100	21.148	21.343	21.555	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

FY07 funding total includes \$4M in GWOT Supplemental

(U) **A. Mission Description and Budget Item Justification**

The Integrated Broadcast Service (IBS) fulfills the warfighter's requirements for threat warning and situational awareness information with timely dissemination of intelligence and information. It also provides target tracking data to support threat avoidance, targeting, force protection, and situational awareness. This information is continually refined by data provided by strategic, operational and tactical sensors. This request funds the IBS system development as described below.

- A Common Interactive Broadcast (CIB) on UHF satellite channel using a Common Message Format (CMF) and a MIL-STD Demand Assigned Multiple Access (DAMA) compliant waveform and Line of Sight (LOS) using the Wideband Networking Waveform (WNW) and Joint Tactical Radio System (JTRS).
- IBS includes a Global IBS Network Server (GINS), a Co-GINS, and four (4) Theater Interface Nodes (TINs) to support the geographic Combatant Commanders; all built to validated warfighter requirements.
- A centralized GINS and Co-GINS that receives data from each theater and then integrates this data into a worldwide picture available to all network/broadcast users.
- 4 regional TINs, where out-of-theater (and local) users not directly receiving the broadcast can receive the information broadcast on the CIB. Additionally, the TIN will receive and inject data into the CIB for producers without access to the theater CIB.
- An XML Based Common Message Format (CMF) Data Element Dictionary (DED) that defines IBS messages for broadcast of IBS information over available communications paths including the CIB and other Global Information Grid (GIG) networks.
- A Modular Advanced TRanslation Interchange with XML (MATRIX) Reformatter that provides a modular, platform-independent, multi-use translator to both support migration with legacy radios and to provide a long term solution for IBS FOC radio users.

This program is in budget activity 4 because it includes demonstrating and validating the use of technologies to create an operational integrated broadcast service.

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue systems engineering, including development of architectures, system of systems management through the Joint Broadcast Configuration Control Board (JBCCB), and risk reduction studies using Simulation Based Acquisition (SBA) tools	0.911	1.815	1.650
(U) Continue the Phase II/Engineering, Manufacturing, and Development of the GINS and TINs	17.946	13.244	13.239
(U) Continue Test & Evaluation	0.988	0.970	1.200
(U) Maintain a Program Management Office, including program supervision, finance and acquisition strategy execution	1.926	2.229	3.096
(U) Joint Tactical Radio System (JTRS) Modular Advanced TRanslation and Interchange with XML (MATRIX) Reformatter	1.900	2.100	1.220
(U) Enterprise Systems Engineering/CMF Integration/CIB Integration/IBS CMF Data Base (ICDB)	0.800	0.700	0.700

R-1 Line Item No. 45

Page-3 of 8

Project 4778

Exhibit R-2a (PE 0603850F)

Exhibit R-2a, RDT&E Project Justification

DATE

February 2008

BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0603850F Integrated Broadcast Service (DEM/VAL)	PROJECT NUMBER AND TITLE 4778 Integrated Broadcast Service
--	---	--

(U) <u>B. Accomplishments/Planned Program (\$ in Millions)</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Total Cost	24.471	21.058	21.105

(U) <u>C. Other Program Funding Summary (\$ in Millions)</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>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) OPAF/PE 0305179F	11.889	20.634	18.436	12.653	12.904	13.187	13.477	Continuing	TBD
(U) O&M/PE 0305179F	16.009	17.809	17.736	18.410	18.360	18.618	18.910	Continuing	TBD

(U) **D. Acquisition Strategy**

IBS used an evolutionary acquisition approach with a Program Definition/Risk Reduction phase (Spiral 1), followed by a full and open competition award to BTG/Titan/L-3Comm to complete the Engineering, Manufacturing and Development (EMD) phase (Spiral 2-5).

MATRIX used an initial requirements definition phase followed by evolutionary acquisition approach for the development contract by means of a Sole-Source contract award to L3-Comm IS.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT NUMBER AND TITLE
04 Advanced Component Development and Prototypes (ACD&P)	0603850F Integrated Broadcast Service (DEM/VAL)	4778 Integrated Broadcast Service

(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 2007 Cost</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> Phase 2 Spiral II - V	C/CPAF	BTG, Inc./Titan/L-3 Comm (Reston, VA)		17.946	Jan-07	13.244	Jan-08	13.239	Jan-09	Continuing	TBD	TBD
CMF Systems Engineering and Format Development	C/FFP	SAIC (Columbia, MD)								0.000	0.000	TBD
SATCOM Broadcast Waveform Development	MIPR	SPAWAR Systems (San Diego, CA)								0.000	0.000	TBD
JTRS MATRIX Reformatter	C/FFP	L-3 Comm, IS (Greenville, TX)		1.900	Mar-07	2.100	Mar-08	1.220	Mar-09	Continuing	TBD	TBD
IBS CMF Data Base	MIPR	SPAWAR Systems (San Diego, CA)		0.100	Jan-07					0.000	0.100	TBD
Subtotal Product Development			0.000	19.946		15.344		14.459		Continuing	TBD	TBD
Remarks:												
(U) <u>Support</u>				0.000		0.000		0.000		0.000	0.000	0.000
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) <u>Test & Evaluation</u> Interoperability and Developmental Testing	MIPR/Project Order	JITC (Ft Huachuca, AZ) & 46th OSS (Eglin AFB, FL)		0.988	Jan-07	0.970	Jan-08	1.200	Jan-09	Continuing	TBD	TBD
Subtotal Test & Evaluation			0.000	0.988		0.970		1.200		Continuing	TBD	TBD
Remarks:												
(U) <u>Management</u> SPO/Professional Acquisition Support Service (PASS)	Various	Local Area (Bedford, MA)/Washington DC Area		1.926	Mar-07	2.229	Mar-08	3.096	Mar-09	Continuing	TBD	TBD
MITRE	SS/CPFF (FFRDC)	Bedford, MA		0.911	Mar-07	1.815	Oct-07	1.650	Oct-08	Continuing	TBD	TBD
Enterprise Engineering/CMF Integration/CIB	SS/CPFF	L-3 Comm, IS		0.700	Mar-07	0.700	Mar-08	0.700	Mar-09		2.100	

R-1 Line Item No. 45

Page-5 of 8

Project 4778

Exhibit R-3 (PE 0603850F)

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE

February 2008

BUDGET ACTIVITY		PE NUMBER AND TITLE				PROJECT NUMBER AND TITLE		
04 Advanced Component Development and Prototypes (ACD&P)		0603850F Integrated Broadcast Service (DEM/VAL)				4778 Integrated Broadcast Service		
Integration	(Greenville, TX)							
Subtotal Management		0.000	3.537	4.744	5.446	Continuing	TBD	TBD
Remarks:								
(U) Total Cost		0.000	24.471	21.058	21.105	Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2008

BUDGET ACTIVITY
04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603850F Integrated Broadcast Service (DEM/VAL)

PROJECT NUMBER AND TITLE
4778 Integrated Broadcast Service

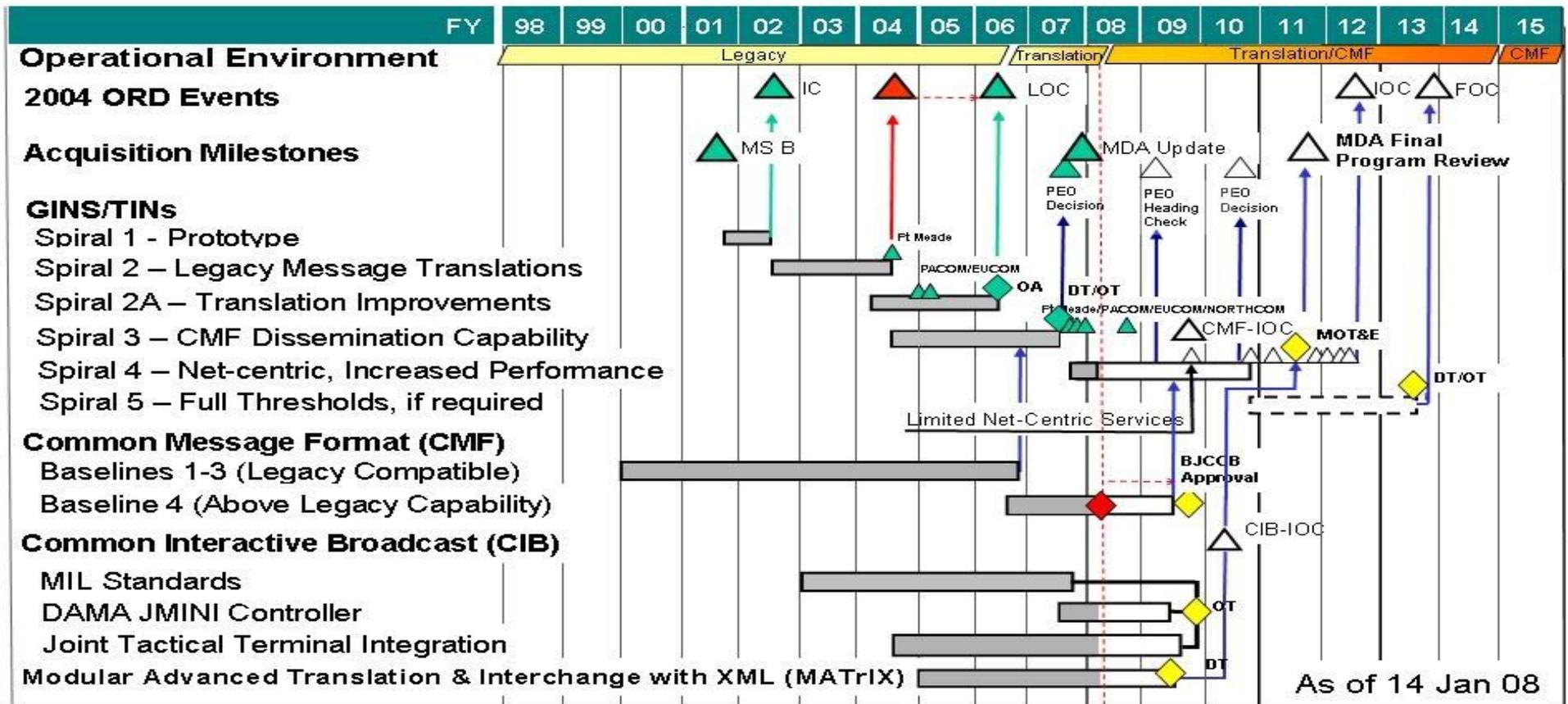


UNCLASSIFIED/FOUO

Integrated Broadcast Service Broadcast Segment Schedule



Delivering what we promised when we promised *War-winning Capabilities... On Time, On Cost*



UNCLASSIFIED/FOUO

R-1 Line Item No. 45

Page-7 of 8

UNCLASSIFIED

Exhibit R-4a, RDT&E Schedule Detail	DATE February 2008
--	------------------------------

BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0603850F Integrated Broadcast Service (DEM/VAL)	PROJECT NUMBER AND TITLE 4778 Integrated Broadcast Service
---	--	---

(U) <u>Schedule Profile</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Phase 2 Spiral III Development	1-4Q	1-2Q	
(U) Phase 2 Spiral III Fielding		2Q	
(U) Phase 2 Spiral IV System Requirements Review	4Q		
(U) Phase 2 Spiral IV Preliminary Design Review		1Q	
(U) Phase 2 Spiral IV Design Review		4Q	
(U) Phase 2 Spiral IV Development		4Q	1-4Q
(U) MATRIX Development	1-4Q	1-4Q	1-4Q
(U) CIB Integration		1-4Q	1-4Q
(U) PEO Heading Check			1Q
(U) CMF Baseline 4 Standards Approval			4Q