

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

<b>Exhibit R-2, RDT&amp;E Budget Item Justification</b>	DATE <b>February 2004</b>
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<b>BUDGET ACTIVITY</b> <b>03 Advanced Technology Development (ATD)</b>	<b>PE NUMBER AND TITLE</b> <b>0603850F Integrated Broadcast Service (DEM/VAL)</b>
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Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	0.000	8.464	2.294	0.000	0.000	0.000	0.000	Continuing	TBD
4778 Integrated Broadcast Service	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5151 Blue Force Tracking	0.000	8.464	2.294	0.000	0.000	0.000	0.000	Continuing	TBD

In FY2004, Project Number 635151, Joint Blue Force Situation Awareness (JBFSa) ACTD, efforts were transferred from PE0207028F, Joint Expeditionary Force Experiment (JEFX), Project Number 674991, Joint Distributed Engineering Plant.

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

JBFSa ACTD - The Joint Blue Force Situation Awareness (JBFSa) ACTD is a continuation of an ACTD started in 2003. Because the ground forces use different communications and distribution methods to develop the Blue Force ground picture, there are latency and granularity problems in the Blue Force ground picture, resulting in a lack of data interoperability. This ACTD will develop, integrate, and sustain web-enabled Common Operating Picture (COP) capabilities for Blue Force Tracking that will be interoperable with Service systems. All candidate solutions for these capabilities will be tested under this ACTD before migration to the Service for sustainment. The ACTD begins transition and starts Extended User Evaluation (EUE). The ACTD begins work solving coalition and multi-level security issues.

FIOP - The Family of Interoperable Operational Pictures is a program designed to implement web-based technologies into Systems of Record, making their data and thus the Common operational and tactical pictures consistent throughout the Services and at all echelons of Combat Operations. The Joint Requirements Oversight Council (JROC) directed "...provide an all source picture of the Battlespace containing actionable decision quality information through the fusion of existing databases." in JROC Memorandum 156-02. Ultimately, the efforts described will lead to the underpinnings of Network Centric Operational Warfare.

FIOP Joint Blue Force Situational Awareness (JBFSa) - Many DoD systems provide data regarding friendly forces. There is no single system or mission application that provides a totally integrated (i.e. all blue force data) set of data to the warfighter. This task will perform the systems engineering, architecture development and integration activities leading to a secure, web-based blue force data dissemination network service. This task is being led by the Army and is being done in coordination with the Blue Force Tracking and Single Integrated Ground Picture programs and the Joint Blue Force Situational Awareness Advanced Concept Technology Demonstration.

This program is in Budget Activity 3, Advanced Technology Development, since it develops and demonstrates technologies for existing systems.

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BUDGET ACTIVITY

03 Advanced Technology Development (ATD)

PE NUMBER AND TITLE

0603850F Integrated Broadcast Service (DEM/VAL)

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Previous President's Budget		8.537	8.558
(U) Current PBR/President's Budget	0.000	8.464	2.294
(U) Total Adjustments	0.000	-0.073	
(U) Congressional Program Reductions		-0.073	
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
(U) <u>Significant Program Changes:</u>			
Not Applicable.			

**Exhibit R-2a, RDT&E Project Justification**

DATE  
**February 2004**

BUDGET ACTIVITY <b>03 Advanced Technology Development (ATD)</b>				PE NUMBER AND TITLE <b>0603850F Integrated Broadcast Service (DEM/VAL)</b>			PROJECT NUMBER AND TITLE <b>4778 Integrated Broadcast Service</b>		
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
4778 Integrated Broadcast Service	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

In FY 03, the Air Force funds this ACTD in the Joint Expeditionary Force Experiment (JEFX) program (PE 0207028F).

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

The Air Force's Blue Force Tracking ACTD is a continuation of an ACTD started in 2003. Because the ground forces use different communications and distribution methods to develop the Blue Force ground picture, there are latency and granularity problems in the Blue Force ground picture, resulting in a lack of data interoperability. This ACTD will develop, integrate, and sustain web-enable Common Operating Picture (COP) capabilities for Blue Force Tracking that will be interoperable with Service systems. All candidate solutions for these capabilities will be tested under this ACTD before migration to the Service for sustainment.

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Accomplishments/Planned Program	0.000	0.000	
(U) No Activity	0.000		
(U) Training, Tactics, Procedure (TTP)/CONOP Development			
(U) Field Tests			
(U) Spiral 3 software development			
(U) Total Cost	0.000	0.000	0.000

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

	<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>Complete</u>	
(U) Not applicable.									

**(U) D. Acquisition Strategy**

Not Applicable.

## Exhibit R-2a, RDT&amp;E Project Justification

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BUDGET ACTIVITY <b>03 Advanced Technology Development (ATD)</b>				PE NUMBER AND TITLE <b>0603850F Integrated Broadcast Service (DEM/VAL)</b>			PROJECT NUMBER AND TITLE <b>5151 Blue Force Tracking</b>		
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
5151 Blue Force Tracking	0.000	8.464	2.294	0.000	0.000	0.000	0.000	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

In FY2004, Project Number 635151, Joint Blue Force Situation Awareness (JBFSa) ACTD, efforts were transferred from PE0207028F, Joint Expeditionary Force Experiment (JEFX), Project Number 674991, Joint Distributed Engineering Plant.

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

Joint Blue Force Situation Awareness (JBFSa) ACTD - The JBFSa ACTD is a continuation of an ACTD started in 2003. Because the ground forces use different communications and distribution methods to develop the Blue Force ground picture, there are latency and granularity problems in the Blue Force ground picture, resulting in a lack of data interoperability. This ACTD will develop, integrate, and sustain web-enabled Common Operating Picture (COP) capabilities for Blue Force Tracking that will be interoperable with Service systems. All candidate solutions for these capabilities will be tested under this ACTD before migration to the Service for sustainment. The ACTD begins transition and starts Extended User Evaluation (EUE). The ACTD begins work solving coalition and multi-level security issues.

FIOP - The Family of Interoperable Operational Pictures is a program designed to implement web-based technologies into Systems of Record, making their data and thus the Common operational and tactical pictures consistent throughout the Services and at all echelons of Combat Operations. The Joint Requirements Oversight Council (JROC) directed "...provide an all source picture of the Battlespace containing actionable decision quality information through the fusion of existing databases." in JROC Memorandum 156-02. Ultimately, the efforts described will lead to the underpinnings of Network Centric Operational Warfare.

FIOP Joint Blue Force Situational Awareness (JBFSa) - Many DoD systems provide data regarding friendly forces. There is no single system or mission application that provides a totally integrated (i.e. all blue force data) set of data to the warfighter. This task will perform the systems engineering, architecture development and integration activities leading to a secure, web-based blue force data dissemination network service. This task is being led by the Army and is being done in coordination with the Blue Force Tracking and Single Integrated Ground Picture programs and the Joint Blue Force Situational Awareness Advanced Concept Technology Demonstration.

This program is in Budget Activity 3, Advanced Technology Development, since it develops and demonstrates technologies for existing systems.

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Accomplishments Planned Program	0.000	0.000	0.000
(U) No Activity	0.000		
(U) Engineering, Integration & Testing		1.767	0.920
(U) Demonstration/Exercise Support			0.339
(U) CONOPS/Tactics, Techniques, and Procedures (TTP) & Documentation Development		0.180	0.230
(U) Purchase/Lease and Installation of BFT Devices, Training, and Purchase of Satellite Communications (SATCOM) air time		0.500	

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<b>BUDGET ACTIVITY</b> <b>03 Advanced Technology Development (ATD)</b>	<b>PE NUMBER AND TITLE</b> <b>0603850F Integrated Broadcast Service (DEM/VAL)</b>	<b>PROJECT NUMBER AND TITLE</b> <b>5151 Blue Force Tracking</b>
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(U) Transition Support			0.575
(U) SPO Operations		0.230	0.230
(U) FIOP Joint Blue Force Situational Awareness Integrated Architecture Development and Interoperability enhancements		5.787	0.000
(U) Total Cost	0.000	8.464	2.294

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

	<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>Complete</u>	

(U) Not Applicable  
The funding for the FIOP effort for the future years has been transferred to PE 0207443, Family of Interoperable Operational Pictures.

(U) **D. Acquisition Strategy**

The Acquisition Strategy for this effort will be to use existing precompeted contracts and add task/delivery orders to them.

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

Exhibit R-2, RDT&E Budget Item Justification								DATE February 2004	
BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)				PE NUMBER AND TITLE 0603850F Integrated Broadcast Service (DEM/VAL)					
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	38.390	16.229	23.927	20.155	20.814	21.276	21.606	Continuing	TBD
4778 Integrated Broadcast Service	38.390	16.229	23.927	20.155	20.814	21.276	21.606	Continuing	TBD

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

The Integrated Broadcast Service (IBS) provides war fighters with critical and highly perishable intelligence in a single, correlated picture via a near-real-time, integrated dissemination architecture. IBS consolidates existing intelligence broadcast systems into a common-format and theater-tailored architecture. The IBS design incorporates new functionality in broadcast and information management and a new message format. It fields Information Management Elements (IME) to geographic Combatant Commanders; built to requirements as set forth in the Joint Operational Requirements Document. Functional characteristics include:

- Accept data from dissimilar, geographically-dispersed, multi-INT sources.
- Transmit to end users equipped with Joint Tactical Terminal (JTT) or terminals which incorporate the Common IBS Modules (CIBS-M).
- Disseminate intelligence focused on user generated and combatant commander validated priorities.
- Disseminate intelligence over communications paths available to the end user.

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Previous President's Budget	19.870	16.466	23.990
(U) Current PBR/President's Budget	38.390	16.229	23.927
(U) Total Adjustments	18.520	-0.237	
(U) Congressional Program Reductions	-0.072	-0.097	
Congressional Rescissions	-0.412	-0.140	
Congressional Increases	19.200		
Reprogrammings	-0.196		
SBIR/STTR Transfer			
(U) <b><u>Significant Program Changes:</u></b>			
(N/A)			

## Exhibit R-2a, RDT&amp;E Project Justification

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BUDGET ACTIVITY		PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE			
<b>04 Advanced Component Development and Prototypes (ACD&amp;P)</b>		<b>0603850F Integrated Broadcast Service (DEM/VAL)</b>					<b>4778 Integrated Broadcast Service</b>			
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total	
4778 Integrated Broadcast Service	38.390	16.229	23.927	20.155	20.814	21.276	21.606	Continuing	TBD	
Quantity of RDT&E Articles	0	0	0	0	0	0	0			

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

The Integrated Broadcast Service (IBS) provides war fighters with critical and highly perishable intelligence in a single, correlated picture via a near-real-time, integrated dissemination architecture. IBS consolidates existing intelligence broadcast systems into a common-format and theater-tailored architecture. The IBS design incorporates new functionality in broadcast and information management and a new message format. It fields Information Management Elements (IME) to geographic Combatant Commanders; built to requirements as set forth in the Joint Operational Requirements Document. Functional characteristics include:

- Accept data from dissimilar, geographically-dispersed, multi-INT sources.
- Transmit to end users equipped with Joint Tactical Terminal (JTT) or terminals which incorporate the Common IBS Modules (CIBS-M).
- Disseminate intelligence focused on user generated and combatant commander validated priorities.
- Disseminate intelligence over communications paths available to the end user.

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 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Accomplishments/Planned Program	0.000	0.000	
(U) Maintain a Program Management Office, including program supervision, finance and acquisition strategy execution.	0.800	0.800	1.200
(U) Continue systems engineering, including development of architectures, System of Systems management through the JBCCB and Risk Reduction Studies using SBA tools.	1.960	1.654	1.670
(U) Continue the design and build of Information Management Elements (Phase II/Engineering, Manufacturing, and Development)	14.884	11.800	19.387
(U) Continue Common Message Format (CMF) development	0.946	0.875	0.920
(U) Waveform Development		0.500	
(U) Continue Test & Evaluation	0.600	0.600	0.750
(U) Continue spiral development efforts on IBS Informational Element (IME) through 'Smart Pull' Capability and increased/improved dissemination processes.	19.200		
(U) Total Cost	38.390	16.229	23.927

## Exhibit R-2a, RDT&amp;E Project Justification

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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) C. Other Program Funding Summary (\$ in Millions)****(U) D. Acquisition Strategy**

IBS used a Program Definition/Risk Reduction (PDRR) phase (Phase I), followed by a spiral development Engineering, Manufacturing, Development (EMD) phase (Phase II). Award of the Phase II contract was based on full and open competition. The Phase II effort will use spiral development.

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Exhibit R-3, RDT&E Project Cost Analysis										DATE <b>February 2004</b>		
BUDGET ACTIVITY <b>04 Advanced Component Development and Prototypes (ACD&amp;P)</b>					PE NUMBER AND TITLE <b>0603850F Integrated Broadcast Service (DEM/VAL)</b>					PROJECT NUMBER AND TITLE <b>4778 Integrated Broadcast Service</b>		
<u>(U) Cost Categories</u>	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>Cost to</u>	<u>Total</u>	<u>Target</u>
(Tailor to WBS, or System/Item Requirements) (\$ in Millions)			<u>Prior to FY</u>	<u>2003</u>	<u>2003</u>	<u>2004</u>	<u>2004</u>	<u>2005</u>	<u>2005</u>	<u>Complete</u>	<u>Cost</u>	<u>Value of</u>
			<u>Cost</u>	<u>Cost</u>	<u>Award</u>	<u>Cost</u>	<u>Award</u>	<u>Cost</u>	<u>Award</u>			<u>Contract</u>
					<u>Date</u>		<u>Date</u>		<u>Date</u>			
<u>(U) Product Development</u>												
Lockheed Martin (Phase I)	C/FFP	Gaithersburg, MD	2.000	0.000						0.000	2.000	
BTG, Inc. (Phase I)	C/FFP	Fairfax, VA	2.000	0.000						0.000	2.000	
TRW, Inc. (Phase I)	C/FFP	Fairfax, VA	2.000	0.000						0.000	2.000	
BTG, Inc./Titan (Phase II)	C/CPAF	Fairfax, VA	10.200	33.508	Mar-03	10.784	Dec-03	18.187	Dec-04	Continuing	TBD	
Raytheon E-Systems/L3Comm-CMF	C/FFP	Greenville, TX	3.910	0.368	Mar-03					0.000	4.278	
SAIC (CMF)	C/FFP	Columbia, MD	0.400	0.720	Jan-03	0.875	Feb-04	0.920	Jan-05	0.000	2.915	
Waveform Development	MIPR	San Diego, CA (SPAWAR Systems)	0.000	0.000		0.500	Dec-03			Continuing	TBD	
Subtotal Product Development			20.510	34.596		12.159		19.107		Continuing	TBD	0.000
Remarks:												
<u>(U) Support</u>												
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
<u>(U) Test &amp; Evaluation</u>												
JITC/46th OSS	MIPR	Ft Huachuca, AZ & Eglin AFB, FL	0.380	0.600	Nov-02	0.600	Dec-03	0.750	Dec-04	Continuing	TBD	
Subtotal Test & Evaluation			0.380	0.600		0.600		0.750		Continuing	TBD	0.000
Remarks:												
<u>(U) Management</u>												
SPO	Various	Local Area (Bedford, MA)		0.798	Sep-03	0.822	Sep-04	1.200	Sep-05		2.820	
MITRE/ITSP	SS/CPFF (FFRDC)	Bedford, MA	7.486	2.396	Nov-02	2.648	Dec-03	2.870	Feb-05	Continuing	TBD	
Subtotal Management			7.486	3.194		3.470		4.070		Continuing	TBD	0.000
Remarks:												
<u>(U) Total Cost</u>			28.376	38.390		16.229		23.927		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile

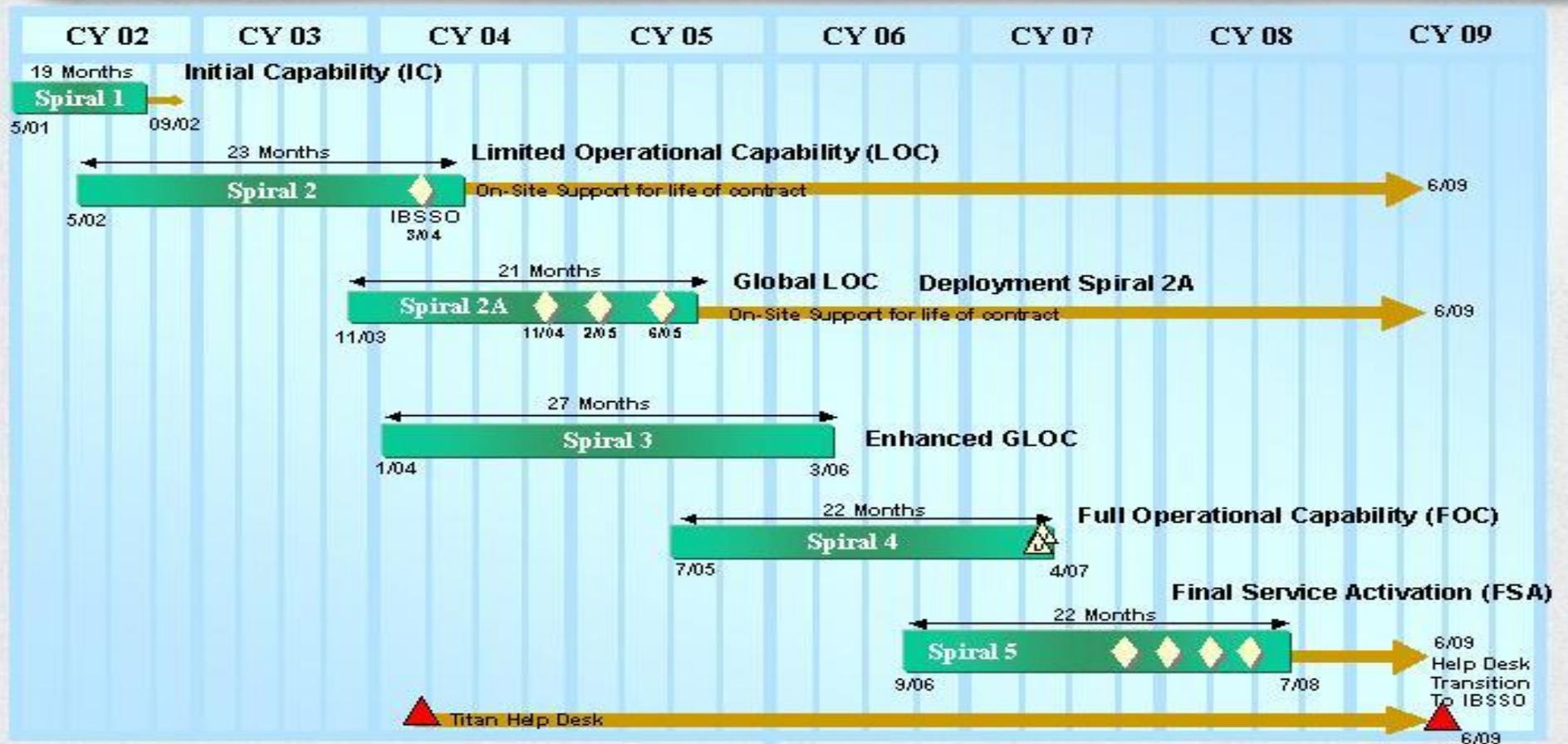
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BUDGET ACTIVITY  
04 Advanced Component Development and Prototypes (ACD&P)

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

PROJECT NUMBER AND TITLE  
4778 Integrated Broadcast Service



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<b>Exhibit R-4a, RDT&amp;E Schedule Detail</b>	DATE <b>February 2004</b>
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<b>BUDGET ACTIVITY</b> <b>04 Advanced Component Development and Prototypes (ACD&amp;P)</b>	<b>PE NUMBER AND TITLE</b> <b>0603850F Integrated Broadcast Service (DEM/VAL)</b>	<b>PROJECT NUMBER AND TITLE</b> <b>4778 Integrated Broadcast Service</b>
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<b>(U) <u>Schedule Profile</u></b>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Spiral II Final Design Review	3Q		
(U) Spiral II Integration Test		1Q	
(U) Spiral II LOC (Limited Operational Capability)		1Q	
(U) Spiral III PDR		1Q	
(U) Spiral III Final Design Review		2Q	
(U) Spiral IV System Requirements Review			3Q
(U) Spiral IV Preliminary Design Review			4Q