

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2005

## BUDGET ACTIVITY

7 - Operational system development

## PE NUMBER AND TITLE

0203759A - Force XXI Battle Command, Brigade and Below (FBCB2

## PROJECT

120

COST (In Thousands)		FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
120	FORCE XXI BATTLE CMD, BRIGADE & BELOW (FBCB2)	47414	22546	20201	10451	8798	8715	0	0	Continuing	0

**A. Mission Description and Budget Item Justification:** The Force XXI Battle Command Brigade and Below (FBCB2) is a digital, battle command information system that provides integrated, on-the-move, timely, relevant battle command information to tactical combat, combat support and combat service support leaders and soldiers. FBCB2 incorporates state-of-the-art information technology to allow commanders to concentrate combat system effects rather than combat forces, enabling units to be both more survivable and more lethal. FBCB2 provides the capability to pass orders and graphics allowing the warfighter to visualize the commander's intent and scheme of maneuver. FBCB2 affords combat forces the capability to retain the tactical/operational initiatives under all mission, enemy, terrain, troops, and time available conditions to enable faster decisions, real/near-real-time communications and response. The system includes a Pentium based processor, display unit, keyboard and removable hard disk drive cartridge. FBCB2 supports situational awareness (blue and red force positions) and command and control down to the soldier/platform level across Battlefield Operating Systems (BOS) and echelons. FBCB2 as a key component of the Army Battle Command System (ABCS), completes the information flow process from brigade to platform and across platforms within the brigade task force and across brigade boundaries. FBCB2-Blue Force Tracking (BFT) is a part of the FBCB2 program, which built upon both the FBCB2 program and experience with the Enhanced Information System (EIS), also known as Balkan Digitization Initiative (BDI) deployed in the Balkans. An L-Band transceiver employing commercial satellite services is used in lieu of tactical, terrestrial radios. The FBCB2-BFT system is deployed in the Gulf region in support of Operation Enduring Freedom (OEF)/Operation Iraqi Freedom (OIF) and has remained with those units in Continental United States (CONUS) that have returned from OIF/OEF. FBCB2-BFT satisfies the operational needs of the warfighter by providing near real-time tracking capabilities for joint and coalition forces in the Central Command (CENTCOM) Area of Responsibility (AOR). FBCB2-BFT enhances effectiveness by providing automated tools to facilitate the battle command process. It enhances the ability for the soldiers to operate in an unpredictable and changing environment where units are Beyond Line Of Sight (BLOS) within the battle space and across the spectrum of conflict by using multiple commercial satellites, which send the FBCB2-BFT data to a central processing facility known as the FBCB2 Operations Center.

FY06 and FY07 funds continue execution of Chief of Staff of the Army Directives for Battle Command Architecture and Joint Requirements Oversight Council Memorandum-161 (JROCM-161) efforts. Efforts include Type 1 Encryption and interoperability between TI and L-Band based FBCB2 systems. Funds will be used to provide platform-level situational awareness interoperability with the United Kingdom Bowman program; and provide interoperability with ABCS System of Systems, Bradley, Abrams, Aviation, Stryker and support mandated Army/DoD protocol/system updates; as well as, provide over the air database update of the Global Reference Table, follow-on efforts will completely update databases for L-Band and EPLRS networks. FBCB2 is an Army designated Horizontal Technology Integration (HTI) program.

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<u>Accomplishments/Planned Program</u>	FY 2004	FY 2005	FY 2006	FY 2007
Complete Army Battle Command System (ABCS) architecture and system of systems network engineering and integration efforts in support of v6.4.1 and Software Block Functionality	14900	1000	0	0
Type I Encryption and NSA Endorsement	0	3530	0	0
Conduct Development Test/Operational Test for Block I (in FY04) and Block II (in FY05) Capability of FBCB2-BFT at Electronic Proving Ground (EPG) and multiple FORSCOM unit NTC rotation at Ft. Irwin, CA	6210	1192	0	0
PM FBCB2 Program Management	3974	2124	2050	1050
Develop/Maintain Joint Interoperability (USMC, Land Warrior/Dismount) and implement Coalition (UK) interoperability	8088	7200	6400	6899
Develop Satellite Spectrum and Tactical Internet Interoperability, Data Loading/Management initialization to synchronize updates	5312	0	0	0
Common Software Product Line	8930	7500	5900	0
JROCM-161 - USMC & SOCOM Common Solution Brigade & Below	0	0	5851	2502
<b>Totals</b>	<b>47414</b>	<b>22546</b>	<b>20201</b>	<b>10451</b>

<u>B. Program Change Summary</u>	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2005)	23510	14744	8010
Current Budget (FY 2006/2007 PB)	22546	20201	10451
Total Adjustments	-964	5457	2441
Net of Program/Database Changes			
Congressional Program Reductions	-343	-580	-61
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer	-621		
Adjustments to Budget Years		6037	2502

FY06 \$6.037M and FY07 \$2.502M Additional funding to support JROCM-161

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C. Other Program Funding Summary	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA - W61900	110042	117670	146085	137375	42817	0	44635	27856	0	626480
OPA - BS9736 (Spares)	4041	3348	3549	464	2859	6231	0	0	0	20492
OMA - 432142	0	11319	11694	14394	19794	19793	0	0	0	76994

**D. Acquisition Strategy:** The initial System Development and Demonstration (SDD) contract, awarded in 1995, is a Cost Plus Incentive Fee (CPIF), Systems Engineering and Integration (SE&I) effort. The contract is for the development of software versions v1.0-v3.4, prototype computers, and associated hardware. A follow-on SE&I contract (Cost Plus Award Fee (CPAF)) was awarded in May 2002 for software versions v3.5. SE&I Contract Delivery Order was awarded for development of Software Version 6.4.1 on 14 June 2002. This will satisfy the Operational Requirements Document (ORD) Block II requirements and synchronize with ABCS 6.4. SE&I Follow-on contract awarded September 2004.

A Low Rate Initial Production (LRIP) Fixed Price Incentive Fee (FPIF) contract was awarded in January 2004 for the production of 5,952 systems with OPA funds. An LRIP Contingency Option for an additional 6,774 FBCB2 Systems was authorized in Nov 2002 and an Acquisition Decision Memorandum was approved Sept 22, 2003 for an additional one-year of LRIP. A Full Rate Production (FRP) decision was approved as a result of ASARC, Aug 2004.

ARMY RDT&E COST ANALYSIS(R3)									February 2005			
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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Software/Systems Engineering	CPIF/CPAF	Northrup Grumman, CA	168006	8930	1-2Q	7325	1-2Q	5567	1-2Q	Continue	189828	0
b . Hardware Development	FFP	Northrup Grumman, CA	27645	0		0		0		Continue	Continue	0
c . Software Development	CPIF/CPAF	Northrup Grumman, CA	238650	10300	1Q	10826		3834	1-2Q	Continue	263610	0
d . TACNAV	CPIF	TRW CA	1000	0		0		0		0	1000	0
Subtotal:			435301	19230		18151		9401		Continue	Continue	0
II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . PM Office Support	N/A	CECOM, Ft. Monmouth	13437	750	1-4Q	750	1-4Q	750	1-4Q	Continue	Continue	0
b . Matrix Support	MIPR	CECOM, Ft. Monmouth	4430	350	1-2Q	350	1-2Q	150	1-2Q	Continue	Continue	0
c . Misc. Contracts Support	MIPR/PWD	CECOM, Ft. Monmouth	25420	1024	1-2Q	950	1-2Q	150	1-2Q	Continue	Continue	0
Subtotal:			43287	2124		2050		1050		Continue	Continue	0

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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . CTSF	MIPR	CTSF	2323	0		0		0		0	2323	0
b . ATEC	MIPR	ATEC	35280	700	1-2Q	0		0		Continue	35980	0
c . EPG	MIPR	EPG	19444	492	1-2Q	0		0		Continue	19936	0
d . CRTC	MIPR	CRTC	1040	0		0		0		0	1040	0
e . Misc Contract Support			2488	0		0		0		0	2488	0
Subtotal:			60575	1192		0		0		Continue	61767	0

ARMY RDT&E COST ANALYSIS(R3)										February 2005			
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IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal:			0	0		0		0		0	0	0	
Project Total Cost:				539163	22546		20201		10451		Continue	Continue	0

# Schedule Profile (R4 Exhibit)

February 2005

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Event Name	FY 04				FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
SYSTEM DEV & DEMO (SDD)/LOW RATE INITIAL PROD (LRIP)	<div>1</div> <div>2</div> <div>3</div> <div>4</div>																															
LRIP Contract Phase																																
(1) LRIP Extension (Beyond FY03) Contract Award																																
SE & I Contract Phase																																
(2) FBCB2-BFT Developmental/ Operational Test (DT/OT)																																
(3) Follow-On SE & I Contract Award																																
(4) FRP DR																																
FULL RATE PRODUCTION & DEPLOYMENT																																
(5) Full Rate Production Contract Award																																
Full Rate Production (FRP) Contract Phase																																
(6) Software Version 6.4x Operational Evaluation																																
(□) Follow-on Test and Evaluation (FOT&E)																																

## Schedule Detail (R4a Exhibit)

February 2005

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<u>Schedule Detail</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Developmental Test/Operational Test	2Q							
Award Follow-on SE&I Contract	4Q							
Full Rate Production Decision Review	4Q							
Full Rate Production Contract Award	4Q							
FBCB2 Software v6.4.1 Delivery		1Q						
Operational Test on v6.4.1 software		3Q						
Follow-on Test and Evaluation				1Q				
FBCB2 SW Upgrade and Test						1Q		

NOTE: The Office of the Secretary of Defence, Director of Operational Test and Evaluation and the Army Test & Evaluation Command have changed the Initial Operational Test & Evaluation (IOT&E) to a Developmental Test/Operational Test (DT/OT) which included the validation of the FBCB2 System performance during Operation Iraqi Freedom and Operation Enduring Freedom (OIF/OEF). Software Version 7.□has been changed to V6.4.1.