Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army										DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*				R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*							
COST ($ in Millions)	**FY 2009 Actual**	**FY 2010 Estimate**	**FY 2011 Base Estimate**	**FY 2011 OCO Estimate**	**FY 2011 Total Estimate**	**FY 2012 Estimate**	**FY 2013 Estimate**	**FY 2014 Estimate**	**FY 2015 Estimate**	**Cost To Complete**	**Total Cost**
Total Program Element	819.721	655.745	610.389	0.000	610.389	523.580	366.647	253.810	258.367	Continuing	Continuing
FC6: *FCS Network Hardware & Software*	819.721	655.745	610.389	0.000	610.389	523.580	366.647	253.810	258.367	Continuing	Continuing

A. Mission Description and Budget Item Justification

Provides the tools and capabilities necessary for a collection of systems composed of computers, sensors, and platforms linked together to achieve a single capability. This is accomplished through distributed functionality that consists of the following applications and interfaces: a distributed information management backbone, Communications; Intelligence, Surveillance and Reconnaissance (ISR); Command and Control (C2); and training and supportability. The information management backbone necessary for the distributed network is composed of the Integrated Computer System (ICS) Operating System (OS) and hardware variants; and the System of Systems Common Operating Environment (SOSCOE). The ICS consists of multiple computer processors, as well as network, graphics and memory cards, and is integrated with software functionality provided by a modified OS. The ICS hosts all software to include SOSCOE, network management , communication management, battle command and mission execution, situational understanding, battle field planning and preparation, sensor fusion, logistics management, and training applications. The applications communicate with the ICS via SOSCOE, which separates the BCS software applications from the ICS hardware and OS. This isolates changes in the ICS from impacting BCS software directly, reducing traditional integration and maintenance costs. SOSCOE also provides services that allow BCS software located on platforms or other exterior nodes to communicate with each other. This includes services that facilitate communication between the BCS software and Current Force software systems. SOSCOE addresses the needs of different system types, supporting real-time environments and platforms with processing and memory constraints. SOSCOE also provides a suite of services/tools commonly required by BCS software developers. The Cross Domain Solution (CDS) is an ICS/BCS hardware-software solution that allows hosting of classified and unclassified data/processing on a single ICS computer. Communication applications include the Network Management System (NMS) which provides the management of voice, data, and video communications between multiple, mobile system platforms. The NMS manages these platforms as nodes that are changing due to availability and bandwidth limitations.Application Software: 1. 1. Integration of air and ground sensors data (images, video) into the common operational picture (COP). 2. Command and Control software provides battle command and mission execution, planning and preparation, and situational understanding, accessed through the Warfighter Machine Interface (WMI). 3. IBCT training will include training support packages, the Interactive Electronic Technical Manual System (IETMs), representation of IBCT elements in current collective trainers, and embedded tactical training for the common controller. 4. Supportability applications composed of the Platform Soldier-Mission Readiness System (PS-MRS), Logistics Decision Support System (LDSS), and Logistics Data Management Services (LDMS) are integrated into the BCS to provide distributed logistical capabilities.Contractor Logistics Products: PS-MRS provides on-board/remote diagnostics of platforms/systems. PS-MRS is designed to use any systems (new or current force) diagnostic capabilities. LDSS manages parts requests and aggregates system health & supply status into a logistics status. LDSS provides Unit Supply & Distribution Readiness information, projection of consumption, Resupply Planning, replenishment site selection, and platform availability. It provides Leaders with an automated Sustainment Running Estimate and logistics readiness. The Logistics Data Management System (LDMS) manages fault data packets and parts usage to gauge component reliability and supplier performance. LDMS enables the Product Support Integrator (PSI), logisticians, supportability analysts, and commanders in echelons above the brigade to access, analyze, and react to supportability data in the effort to optimize

Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army	DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*

platform availability, log footprint, and affordability. Within the LDMS, the Logistics Data Agent resides on the platform and collects/transfers logistical data to the Logistics Data Manager.The SDD software development effort was executed incrementally in two-year build cycles (Builds 1-2), aligning with program requirements. IBCT Increment 1 will utilize the completion of Build 2 early software. For IBCT Increment 2, the functional content and schedule for the remaining software builds (previously referred to as Build 2 Final through Build 4); are now re-planned as Increment 2 Phases 1, 2 and 2.1. The Phase 1 software will support early platform integration, whereas Phase 2 will support the platform Integrated Qualification Tests (IQT's). The Phase 2.1 software will support IBCT LUT-13. Each software build phase is initiated by a Build Definition Checkpoint (BDC) to ensure that BCS-level software functionality is phased appropriately. Development teams begin the software build with either a Life Cycle Objective (LCO) review or Software Specification Review (SSR) to assess build objectives and requirements. Following the LCO, either a Life Cycle Assessment (LCA) or Preliminary Design Review (PDR) is held. This review ensures that the product built to the architecture will be able to meet all of its functional and performance requirements. Additional checkpoints are executed throughout the software build process to ensure both horizontal and vertical consistency. A Test Readiness Review (TRR) is held prior to Functional Qualification Test (FQT), the final acceptance point for each software build, to ensure that all lower level testing has been completed and the qualification test procedures adequately test the requirements implemented during the build.Common Network Hardware: Includes design, development and prototype procurement of common hardware (sensors, computer and common controller, radios) required for implementation of the data network. The ICS hardware is being developed for each of the FCS platforms with the necessary computing resources, Information Assurance hardware, and Crew workstation processing to support the capabilities required of the BCT. The The ICS is being developed as common modules that can be integrated into appropriate solution sets for each platforms unique requirements. This development approach minimizes life cyle costs. With the termination of the MGV portion of the program ICS configurations have been reduced from 7 to 4 configurations to support the remaining IBCT platforms. This budget line includes the procurement of prototype radios and associated radios integration hardware. For FY10 and prior the C4ISR systems include a set of advanced sensors that are integrated onto the ground and air vehicle platforms. Beginning in FY11 these sensors are included in the specific platforms that they support: the SUGV, ARV-L, Class 1 UAV, and UGS systems to provide congress with total system costs.Contractor C4ISR System IAT&C: For FY10 and prior costs for software-to-software integration and hardware-to-software integration along with management of these tasks were collected in the C4ISR IAT&C WBS. Beginning in FY11 costs for software-to-software integration for each increment will be collected in network software integration work packages and hardware-to-software integration is included in system of system engineering.

Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army	DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604665A: *FCS Sustainment & Training R&D*

B. Program Change Summary ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	556.301	749.182	621.634	0.000	621.634
Current President's Budget	819.721	655.745	610.389	0.000	610.389
Total Adjustments	263.420	-93.437	-11.245	0.000	-11.245
• Congressional General Reductions		-93.437			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	279.000	0.000			
• SBIR/STTR Transfer	-15.580	0.000			
• Adjustments to Budget Years	0.000	0.000	-11.245	0.000	-11.245

Change Summary Explanation

Change Summary Explanation: FY09: Congress approved reprogramming request for additional funds to the program's higher priority needsFY10: Congress reduced the program

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*	

COST ($ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
FC6: *FCS Network Hardware & Software*	819.721	655.745	610.389	0.000	610.389	523.580	366.647	253.810	258.367	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Not applicable for this item.

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1	71.743	0.000	0.000	0.000	0.000

SOSCOE Development FY09: Continued development of the SOSCOE Build 2.0 through 2.5 to support IBCT Increment 1. To date, Increment 1SOSCOE includes the following capabilities: chat amongst network users; discovery and communication/data exchange between software applications, designed to operate on bandwidth-constrained, ad-hoc networks; and interoperability with current force systems, to include FBCB2, AFATDS, PASS/BCSS, NCES and a variety of other current tactical C2 systems. Additional enhancements include: the ability to interface with Battle Command simulations; Information Assurance (IA), to include data encryption, identification and authentication of users using Public Key Infrastructure (PKI) without network support and role-based access control of network systems and data (i.e., different access for BN commander v. dismounted soldiers etc.), host-based intrusion detection for unauthorized access to the network, support for the cross domain guard (CDG) by facilitating message passing between different security classifications, and login via FBCB2 and login support for NLOS-LS CLU. Further enhancements include: directory services and database access/ management; Task Integrated Network (TIN) services (for automating the execution of software services to complete an operational task); system management services (heartbeat, timers, data logging, etc.); software portability facilitated by hardware and operating system abstractions (OSA); and resource monitoring services (processor, memory, etc.) to ensure computing resources are not over-utilized. Began requirements analysis for

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
future SOSCOE support of Increment 1 LUT-10 and Increment 2. Purchased and maintained commercial off the shelf (COTS) license agreements for all software supplied. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #2 SOSCOE Development FY10 - IBCT Increment 1: Continue development of the SOSCOE through 2.7 to support IBCT LUT-10. This software will provide updates to support the cross domain solution (CDS), including messaging for logistics systems. Provide capability for system shutdown, restart and data sanitization. Ensure SOSCOE compatibility between Increment 1 and Increment 2 versions. Continue the resolution of software integration issues to include Ground Soldier Ensemble (GSE) and Joint Tactical Radio System (JTRS) Handheld Manpack and Small form fit (HMS) and Ground Mobile Radio (GMR) National Security Agency (NSA) certified radio and associated waveforms. Provide resolution of software problem reports (SPRs) identified in LUT-09. FQT and release SOSCOE Build 2.7 in support of LUT-10. Provide technical assistance and training to Battle Command System (BCS) and platform application developers. Provide helpdesk consultation and assistance to integrators using SOSCOE. Purchase and maintain commercial off the shelf (COTS) License Agreements for all software supplied.	0.000	12.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #3 SOSCOE Development FY10 - IBCT Increment 2: Continue development of SOSCOE Build 10 (Increment 2 of SOSCOE begins with Build 10) - formerly referred to as SOSCOE Builds 2.5 through 4.0) to support T-IBCT Increment 2. SOSCOE Builds 10.2 through 10.5 will be delivered during FY10 to support early integration with Battle Command System (BCS) Increment 2 Phase 1 software. The integration of these incremental software drops will minimize technical risk, time and resources, prior to the final release of SOSCOE Build 10.6 being available (this is the final Increment 2 Phase 1 software delivery). SOSCOE Builds 10.2 through 10.6 will include the following enhancements: updates to chat, for supporting resource-constrained platforms; interoperability updates to support new FBCB2 JCR messages; shutdown, restart and data sanitization between different security classifications; database and directory support for resource-constrained platforms; Information Assurance (IA) updates, to include certificate validation; and editing of role-based policies. *FY 2009 Accomplishments:* FY 2009	0.000	59.543	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #4 SOSCOE Development FY11 - IBCT Increment 2: FQT and release SOSCOE Build 10.6 in 1Q FY11 for integration with Battle Command System (BCS) Increment 2 Phase 1 software. Begin requirements analysis and development of SOSCOE Builds 10.7 through 10.9 (integration builds) that are required to support integration with Increment 2 Phase 2 Battle Command System (BCS) Increment 2 Phase 2 and platform testing. Continue development and integration activities for Build 10.10 (final Phase 2 software drop) which will be FQT'ed in 1Q FY12. SOSCOE Builds 10.7 through 10.10 will include the following enhancements: profile administration and distribution (capability to store, manage and edit user preferences across the network); High Level Architecture (HLA) interoperability updates to support multiple simulation federations for networked simulations across geographical locations; interoperability with Army Battle Command System (ABCS) Distributed Data Service (DDS); ICS fault reporting and mitigation, in situations where the hardware and/or OS has failures; support for Common Operating Picture (COP) dissemination; safety critical data storage; and distribution of user/system policies across the network. To support integration with Battle Command System (BCS) Increment 2 Phase 2.1, supporting the IBCT LUT-13, begin requirements analysis for Builds 10.11 and 10.12 (the final Increment 2 software build). SOSCOE Builds 10.11 through 10.12 will include the following enhancements: collaboration amongst users across the network via email and white-boarding; text mining; Tactical Registration Authority (TRA)-for distribution and tracking of user credential renewals expirations; interoperability with the Global Combat Support System-Army (GCSS-A); and increased interoperability with the Net-Centric Enterprise Services (NCES), allowing the Warfighter to access information available outside of the Brigade Combat Team (BCT).	0.000	0.000	66.466	0.000	66.466

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #5 Communication Systems Software FY09: The software capability developed during FY09 was integrated into the Battle Command System and tested during FY10. The Network Management System (NMS) Build 2 Early software provided initial capability including: key management for user/system identification and authentication; initialization of network hardware; network configuration, monitor and managing for dual security enclaves; Quality of Service (QoS), to include bandwidth planning, configuration, monitoring and management to avoid excess data being passed over the network; Information Assurance (IA) access control and audit logs; password management; and network traffic management and control. Completed objectives and architecture reviews for NMS Build 2 Final (B2F). Provided an engineering release of NMS in 3Q FY09 to support early integration of Battle Command System (BCS) B2F software. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010	44.599	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #6 Communication Systems Software FY10 - IBCT Increment 1: Based on software developed in FY09, integrate the Network Management System (NMS) with the Battle Command System (BCS) by resolving Software Problem Reports (SPR's) and other integration issues. Support integration of the NMS and Battle Command System (BCS) with SOSCOE, with the Integrated Computer System (ICS) and with platforms. This includes initial interface with the cross domain guard (CDG), PEO C3T systems (Secure Key Loader (SKL) and Automated Communications Electronic Software (ACES)) and Joint Tactical Radio System (JTRS) Network Management systems (Joint WNW Network Manager (JWNM) and Soldier Radio Waveform Network Manager (SRWNM). FQT the NMS software in 3Q FY10 to support IBCT Increment 1 LUT-10. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO	0.000	2.899	0.000	0.000	0.000
Program #7	0.000	34.575	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Communication Systems Software FY10 - IBCT Increment 2: Continue development of Network Management System (NMS) Increment 2 Phase 1 software. NMS Increment 2 Phase 1 capabilities will include enhancements to Network Planning (i.e., how the network will be organized and configured for Increment 2); NMS for the changes and new systems being added to the network; and incremental enhancements to Network Management, to include fault, configuration management, security, policy and platform network management; enhancements to presentation of the network on the Warfighter Machine Interface (WMI) screen; interface to JTRS NMS updated from manual to automated; and enhancements to Network Communications, which provides tools for establishing communications and maintaining the network. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #8 Communication Systems Software FY11 - IBCT Increment 2: Complete development of NMS Increment 2 Phase 1 software in 1Q FY11. Complete the development of NMS Increment 2 Phase 2 to support the platform Integrated Qualification Tests (IQT's). NMS Increment 2 Phase 2 capability includes: extending network planning and hardware configuration/management to the new systems being added to the network (including Increment 1 platforms changes ; Common Controller; and upgraded UAV Class I and SUGV plus the M-NIK, GSE and ARV-A); network security planning; and network topology planning.	0.000	0.000	57.493	0.000	57.493

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #9 Battle Command Software FY09: Finished initial development of Warfighter Machine Interface Services (WMIS), Situational Understanding (SU), and Battle Command & Mission Execution (BCME) to support the Increment 1 IBCT LUT-09. WMIS Increment 1 includes Common Operating Picture (COP) visualization; display of images received from UGS, SUGV and UAV Class I; and Warfighter interaction via the FBCB2 screen. BCME Increment 1 includes ability for the Warfighter to command and control (C2) the UGS systems, including remotely commanding the sensor fields; receiving tamper protection alerts from the UGS which are passed to FBCB2 for display. BCME Increment 1 also includes development of the Current Force Platform Integration Manager (CFPIM), which interfaces with FBCB2 to coordinate activities such as startup/shutdown and login between FBCB2 and the Battle Command System (BCS). Situational Understanding (SU) Increment 1 capability includes calculating the area of sensor coverage for the UGS fields; generation of spot reports created by the Warfighter; and updating Battle Space Objects (BSOs) based on priority and Warfighter input. Began requirements analysis for WMI, Mission Planning and Preparation Services (PPS), Situational Understanding (SU) and BCME software to support early Battle Command System (BCS) Increment 2. Includes Systems Engineering, Program Management and subcontractor fee associated with Warfighter Machine Interface Services	152.194	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
(WMIS), Situational Understanding (SU), Battle Command & Mission Execution (BCME), and Planning and Preparation Services (PPS). *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #10 Battle Command Software - Systems Engineering / Program Management (SE/PM) FY10 IBCT Increment 1: Provide technical oversight of the software development effort. Provide quality assurance, configuration management and purchase software development licenses. Conduct requirements verification and validation (V&V) of software. Provide data deliverables, participate in technical/management reviews and provide on-site participation as required. Includes subcontractor fee associated with Warfighter Machine Interface Services (WMIS), Situational Understanding (SU), and Battle Command & Mission Execution (BCME). Capabilities include: explicit handoff of Unattended Ground Sensors (UGS) control from one Network Integration Kit (NIK) to another; accelerated image transfer to from the sensors to FBCB2; and allowing multiple images to be attached to a single Battle Space Object (BSO). *FY 2009 Accomplishments:* FY 2009	0.000	2.091	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #11 Battle Command Software - Warfighter Machine Interface Services (WMIS) FY10 Increment 1: Continue resolution of approximately 75 Software Problem Reports (SPRs) discovered during Increment 1 IBCT LUT-09. Perform integration with the cross domain guard (CDG) for message passing between different security classifications. Provide integration support to the Network System Integration and Test (NSIT) lab. FQT and release Increment 1 WMIS software in 3Q FY10 to support the Network Integration Kit (NIK) Network System Qualification Test (NSQT) prior to Increment 1 IBCT LUT-10. Additional Increment 1 capabilities include modifications to the layout of the WMIS screen, increasing access and visibility; auto-adjusting the WMIS window to occupy the entire FBCB2 screen. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base	0.000	1.140	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 OCO Plans: FY 2011 OCO					
Program #12 Battle Command Software - Situational Understanding (SU) FY10 IBCT Increment 1: Continue resolution of approximately 20 Software Problem Reports (SPRs) discovered during Increment 1 IBCT LUT-09. Perform integration with the cross domain guard (CDG) for message passing between different security classifications. Provide integration support to the Network System Integration and Test (NSIT) lab. FQT and release Increment 1 SU software in 3Q FY10 to support the Network Integration Kit (NIK) Network System Qualification Test (NSQT) prior to Increment 1 IBCT LUT-10. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO	0.000	1.504	0.000	0.000	0.000
Program #13 Battle Command Software - Battle Command & Mission Execution (BCME) FY10 IBCT Increment 1: Continue resolution of approximately 30 Software Problem Reports (SPRs) discovered during Increment 1 IBCT LUT-09 . Perform integration with the cross domain guard (CDG) for message passing between different security classifications. Provide integration support to the Network System Integration and Test (NSIT) lab. FQT and	0.000	3.970	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
release Increment 1 BCME software in 3Q FY10 to support the Network Integration Kit (NIK) Network System Qualification Test (NSQT) prior to Increment 1 IBCT LUT-10. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #14 Battle Command Software - Systems Engineering / Program Management (SE/PM) FY10 IBCT Increment 2: Provide technical oversight of the software development effort. Conduct requirements decomposition and architecture/design. Provide quality assurance, configuration management and purchase software development licenses. Conduct requirements verification and validation (V&V) of software delivered. Provide data deliverables, participate in technical/management reviews and provide on-site participation as required. Includes subcontractor fee associated with Warfighter Machine Interface Services (WMIS), Situational Understanding (SU), Battle Command & Mission Execution (BCME), and Planning and Preparation Services (PPS). *FY 2009 Accomplishments:* FY 2009	0.000	24.939	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #15 Battle Command Software - Warfighter Machine Interface Services (WMIS) FY10 IBCT Increment 2: Beginning software development/coding of WMIS to support Battle Command System (BCS) Increment 2 Phase 1. Provide integration releases to support early BCS system-level integration. Integrate with SOSCOE Builds 10.2 through 10.5. Provide integration support to the Network System Integration and Test (NSIT). WMIS Increment 2 Phase 1 capability includes: enhanced user display, thereby providing ease of access and more information to the Warfighter. For example, this includes logon, startup, shutdown, and role management; enhancements to primitives (i.e., buttons, menus, windows, etc., on the Warrior Machine Interface (WMI) screen); enhancements to the presentation builder; and enhancements to support collaboration and report generation. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base	0.000	13.594	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 OCO Plans: FY 2011 OCO					
Program #16 Battle Command Software - Situational Understanding (SU) FY10 IBCT Increment 2: Beginning software development/coding of SU to support Battle Command System (BCS) Increment 2 Phase 1. Provide integration releases to support early BCS system-level integration. Integrate with SOSCOE Builds 10.2 through 10.5. Provide integration support to the Network System Integration and Test (NSIT). Situational Understanding (SU) Increment 2 Phase 1 includes: enhancements to object refinement and situation refinement, to include blue force aggregation, red force aggregation and identification of terrain obstacles; threat refinement, to include identification of platform-to-platform, indirect fires, and unit-to-unit threats; fusion process refinement, to include recommendations on how information is fused, sensor tasking recommendations based on sensor coverage gaps and Areas of Interest (AOI); and identification and classification of Battle Space Entity (BSE) as friendly/enemy, etc. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO	0.000	17.940	0.000	0.000	0.000
Program #17	0.000	38.662	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Battle Command Software - Battle Command & Mission Execution (BCME) FY10 IBCT Increment 2: Beginning software development/coding of BCME to support Battle Command System (BCS) Increment 2 Phase 1. Provide integration releases to support early BCS system-level integration. Integrate with SOSCOE Builds 10.2 through 10.5. Provide integration support to the Network System Integration and Test (NSIT). BCME Increment 2 Phase 1 includes: enhancements to alerts and notifications; plans, orders generation and dissemination, and report automation; task organization; airspace control; sensor control; platform control; and fires and effects control. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #18 Battle Command Software - Planning and Preparation Services (PPS) FY10 IBCT Increment 2: Beginning software development/coding of PPS to support Battle Command System (BCS) Increment 2 Phase 1. Provide integration releases to support early BCS system-level integration. Integrate with SOSCOE Builds 10.2 through 10.5. Provide integration support to the Network System Integration and Test (NSIT). PPS Increment 2 Phase 1 includes development of the maneuver planner, ground space planner; and capability to analyze the terrain using map data to plan the route for an Unmanned Ground Vehicle (UGV).	0.000	8.677	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #19 Battle Command Software - Systems Engineering / Program Management (SE/PM) FY11 IBCT Increment 2: Provide technical oversight of the software development effort. Conduct requirements decomposition and architecture/design. Provide quality assurance, configuration management and purchase software development licenses. Conduct requirements verification and validation (V&V) of software delivered. Provide data deliverables, participate in technical/management reviews and provide on-site participation as required. Includes subcontractor fee associated with Warfighter Machine Interface Services (WMIS), Situational Understanding (SU), Battle Command & Mission Execution (BCME), and Planning and Preparation Services (PPS). *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010	0.000	0.000	33.971	0.000	33.971

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #20 Battle Command Software - Warfighter Machine Interface Services (WMIS) FY11 IBCT Increment 2: Complete development of WMIS to support Battle Command System (BCS) Increment 2 Phase 2. Provide multiple software releases of incremental capability to support early Battle Command System (BCS) system-level integration. Provide integration support to the Network System Integration and Test (NSIT). Provide a final release of WMIS to support Network System Qualification Tests (NSQT's) prior to platform IQT's. WMIS Increment 2 Phase 2 software includes, improved layout of the screens; enhancements to support map-based collaboration; enhancements to the Intelligent Services, which help automate certain tasks such what information/ options the Warfighter is presented with and what tasks are to be accomplished by the system on behalf of the Warfighter, thereby increasing the Warfighter's access to capability and decreases the Warfighter's workload; and enhancements to the Presentation Services, which manage how the information is being presented to the Warfighter and allows the Warfighter to tailor their preferences of how the default interface is configured. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base	0.000	0.000	27.154	0.000	27.154

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 OCO Plans: FY 2011 OCO					
Program #21 Battle Command Software - Situational Understanding (SU) FY11 IBCT Increment 2: Complete development of SU to support Battle Command System (BCS) Increment 2 Phase 2. Provide multiple software releases of incremental capability to support early BCS system-level integration. Provide integration support to the Network System Integration and Test (NSIT). Provide a final release of SU to support Network System Qualification Tests (NSQT's) prior to platform Integrated Qualification Tests (IQT's). *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO	0.000	0.000	18.872	0.000	18.872
Program #22 Battle Command Software - Battle Command & Mission Execution (BCME) FY11 IBCT Increment 2: Complete development of BCME to support Battle Command System (BCS) Increment 2 Phase 2. Provide multiple software releases of incremental capability to support early BCS system-level integration. Provide integration support to the Network System Integration and Test (NSIT). Provide a final release of BCME to support Network System Qualification Tests (NSQT's) prior to platform Integrated Qualification Tests (IQT's). BCME Increment	0.000	0.000	26.398	0.000	26.398

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
2 Phase 2 software includes enhancements to: alerts and notifications; tools to assist the Warfighter in generating and disseminating plans and orders; task organization; sensor control; and fires and effects control for engagement of Non Line of Sight (NLOS) and Line of Sight (LOS) targets, deconfliction of the battlespace (e.g., deconfliction of airspace, UAV's, missiles and manned aerial platforms to avoid fratricide and loss of platforms; ground-space for UGV and manned vehicle conflicts, such as route planning and direct fires engagements). *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #23 Battle Command Software - Planning and Preparation Services (PPS) FY11 IBCT Increment 2: Complete development of PPS to support Battle Command System (BCS) Increment 2 Phase 2. Provide multiple software releases of incremental capability to support early BCS system-level integration. Provide integration support to the Network System Integration and Test. Provide a final release of PPS to support Network System Qualification Tests prior to platform Integrated Qualification Tests. PPS Increment 2 Phase 2 includes: airspace and ground-space planning, with the capability to combine planning information to provide the user with automated recommendations for ground route planning for a UGV or flight planning for a UAV; sensor planning to assist the commander in placement of sensor assets on the battlefield; enhanced maneuver planning to assist the commander on how to maneuver platforms on the battlefield prior to executing a mission; and the terrain analyzer, to identify	0.000	0.000	8.323	0.000	8.323

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
obstacles and hazards; early development of plan assessment, to measure the commander's mission plan versus what is actually conducted. Begin requirements analysis of PPS Increment 2 Phase 2.1 to support integration of remaining PPS capability for the Incr 2 IBCT LUT-13. PPS Incr 2 Phase 2.1 enhancements will include: Course of Action (CoA) planning, for generating and assessing viable CoA's which are presented to the Warfighter in how best to maneuver forces (i.e., formation of platforms, how to advance those formations, waypoint navigation of unmanned platforms, etc.), considering such items as the combat capability and mission of all forces, enemy threats; survivability planning; fires and effects planning; and communications network planning. PPS Increment 2 Phase 2.1 will also include objective planning, which assist the Commander in defining the tactical objectives, of which the other planners will consider when providing recommendations back to the Commander on how best to execute the mission. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #24 Fusion Software FY09: Provided multiple releases of Build 2 Early Sensor Data Management (SDM) and Level One Fusion (L1F) software, to simplify integration and reduce technical risk to minimize cost of Increment 1 integration. SDM Increment 1 capability includes translating the individual sensor data into that which is usable by the Battle Command System (BCS). More specifically, the SDM receives sensor data from the UGS, which	26.254	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
is refined and processed by Level 1 Fusion (L1F) software and later displayed on the FBCB2 screen. Level 1 Fusion (L1F) Increment 1 capability includes receiving FBCB2 COP data and sensor data from UGS, and fusing (or combining) that information into Battle Space Objects (BSO's). This allows increased confidence in what the object is and the object's location over time. Began Increment 2 Phase 1 Life Cycle Assessment (LCA) architecture reviews for SDM and L1F. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #25 Fusion Software FY10 - IBCT Increment 1: Continue resolution of Software Problem Reports (SPR's) identified during Increment 1 LUT-09 for Sensor Data Management (SDM) and Level 1 Fusion (L1F) software. FQT and release SDM and L1F Increment 1 software to the Network System Integration and Test (NSIT) in 3Q FY10 for the Network Integration Kit (NIK) Network System Qualification Test (NSQT), proceeding IBCT LUT-10. *FY 2009 Accomplishments:* FY 2009	0.000	1.426	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #26 Fusion Software FY10 - IBCT Increment 2: Integrate with SOSCOE Builds 10.1 through 10.5. Provide multiple releases of Sensor Data Management (SDM) and Level 1 Fusion (L1F) Increment 2 Phase 1 software, to simplify integration, reduce schedule and technical risk, with the result of minimizing cost of integrating the Battle Command System (BCS). Provide integration support to the Network System Integration and Test (NSIT). SDM Increment 2 Phase 1 capability includes interfacing with upgraded sensor payloads on the Class I and SUGV and new sensor payloads from ARV-A (L). SDM incorporates electro-optical infrared (EO/IR) sensor data from the SUGV so that the Warfighter can receive advanced knowledge of enemy locations and hazards from a safe distance in Urban environments. Planned L1F Increment 2 Phase 1 capability includes creation of the Distributed Fusion Manager (DFM), which will more efficiently fuse/combine/consolidate sensor data and Battle Space Objects (BSO's), reducing network traffic by limiting information to those who require the information; and enhancements to the Blue Force Location Service (BFLS), which provides platform positions for nearby friendly platforms. Level One Fusion (L1F) will receive sensor data from a UAV Class I and determine friend/foe and location. *FY 2009 Accomplishments:* FY 2009	0.000	17.006	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #27 Fusion Software FY11 - IBCT Increment 2: Continue development of Sensor Data Management (SDM) and Level 1 Fusion (LIF) to support Battle Command System (BCS) Increment 2 Phase 2. Provide multiple releases to simplify integration, reduce schedule and technical risk, with the result of minimizing cost of integrating the Battle Command System (BCS). Integrate with SOSCOE Builds 10.6 through 10.8. Provide integration releases to support the Increment 2 Phase 2 Network Software Quality Tests (NSQTs). Provide integration support to the Network System Integration and Test (NSIT). SDM Increment 2 Phase 2 capability includes updated interfaces with the Aided Target Recognition (AiTR) sensor; updated sensor suite control for the ARV-A(L); and interfacing with various current force systems to obtain sensor data, to include Tactical Airspace Integration System (TAIS), Distributed Common Ground System-Army (DCGS-A), Net Centric Enterprise Services (NCES), and Information Dissemination Management (IDM). SDM receives enemy location updates from Distributed Common Ground Station-Army (DCGS-A) and integrates it into the BCT-M database. Sharing of enemy locations with other systems increases the survivability and combat effectiveness of the BCT. L1F Increment 2 Phase 2 includes the enhancements to the Blue Force Location Service (BFLS), fusion engines, and the Distributed Fusion Manager (DFM). The DFM will manage the transfer of Intel data to enable the User to receive relevant data faster. Begin requirements analysis of L1F Increment 2 Phase 2.1 software, leading to FQTs scheduled in 1Q FY12. L1F Increment 2 Phase 2.1 will include completion of the fusion engines and the DFM.	0.000	0.000	12.161	0.000	12.161

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #28 Embedded Training Software - Overview: A common set of training software/tools, referred to as Training Common Components (TCC), are being developed to support the following types of training for the IBCT: Computer Based Training (CBT), Live Training, Individual Operator Training (IOT), and Leader/Battle Staff (LBS). Computer Based Training (CBT) provides the Warfighter a basic understanding of how to interface with the WMI to complete a set of operation tasks (i.e., how to generate and disseminate a report, chat or whiteboard with other Warfighters, access current force systems for data, etc.) and maintain the IBCT systems. CBT can also be used by the Warfighter to access AKO to complete technical and annually required coursework. CBT will be available on workstations, NIK and CC. The IOT trains the operator on how to operate unmanned platforms, such as how to connect, manually drive, follow a user-defined route, and laze a target. IOT will be available on workstations and CC. Live training allows for IBCT systems (NIK, CC and Unmanned Platforms) to collectively participate in live training exercises while at the home station, local training area, or Combat Training Center (CTC). This includes the ability for IBCT systems, integrated with the TCCs and SOSCOE, to interface with Multiple Integrated Laser Engagement System (MILES), Combat Training Center - Instrumentation Systems (CTC-IS) and One Tactical Engagement Simulation system (OneTESS). The TCC's also provide the capability to log the training exercise and evaluate the performance of individuals and the unit. The Leader/Battle Staff	0.000	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
(LBS) training capability (available on the CC) instructs commanders on how to tactically operate and employ (i.e., "fight") the IBCT using the capabilities provided by the Increment 2 Battle Command System (BCS). This includes teaching commanders on how to use the sensing capabilities provided by unmanned systems, including how to provide optimal UGS sensor coverage. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #29 Embedded Training Software FY09: The Training Common Components (TCC) provided foundational capability to support Computer Based Training (CBT), live training and Leader/Battle Staff (LBS) training for the Increment 2 platforms and Battle Command System (BCS). Completed Life Cycle Architecture (LCA) review of TCCs to support Increment 2 Phase 1 development. Provided engineering releases (ER's) to support early Increment 2 Phase 1 integration. Delivered TCC Build 2 ER 1 in 3Q FY09 and ER 3 in 4Q FY09. TCC Build 2 ER3 included the following functionality: successful reuse of approximately 2.5 million lines of software (OneSAF, OneTESS, and SE Core); and successful integration with SOSCOE, and Warfighter Machine Interface (WMI) (surrogate) user interfaces.	15.420	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #30 Embedded Training Software FY10 - Increment 2: Provide multiple releases of TCC's for Increment 2 Phase 1 to simplify integration, reduce schedule and technical risk, with the result of minimizing cost of integrating the Battle Command System (BCS). Integrate with SOSCOE Builds 10.2 through 10.5. Capability includes Computer Based Training (CBT) for Soldiers with reach-back to Army training repositories; initial Leader Battle Staff (LBS) training; initial Individual Operator Training (IOT) for unmanned platforms; and interoperability the Multiple Integrated Laser Engagement System (MILES) and training ranges to provide initial live training for the SUGV, UAV Class I, ARV-A(L) and CC IBCT systems; and Individual Operator Training (IOT) of unmanned platforms on the CC. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010	0.000	15.940	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #31 Embedded Training Software FY11 - Increment 2: Complete development of TCC's for Increment 2 Phase 1 for integration with the Battle Command System (BCS) in 1QFY11 and platform embedded training. Provide multiple releases of the TCC's during Increment 2 Phase 2 for integration into the BCS. The TCC's provide the tools for the following training capability: enhanced Computer Based Training (CBT), to include interfacing with Army Knowledge Online (AKO) to download training materials and upload training reports; enhanced Leader Battle Staff (LBS) training for instructing commanders and staffs in warfighting Tactics, Techniques and Procedures (TTPs) that use the actual Increment 2 Battle Command System (BCS) software applications and communications systems; providing Individual Operator Training (IOT) for instructing the operator on the CC on how to control the SUGV, and CL 1 UAV, and ARV-A(L), by being provided a simulation of those platforms from another CC or NIK. This training will operate the actual controllers used by Soldiers to command the IBCT platforms. Live training will also be enhanced for the IBCT platforms, to include interoperability with Combat Training Center - Instrumentation Systems (CTC-IS) One Tactical Engagement Simulation system (OneTESS). *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base	0.000	0.000	14.455	0.000	14.455

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 OCO Plans: FY 2011 OCO					
Program #32	29.096	0.000	0.000	0.000	0.000
Contractor Logistics Products Application Integration FY09 - Provided engineering releases (ERs) of Logistics Decision Support System (LDSS) and Platform Soldier-Mission Readiness System (PS-MRS) Increment 1 software to support Battle Command System (BCS) integration. Logistics Products Increment 1 software includes the following initial capability implemented on Increment 1 systems: monitoring of the battery level for the T-UGS and providing an on/off status of the Integrated Computer System (ICS). PS-MRS software developed during FY09 and integrated in FY10 includes the following initial capability: viewing IETMs; remote platform diagnostics; report availability of platforms; and logistics data collection. Logistics Decision Support System (LDSS) software developed during FY09 and integrated in FY10 includes the following initial capability: maintenance planning and management; supply/distribution planning and management; platform readiness; and unit readiness. For Logistics Data Management System (LDMS), completed development of Logistics Data Manager (LDM) Build 1.0 and conducted User Workshop to gather user feedback and initial user training. Also, initiated requirements and interface design with Logistics Support Activity (LOGSA) Logistics Information Warehouse (LIW). Begin requirements analysis and design of the LDSS, the Logistics Data Manager (LDM) portion of the Logistics Data Management System (LDMS), and PS-MRS for Increment 2 Phase 1. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base					

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 OCO Plans: FY 2011 OCO					
Program #33 Contractor Logistics Products Application Integration FY10 - IBCT Increment 1: Provide incremental releases of Logistics Decision Support System (LDSS) and Platform Soldier-Mission Readiness System (PS-MRS) Increment 1 software to the Network System Integration and Test (NSIT) lab in support of early integration of the Battle Command System (BCS) for IBCT LUT-10. Resolve Software Problem Reports (SPR's) discovered during IBCT LUT-09. FQT and release LDSS and PS-MRS Increment 1 software to NSIT in support of Network System Qualification Test (NSQT), leading to the IBCT LUT-10. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO	0.000	8.000	0.000	0.000	0.000
Program #34 Contractor Logistics Products Application Integration FY10 - IBCT Increment 2: Provide multiple software releases of incremental logistical capability to support early Inc 2 Phase 1 Battle Command System integration. Integrate with SOSCOE Builds 10.2 through 10.5. Provide integration support to the Network System Integration and Test. Logistics Decision Support System Inc 2 Phase 1 includes: calculation of platform supply requirements	0.000	29.518	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
via the supply planner, thereby decreasing the logistical footprint and increasing the OPTEMPO of the platforms; requests for maintenance; determine platform consumable status; adherence to information assurance requirements; and integration with the Cross Domain Guard (CDG). The Logistics Data Management System Inc 2 Phase 1 includes development of the Logical Data Model to provide the following: manage the configuration of platforms; interface to access the Army Property Book Unit Supply Enhanced, Standard Army Retail Supply System, and Global Transportation Network enterprise-level logistics systems through the Logistics Information Warehouse; interface to commercial transportation systems; interface with systems for inventory and other asset visibility data; additional reporting for equipment availability analysis; reporting for Product Support Integrators; and inventory performance, transportation performance & asset visibility analysis as part of the supply chain. Platform Soldier-Mission Readiness System (PS-MRS) Inc 2 Phase 1 includes: diagnostics capabilities, to include fault detection/isolation & platform availability; scheduled maintenance and resupply; remote diagnostics on unmanned systems; interface with the CDG; and integration of Interactive Electronic Technical Manuals (IETM) capabilities, to include directed navigation and viewing through the WMI screen. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #35	0.000	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Contractor Logistics Products Application Integration FY10 - IBCT Increment 2: (Continued) The enhanced IETM capabilities decrease the time to repair by coordinating with PS-MRS diagnostics to identify the single-point-of-failure, and provides specific automated task technical references to repair the identified component/unit. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #36 Contractor Logistics Products Application Integration FY11 - IBCT Increment 2: Continue development of Logistics Products to support Battle Command System (BCS) Inc 2 Phase 2. Provide multiple software releases of incremental logistics capability to support early BCS system-level integration. Provide integration support to the Network System Integration and Test. Logistics Decision Support System (LDSS) Inc 2 Phase 2 includes: obtaining planning inputs, project available supplies, and generate supply plans for re-supply opportunities; distribute maintenance requests via the maintenance manager; disseminate platform readiness and aggregate platform readiness by platform type; adherence to information assurance requirements; and integration of new messages with the Cross Domain Guard. Logistic Data Management System (LDMS) Inc 2 Phase 2 Logical Data Model (LDM) and Logistics Data Agent (LDA) capability includes: collect maintenance, supply , heath and status data from the Platforms for analysis. Additional LDM capability includes: reporting for Product Support Providers; collection of performance based agreements data from Original Equipment Manufacturers /Program	0.000	0.000	30.444	0.000	30.444

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Support Plan ; and additional reporting for equipment availability analysis. Begin implementation of LDSS Inc 2 Phase 2.1 to support the T-IBCT LUT. The LDMS LDM and LDA Inc 2 Phase 2.1 enhancements include: management and distribution of Interactive Electronic Technical Manual (IETM) and Failure Propagation & Subsystem Interaction Model updates to the platforms. LDM Inc 2 Phase 2.1 enhancements include: additional reports for Product Support Integrators and Program Support Plan; and inventory performance and asset visibility analysis as part of the supply chain. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #37 Contractor Logistics Products Application Integration FY11 - IBCT Increment 2: (Continued) PS-MRS Increment 2 Phase 2 includes enhancements to; diagnostics capabilities, to include fault detection/isolation and platform availability; scheduled maintenance and resupply; remote diagnostics on unmanned systems; and enhanced IETM capability, including undirected IETM browsing and support for ad-hoc maintenance events. *FY 2009 Accomplishments:* FY 2009	0.000	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #38 Ground Sensors Hardware FY09: Completed Ground Electro Optical (EO)/Infrared (IR)/Laser Designator (LD) sensor trade study, resulting in the consolidation of the MR/EO, SR/EO and Mast Mounted Sensor into a common MR/EO. Conducted Ground Sensor Segment (GSS) PDR in 2Q FY09. Completed Emitter Mapping System (EMS) preliminary design and conduct PDR in 2Q FY09. Delivered 7 Combat Identification (CID) brassboard units. Completed MREO UGV preliminary design and conducted PDR. Completed Multi Function Radio Frequency (MFRF) software development and system integration and test. Terminated work on the Manned Ground Vehicle Sensors package to include the Medium Range EO/IR (continued MREO light effort to support Armed Robotic Vehicle-Assault (ARV-A) Light (L)), Short Range EO/IR, Combat Identification, Emitter Mapper System, Acoustic Location array system in July 2009. Re-engineered and converted a standalone Range Extension Relay (RER) to an UGS (integrated) relay prototype for LUT-9. The prototype consisted of an SSF-A radio housed in a prototype housing, the UGS battery system, the UGS antenna system and a "COTS" antenna mast. The RER successfully passed LUT 09testing. Completed an RER Production TIM and a successful Production Readiness Review. *FY 2009 Accomplishments:* FY 2009	192.036	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #39 Range Extension Relay FY10 Increment 1: Complete 18 engineering upgrade to HW and software configuration of the Range Extension Relay. Continued reliability growth; improved sensor/software modalities and deliver soldier carrying MOLLE packs. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO	0.000	2.360	0.000	0.000	0.000
Program #40	0.000	70.440	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Ground Sensors Hardware FY10 - IBCT Increment 2: Conduct Production Readiness Review (PRR) for SUGV in 2Q FY10. Complete delivery of 10 SUGV EO/IR/LRF. Design/development efforts to support incorporation of 3rd Gen FLIR within MREO (light) sensor package. Completion of design work on MREO ARV-A(L). Conduct CDR for MREO ARV-A(L). Begin long-lead prototype procurement of 8 MREOs (7 prototypes and 1 spare) for ARV-A(L) with delivery in FY11. Complete the Acoustic Locating Array Sensor (ALAS) design and support PDR and preparation for CDR. Complete Sensor Suite Control software code and unit test. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #41 Air Sensor Hardware FY09: CL IV UAV - Completed SAR/GMTI Engineering and DT flight tests. Delivered 2 emulators to SIL for integration. Conducted ASTAMIDS (EOIR/LD/LRF) engineering flight tests and delivered 1 sensor for SIL integration. Continued Software development of the Air Aided Target Recognition (AiTR). Continued Software qualification tests. Prepare Air AiTR for ASTAMIDS and SAR/GMTI SIL integration. *FY 2009 Accomplishments:* FY 2009	20.857	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #42 Air Sensor Hardware FY10 - IBCT Increment 2: Began ASTAMIDS initial flight tests and terminated remaining ASTAMIDS sensor effort in January 2010. Deliver 4 SAR/GMTI Sensors. Terminate remaining ASTAMIDS and SAR/GMTI interfaces and integration effort on the UAV Class IV. Conduct CL I EOIR/LD/LRF sensor CDR, and continue development of sensor package through the Production Readiness Review (PRR). Begin long-lead procurement of 14 prototype Electro Optical Infrared (EOIR/LD) Class 1 Sensors. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO	0.000	13.300	0.000	0.000	0.000
Program #43	48.260	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Communication Hardware (Air and Ground) - FY09: Delivered Network Integration Kits (NIK) to C4ISR System Integration Laboratory (SIL). Upgraded JTRS HMS Radios with SRW 1.0c. Changed Surrogate Radios (MSRT in T-UGS gateway) to HMS SFF-A in preparation for Increment 1 LUT-09. Supported contractor and government field testing of IBCT Increment 1 systems. Delivered preliminary Interface Control Documentation in preparation for communications Preliminary Design Review (PDR) and System of Systems (SoS) PDR. Designed and fabricated and delivered 12 quantity prototype Range Extension Relay (RER) systems for IBCT Increment 1 LUT-09. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #44 Communication Hardware (Air and Ground) - FY10 - IBCT Increment 1: Deliver remainder of System Development and Demonstration (SDD) Network Interface Kits (NIKs) for government field testing (10 quantity). Upgrade NIKs with JTRS Ground Mobile Radio (GMR) Engineering Development Models (EDM) NSA certifiable radios to support Increment 1 LUT-10 testing . Prepare and deliver Payload Training Support Packages. Continue update soldier training for test events. Complete Engineering upgrade to HW and software configuration of the Range Extension Relay currently used in Increment 1. Procure 18 Range Extension Relay (RER) systems for fielding, prepare engineering drawings and Qualify systems. Upgrade JTRS Radios GMR	0.000	8.700	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
with SRW 1.0c. Build and deliver JTRS Network Management suite to support FY10 testing and validation of information exchange between the other CP equipment (ACES, SKL, etc) and the OTP NMS Communications Systems Software. The JTRS Network Management suite will consist of several laptops and ancillary equipment (cables, switches and One Way Guard) to support the JTRS WNW Network Manager (JWNM) (GMR and WNW) and SRW Network Manager (SRWNM) 1.0+ (HMS and SRW) for planning and monitoring of the various radio/ waveform security enclaves (secret, TUI , Black). *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #45 Communication Hardware (Air and Ground) - FY10 - IBCT Increment 2: Deliver and integrate 6 JTRS Small Form Fit (SFF) based Communications/Navigation Units (CNU) for Small Unmanned Ground Vehicle (SUGV). Deliver 1 NIK payload for the NLOS-LS. Prepare and deliver Payload Training Support Packages. Continue update of Graphic Training Package for soldier training for test events. Complete System engineering of the network architecture and waveform loadset. Complete Engineering upgrade to HW and software configuration of the Range Extension Relay currently used in Increment 1. Complete System Engineering, and prepare for and conduct a follow-on NIK Preliminary Design Review (PDR) for ARV-A (L), and Army wheeled ground vehicles	0.000	39.280	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
(e.g., HMMWV and MRAP). Complete System Engineering, prepare and conduct CDR for communications package for NIK. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #46 Communication Hardware - FY11 - IBCT Increment 2: Preparation, presentation and acceptance of Increment 2 Critical Design Review (CDR) for Network Interface Kit (NIK). Prepare test stations and conduct final integration and test acceptance of NIK payloads. Deliver NIKs to platform integrator System Integration Labs to platform IQT's. Complete design update, integrate into Network System Integration and Test (NSIT) SIL architecture, update ICDs and schematics. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010	0.000	0.000	57.397	0.000	57.397

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #47 Common Controller (CC), Hardware and Software - FY10 IBCT Increment 2: CC Spiral 2 is part of an incremental development program to field a consolidated controller that can also provide basic situational awareness and networking. The Spiral 2 will initially replace existing controllers and networking solutions and utilize lessons learned to evolve into a Spiral 3 that meets all threshold CC PIDS requirements. Spiral 2 CC consists of a customized 6.4" viewable control & display unit (CCD), COTS computer, batteries that are Land Warrior/Ground Soldier System compatible, both surrogate and JTRS C2/tele-operational control and networking soldier-borne radios, cabling, surrogate platform software and Warfighter Machine interface (WMI)/Graphical User Interface (GUI) software with System Of Systems Common Operating Environment (SOSCOE) to provide Situational Awareness (SA) information. Work will be done through comparative tele-operational Radio analyses and testing to improve platform security and control and, in general, streamline the communications architecture. CC Spiral 2 functionality includes network management, configuration, and control of the Small Unmanned Ground Vehicle, Class-I Unmanned Air Vehicle (CL-I), and Unattended Ground Sensors. Conduct In-process Review in 1QFY10 and CC Spiral 2 Design Review 3 in 3QFY10. Qty. 2 Early brass boards will be delivered to the Network System Integration and Test for early BCT Mod Battle Command and SOSCOE integration in 2Q FY10. Long-lead procurement of Spiral 2 CC prototypes will begin in FY10 for delivery in 1Q FY11. In parallel with these efforts, the CC will conduct Interoperability and Network Evaluation experiments, field tests and excursions to further enhance networking capabilities. In accordance with the approved Spiral Acquisition Strategy, the CC Spiral 3 will build upon the Spiral 2 product baseline. CC Spiral 3 design and development will begin in FY10. Conduct CC Spiral 3 Critical Design Review in 4QFY10.	0.000	34.210	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #48 Common Controller (CC), Hardware and Software - FY11 - IBCT Increment 2: Conduct Spiral 2 Test Readiness Review (TRR) 1Q FY11. Qualified Spiral 2 CC prototypes will be delivered in FY11 for integration and test purposes: In accordance with the approved Spiral Acquisition Strategy, the CC Spiral 3 will build upon the Spiral 2 product baseline. The CC Spiral 3 design will utilize lessons learned from IBCT events to improve functionality, and to include; reducing overall system weight, enhancing Battle Command functionality, streamlining the radio/communication design with an objective of moving toward the Small Form Factor-B (SFF-B) radios, and refining human factors engineering and soldier kitting. Capability improvements will allow a more robust exchange of information and a direct interface to network integration kits (NIK) and the Ground Soldier System. In addition to improving the control capabilities of the platforms in Increment 1, the Spiral 3 in Increment 2 will also interface with the Tactical Unattended Ground Sensors (T-UGS) and the Armed Robotic Vehicle (Assault) Light (ARV-A (L)). *FY 2009 Accomplishments:* FY 2009	0.000	0.000	50.138	0.000	50.138

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #49 ICS - Computer Processing, Hardware and Software FY09: Delivered 75 Software Development Units (SDU). The SDUs represent a cost-effective emulation of the ICS. The SDUs contain a subset of CPU cores found in the final ICS configuration. The SDU's allow for the platform integrators to begin software development and early integration activities prior to the Emulators being available. Emulators are needed for higher order software development in advance of ICS brassboards or prototypes hardware availability. Emulators are defined as 19" rack mountable 1U 'pizza box' computers that approximates a complete ICS ship set, i.e. it will have roughly the same number of CPU cores found in the final deliverables. It will not have Info Assurance or Built-in-Test. The emulator is essentially a Software Development Unit that's sized equivalent to full ICS ship set. Emulators are non-form/fit, affordable commercial approximations of an ICS ship set primarily for use as a preliminary software integration test bed. Said differently, the Emulators provide similar functionality as the target hardware, but do not meet size, weight and power (SWAP) requirements. However, like the SDU's, the Emulators facilitate early integration with the platform developers. Delivered 24 Emulators: ICS Type IV Emulators, qty. 5; ICS Type VII Emulators, qty. 5. ICS Type I/II, qty 5; Type VIII, qty. 9. Delivered 1 Brass Board Type VIII computer in support of the SUGV program, and 26 Dual Domain Prototype Type VI computers in support of the IBCT testing conducted at Ft. Bliss. *FY 2009 Accomplishments:* FY 2009	160.487	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #50 ICS - Computer Processing, Hardware and Software FY09 (Continued): ICS Software: Provided engineering releases (ER) of ICS Build 2.5 L4OS. Performed Functional Qualification Test (FQT) of ICS Cross Domain Guard (CDG) to support Current Force CVT and IBCT. Conducted objectives (LCO) and architecture (LCA) reviews for ICS Build 3.0 L5OS and RTOS. Provide engineering release (ER) of ICS Build 3.0 RTOS for integration with Battle Command System (BCS) Increment 2 Phase 2 software. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO	0.000	0.000	0.000	0.000	0.000
Program #51	0.000	15.740	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
ICS - Computer Processing, Hardware and Software FY10 - IBCT Increment 1: ICS Hardware: Upgrade the ICS Type VI to avoid hazardous materials (HAZMAT) from the Gigabit Ethernet Switch Module (GESM). Additionally, obtaining NSA certification of Cross Domain Guard (CDG) processor board, operating system (RedHat 5.0) and software application as part of the ICS. The ICS will be updated to house a certified Cross Domain Guard/Solution, replacing a surrogate that was used in FY09. Begin planning for classified testing of the CDG for IOT&E FY11. ICS Software: For Increment 1, resolve any open Software Problem Reports (SPR's) and provide integration support to the Network System Integration & Test (NSIT) lab prior to the Network System Qualification Test (NSQT) scheduled for 4Q FY10. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #52 ICS - Computer Processing, Hardware and Software FY10 - IBCT Increment 2: Deliver 6 ICS Type VII Emulators to support early integration, prior to the ARV-A(L) Integrated Qualification Test (IQT). Thereafter, deliver 3 ICS Type VII brassboards for integration with the ARV-A(L). Deliveries of these items are scheduled to be made to various Network SILs, platform developers, platform integrators, and test facilities. ICS Software: FQT and Release ICS Build 3.0 Real Time Operating System (OS) and Linux Version 5 Operating System (OS) in 1Q FY10 to support the Network System Qualification Tests (NSQTs) beginning in 3Q FY11. ICS Build 3.0	0.000	69.240	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
includes enhancements to Application Programmer Interface (API) Definition. Conduct ICS Build 3.5 objectives (LCO) and architecture (LCA) reviews in 3Q-4Q FY10. ICS Build 3.5 includes enhancements to Volume Management (for the ICS Type III variant); State Management; Power Management; Platform Management and Linux OS Extensions. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #53 ICS - Computer Processing, Hardware and Software FY11 - IBCT Increment 2: Conduct Preliminary and Critical design reviews (PDR, CDR) for Large Network Processor Version 2 (LNP V2) and Small Network Processor (SNP). Both the LNPv2 and SNP expect to leverage off of FCS ICS LRU developments bringing high level routing, extended processing, memory, encrypted storage and VITA standard LRM's to the type VI chassis. The LNP V2 will be less expensive than the Type VI and will provide greater capability (including some hardware encryption and router/firewall capabilities). The SNP is the down sized version of the LNPv2 designed to bring the minimal network connectivity to BCT platforms like Trucks. Build, qualify test and deliver 26 Large Network Processor Version 2, 6 type VII BrassBoards, and 7 type VII Prototypes for the ARV-A(L). ICS Software: For Increment 2, begin coding, unit test and integration of ICS Build 3.5 software, to include the Real-Time (RTOS) and L5OS (RedHat Enterprise Linux 5.4 derivative) operating systems (OS).	0.000	0.000	84.085	0.000	84.085

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #54 Contractor C4ISR System IAT&C FY09: Begin C4ISR integration of Battle Command System (BCS) Increment 1 software deliveries (engineering drops and final build) to support IBCT LUT-09. Continue C4ISR integration of BCS Increment 1 software deliveries (engineering drops and final build) to support the Network Integration Kit (NIK) Network System Qualification Test (NSQT) planned for 3Q FY10. Begin Hardware/Software integration, to include integration and lab testing of the Ground Mobile Radio (GMR) with the ICS Type VI computer. Perform T/U UGS integration and lab testing with the NIK prior to the NIK Network Software Quality Tests (NSQT). This included T-UGS Gateways, ISR and Electro Optical/Infrared (EO/IR) nodes and U-UGS gateways and intrusion/imaging nodes. Complete SW integration of BCS Increment 2 software in 3Q FY09 developed during SDD Build 2 Early. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010	29.351	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #55 Contractor C4ISR System IAT&C FY10 - IBCT Increment 1: Continue integration of Battle Command System (BCS) Increment 1 software deliveries (engineering drops and final build) prior to Increment 1LUT-10. Conduct Hardware/Software integration of the BCS with the Integrated Computer System (ICS) Type VI variant and the Ground Mobile Radio (GMR) as part of the Network Integration Kit (NIK), these activities include integration, test and verification activities to make sure successful integration is achieved. In addition to lab testing, conduct additional field testing for each BCS ER integrated with the NIK. Resolve any remaining NIK and BCS integration issues, resolve software problem reports (SPR's), and complete a Network Systems Qualification Test (NSQT) on the NIK in 3Q FY10 to support Increment 1 LUT-10. BCS Increment 1 will include integration of SOSCOE Build 2.7 with the Integrated Computer System (ICS) Build 2.0 Operating System (OS), incorporating the Cross Domain Guard (CDG). *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base	0.000	17.460	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 OCO Plans: FY 2011 OCO					
Program #56 Contractor C4ISR System IAT&C FY10 - IBCT Increment 2: Perform integration and test among each of the Increment 2 Phase 1 software subsystems as part of Battle Command System (BCS) Integration/Test effort. Integrate and lab test the IBCT Increment 2 Phase 1 BCS with each of the ICS configurations and the Centralized Controller (CC) systems to ensure proper integration and functionality. Complete Network System Qualification Tests (NSQT's) for the BCS Increment 2 Phase 1 software with each of the ICS variants and CC to support early integration prior to the platform Integrated Qualification Tests (IQT's). Complete a Network Integration Qualification Test (NIQT) which encompasses results from FQTs, Network Software Quality Tests (NSQT), Software Integration Qualification Test (SIQT), as well as the field. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO	0.000	35.799	0.000	0.000	0.000
Program #57 Software Integration FY11 - IBCT Increment 2: Perform integration and lab testing of Battle Command System (BCS) Increment 2 Phase 2 software and provide BCS Increment 2 Phase 2 Integration Releases (IRs) to support	0.000	0.000	43.492	0.000	43.492

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
integration with each applicable Integrated Computer System (ICS) variant and common controller (CC). BCS Increment 2 Phase 2 will include integration of SOSCOE Builds 10.6 through 10.8 with the latest versions of the ICS Operating System (OS). *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #58 GFX FY09: NAIL provided the government an analytical capability, to assess FCS network performance capability. This includes identifying network and performance gaps and evaluating technical solutions to optimize end-to-end (E2E) performance of the network. Simulates all aspects of the network to include scenarios, waveforms, Performed and delivered Virtual and Constructive (V&C) Baseline (including scenarios, waveforms, etc., for modeling and simulation of the E2E network) of Network Capabilities for FCS Combined Test Organization (CTO) IBCT Testing and Experimentation (CES, SOSCOE, BC, Integration, and Net Monitoring). Baseline the FCS Core E2E Network Performance, which includes: Risk reduction (i.e., executing risk mitigation plans) and Network Performance Gap Analysis (e.g., connectivity). Baselined IBCT Increment 1 E2E performance. As a result, provided technical guidance on the evolution of the Increment 2 network design and performance requirements of the Network A Specification and system integration of the Waveform Load Set (WLS) in the positioning of waveforms on platforms, Subnetting, Spectrum, and BC System Engineering.	29.424	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Designed/performed Data Distribution Architecture and Traffic Engineering for BC/SOSCOE targeting IBCT Increment 1. This Government NAIL analysis resulted in the identification of SOSCOE network scalability issues to the Contractor which was resolved with Government-Contractor collaboration in the Government NAIL lab. Performed Tactical E2E Voice analysis, ISR / Teleoperations Video E2E Operational Performance Assessment, Network requirements, Test and Performance Measures, in support of assessing Architectural Gaps for FCS Program Network. Performed ISR Effectiveness and Distribution analysis for IBCT Increment 1. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #59 GFX FY09 (Continued): Performed IBCT Network Performance-related Risk reduction across the Army Forces and performed inherent Government analysis, "What-if" analysis (Varying Communications options, Varying ISR Capabilities) and drove requirements into complementary programs and performed FCS / Cross-agency Service Integration (DCGS-A, Medical, DOD PKI, and DISA NCES). Performed EPLRS/WNW Backbone performance design and analysis and determined best backbone configuration and capabilities for the Army. Also performed Common Controller (CC) alternative radio experimentation which resulted in the identification of acceptable list of potential radios for Teleoperations and provided basis for ERAS. In summary, the Government NAIL provided	0.000	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
technical expertise and delivered data products to the Prime Contractor and the Army, thereby providing risk mitigation of the network for the Army. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #60 GFX FY10 IBCT Increment 1: The NAIL shall produce and update the Inc 1 Waveform Load Set (Subnet Plan, Frequency Channel Assignment), Routing Architecture (Multicast/Unicast for Brigade per Operational Mission Nets), Internet Protocol (IP) Address Book and Assignment Schema, Common Controller (CC) Tele-operations of SUGV Evaluation and Report of Enhanced/Alternative Radios including modified Enhanced Position Locating Radio System (EPLRS) with Teleops Enhancements and Soldier Radio Waveform (SRW) 1.0c, Large Robotic Vehicle Teleoperation Operational Effectiveness Evaluation and Report, Integration of Voice System Software on Inc 1 Computer, Voice Signal Analysis, Evaluation, and Evaluation Report, Voice System Software Field Evaluation and Report, Traffic Engineering Design for Inc 1 Battle Command (BC), Software Load Allocation definition for Battle Command for Quality of Service (QoS) within Network Management System, Reliability Enhancements/Reconfigurations for Transport Design for NIK/FBCB2/GMR prior to the introduction of WIN-T, Traffic Engineering Requirements for SOSCOE, Offered Load (OL) Database Development of Inc 1 Traffic on	0.000	13.131	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
the Network in support of FY10 LUT. The NAIL shall maintain the virtual (model and simulation with human in-the-loop) and constructive (simulated) environment to perform the tasks and produce the products listed above. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #61 GFX FY10 IBCT Increment 2: The NAIL shall produce and integrate with the Prime Contractor on the design and maturation of the end to end (E2E), operationally-driven Increment 2 IBCT Network. NAIL will Evaluate Current Force Sensor for Integration into the INC 2 Network. The NAIL shall initiate the Inc 2 Waveform Load Set (Subnet Plan, Frequency Channel Assignment), Initiate Inc 2 Routing Architecture (Multicast/Unicast for Brigade per Operational Mission Nets) to include the addition of Ground Soldier System (GSS), Inc 2 Internet Protocol (IP) Address Book and Assignment Schema, Produce Voice Dismount Software, Integration of Voice System Software with GSS, WIN-T, and NIKs, Traffic Engineering Design for Inc 2 Battle Command (BC), Software Load Allocation definition for all Inc 2 Battle Command Software on NIK Configurations, Reliable for Transport Design for NIK/FBCB2 Battle Command Environment Utilizing GMR and WIN-T for Communications Transport, Traffic Engineering Requirements for Inc 2 SOSCOE, Offered Load (OL) Database Development of Inc 2 Traffic on the Network. In collaboration with JPEO JTRS undertake an aggressive risk reduction plan to grow and demonstrate the network maturity and reliability to support continued Inc 2 EIBCT production and	0.000	24.300	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
fielding. GFX Hardware for example includes surrogate radio platforms, sensors, voice computing nodes, radios, software tools and licenses. *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #62 GFX FY11 IBCT Increment 2: The NAIL shall produce/update/finalize the Inc 2 Waveform Load Set (Subnet Plan, Frequency Channel Assignment), Update Inc 2 Routing Architecture (Multicast/Unicast for Brigade per Operational Mission Nets), Update Internet Protocol (IP) Address Book and Assignment Schema, Integration of Video System Software on INC 2 Computer, Perform Video Field Evaluation and Report , Finalize Traffic Engineering Design for Inc 2 Battle Command (BC), Requirements for SOSCOE, Offered Load (OL) Database Development of Inc 2 Traffic on the Network, Perform Integration of Current Force intelligence systems for dismounted sensor reports and targeting integration with unmanned sensors in the Company and Platoon Common Operating Picture (COP). The NAIL shall maintain the virtual (model and simulation with human in-the-loop) and constructive (simulated) environment to perform the tasks and produce the products listed above. *FY 2009 Accomplishments:* FY 2009	0.000	0.000	26.455	0.000	26.455

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Program #63 Contractor Fee *FY 2009 Accomplishments:* FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO	0.000	0.000	53.085	0.000	53.085
Program #64 Small Business Innovative Research/Small Business Technology Transfer Programs	0.000	18.361	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009 *FY 2010 Plans:* FY 2010 *FY 2011 Base Plans:* FY 2011 Base *FY 2011 OCO Plans:* FY 2011 OCO					
Accomplishments/Planned Programs Subtotals	819.721	655.745	610.389	0.000	610.389

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• Ord. #1: *0604646A Non-Line of Sight - Launch System*	253.684	91.223	81.247	0.000	81.247	58.718	27.418	0.000	0.000	0	512.290
• Ord. #2: *0604647A Non-Line of Sight - Cannon*	87.038	47.964	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	135.002
• Ord. #3: *0604660A FCS Manned Ground Vehicles & Common Grd Vehicle Components*	760.744	275.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	1,035.860
• Ord. #4: *0604661A FCS System of Systems Engr & Program Management*	1,022.165	912.399	568.711	0.000	568.711	566.378	582.775	618.755	727.415	Continuing	Continuing
• Ord. #5: *0604662A FCS Reconnaissance (UAV) Platforms*	55.923	75.107	50.304	0.000	50.304	12.058	4.180	0.000	0.000	0	197.572

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• Ord. #6: *0604663A FCS Unmanned Ground Vehicles*	104.571	124.962	249.948	0.000	249.948	98.737	25.368	0.000	0.000	0	603.586
• Ord. #7: *0604664A FCS Unattended Ground Sensors*	20.135	26.778	7.515	0.000	7.515	1.071	1.071	0.000	0.000	0	56.570
• Ord. #8: *0604666A Spin Out Technology/Capability Insertion*	122.788	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	122.788
• Ord. #9: *0605625A Manned Ground Vehicle*	0.000	79.583	934.366	0.000	934.366	1,882.839	2,242.756	1,375.128	744.771	Continuing	Continuing
• Ord. #10: *WTCV G86100 FCS Core Program*	154.127	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	154.127
• Ord. #11: *WTCV G86200 FCS Spin Out Program*	67.268	326.909	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	394.177
• Ord. #12: *WTCV G86000 Ground Combat Vehicle (GCV)*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	98.030	778.220	Continuing	Continuing
• Ord. #13: *ACFT A00015 BCT Unmanned Aerial Veh (UAVs) Incr 1*	0.000	0.000	44.206	0.000	44.206	40.216	12.770	3.718	1.850	Continuing	Continuing
• Ord. #14: *ACFT A00016 BCT Unmanned Aerial Veh (UAVs) Incr 2*	0.000	0.000	0.000	0.000	0.000	2.141	85.345	90.245	92.686	Continuing	Continuing
• Ord. #15: *OPA B00001 BCT Unattended Ground Sensor*	0.000	0.000	29.718	0.000	29.718	60.578	9.582	1.544	1.328	Continuing	Continuing
• Ord. #16: *OPA B00004 BCT Unattended Ground Sensor Incr 2*	0.000	0.000	0.000	0.000	0.000	19.093	87.478	96.172	86.259	Continuing	Continuing
• Ord. #17: *OPA B00002 BCT Network*	0.000	0.000	176.543	0.000	176.543	192.632	20.619	0.317	0.187	Continuing	Continuing
• Ord. #18: *OPA B00003 BCT Network Incr 2*	0.000	0.000	0.000	0.000	0.000	81.277	301.864	454.480	431.835	Continuing	Continuing
• Ord. #19: *OPA F00001 BCT Unmanned Ground Vehicle*	0.000	0.000	20.046	0.000	20.046	42.703	6.002	2.288	1.870	Continuing	Continuing
	0.000	0.000	0.000	0.000	0.000	373.193	710.680	676.230	711.940	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• Ord. #20: *OPA F00002 BCT Unmanned Ground Vehicle Incr 2*											
• Ord. #21: *OPA G80001 BCT Training/Logistics/Management*	0.000	0.000	61.581	0.000	61.581	12.178	94.491	68.033	50.468	Continuing	Continuing
• Ord. #22: *OPA G00002 BCT Training/Logistics/Management Incr 2*	0.000	0.000	0.000	0.000	0.000	75.069	387.173	396.593	446.806	Continuing	Continuing
• Ord. #23: *MSLS C64501 BCT NLOS-LS Incr 1*	0.000	0.000	350.574	0.000	350.574	758.657	112.115	0.000	0.000	0	1,221.346
• Ord. #24: *MSLS C64601 BCT NLOS-LS Incr 2*	0.000	0.000	0.000	0.000	0.000	0.000	605.192	679.078	579.210	Continuing	Continuing

D. Acquisition Strategy

A 23 June 2009 Acquisition Decision Memorandum (ADM) directed the cancellation of the FCS (BCT) acquisition program. It also instructed the Army to transition to an Army modernization plan consisting of a number of integrated acquisition programs. At that time, the SO E-IBCT was designated a pre-MDAP, with a Milestone C decision scheduled for the first quarter FY 2010. A follow-on ADM was issued 9 July 2009. In it, the Army was directed to continue efforts to improve the brigades beyond the Early Infantry Brigade Combat Team acquisition until a standalone program(s) is defined later in 2010. An Army BCT Modernization Defense Acquisition Board (DAB) was then held on October 16, 2009 to review the Army's plans for the post-Future Combat Systems efforts and confirm the Army brigade modernization acquisition plans were consistent with the Secretary of Defense's guidance. An ADM issued after this DAB stated: "The approach, for Increment 1 (Early-Infantry Brigade Combat Team (E-IBCT)) and the Ground Combat Vehicle (GCV) effort, is consistent with the Secretary's guidance and each is being positioned for more in-depth review and acquisition decisions later in 2009." The Increment 1 E-IBCT Milestone C took place 22 December 2009 and was approved in an ADM dated 24 December 2009. The Program Executive Officer-Integration (PEO-I) has modified the existing contract to be compliant with the aforementioned ADMs. This budget justification reflects the Milestone C approved Increment 1 (E-IBCT) program and the follow-on IBCT modernization program planned by the Army.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

Product Development ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SoSCOE / INFO MGT SYSTEM SOFTWARE	C	THE BOEING COMPANY ST LOUIS, MO	0.000	71.543		66.466		0.000		66.466	Continuing	Continuing	0
COMMUNICATIONS SYSTEMS SOFTWARE & NETWORK MGT SOFTWARE	C	THE BOEING COMPANY ST LOUIS, MO, see remark 2	0.000	37.474		57.493		0.000		57.493	Continuing	Continuing	0
BATTLE COMMAND SOFTWARE	C	THE BOEING COMPANY ST LOUIS, MO, see remarks 3,5,6,7	0.000	112.517		114.718		0.000		114.718	Continuing	Continuing	0
FUSION SOFTWARE	C	THE BOEING COMPANY ST LOUIS, MO, see remarks 1, 7	0.000	18.432		12.161		0.000		12.161	Continuing	Continuing	0
EMBEDDED TRAINING SOFTWARE FY08	C	THE BOEING COMPANY ST LOUIS, MO, all tier one subcontractors	0.000	15.940		14.455		0.000		14.455	Continuing	Continuing	0
CONTRACTOR LOG PRODUCTS SOFTWARE	C	THE BOEING COMPANY ST LOUIS, MO, see remarks 4,12,13	0.000	37.518		30.444		0.000		30.444	Continuing	Continuing	0
RANGE EXTENSION RELAY	C	THE BOEING COMPANY ST	0.000	2.360		0.000		0.000		0.000	Continuing	Continuing	0

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

Product Development ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
GROUND SENSOR INTEGRATOR HARDWARE	C	THE BOEING COMPANY ST LOUIS, MO, see remark 8	0.000	70.440		0.000		0.000		0.000	Continuing	Continuing	0
AIR SENSOR HARDWARE	C	THE BOEING COMPANY ST. LOUIS, MO, see remark 9	0.000	13.300		0.000		0.000		0.000	Continuing	Continuing	0
COMMUNICATION HARDWARE - AIR & GROUND	C	THE BOEING COMPANY ST LOUIS, MO, see remark 10	0.000	47.980		57.397		0.000		57.397	Continuing	Continuing	0
COMMON CONTROLLER, HARDWARE AND SOFTWARE	C	THE BOEING COMPANY ST LOUIS, MO	0.000	34.210		50.138		0.000		50.138	Continuing	Continuing	0
ICS COMPUTER PROCESSING HARDWARE AND SOFTWARE	C	THE BOEING COMPANY ST LOUIS, MO, see remark 11	0.000	84.980		84.085		0.000		84.085	Continuing	Continuing	0
CONTRACTOR C4ISR SYSTEM IAT&C & MANAGEMENT	C	THE BOEING COMPANY ST LOUIS, MO	0.000	53.259		43.492		0.000		43.492	Continuing	Continuing	0
Government GFX	C	PM FCS (BCT) St. Louis MO	0.000	37.431		26.455		0.000		26.455	Continuing	Continuing	0
Contractor Fee	C		0.000	0.000		53.085		0.000		53.085	Continuing	Continuing	0

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*

Product Development ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		Nothing entered for Activity and Location. Location could not be determined.											
		Subtotal	0.000	637.384		610.389		0.000		610.389			0.000

Remarks

1: Subcontractor: Lockheed Martin Integrated Systems and Solutions, San Diego, CA; (ISR Level 1 Fusion) 2: Subcontractor: Northrop Grumman Network Management Systems, Carson, CA; (Network Mgt Sys)3: Subcontractor: Boeing Mesa, Mesa, AZ; (Warfighter Machine Interface)4: Subcontractor: Northrop Grumman Mission Systems, Carson, CA; (Logistics Decision Support Software) 5: Subcontractor: Raytheon Network Centric, Fort Wayne, IN; (Battle Command & Mission Execution)6: Subcontractor: Network Centric Systems/Austin Info Systems, Austin, TX; (Situational Understanding)7: Subcontractor: General Dynamics C4 Systems, Scottsdale, AZ; (Sensor Data Mgt)(Planning & Preparation Services)8. Subcontractor: Raytheon Network Centric Systems, Plano, TX; (Ground Sensor Integrator)9. Subcontractor: Northrop Grumman Electronic Sys CMS, Belcamp, MD; (Air Sensor Integrator)10. Subcontractor: BAE Systems, Wayne, NJ; (Air & Ground Communication Integration)11. Subcontractor: General Dynamics Adv Info Sys, Bloomington, MN; (Integrated Computer Systems)12. Subcontractor: Honeywell Defense & Electronics System, Albuquerque, NM; (Platform Soldier Mission Readiness System)13. Subcontractor: IBM, Bethesda, MD; (Logistics Data Management Systems)

Support ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SBIR/STTR	C	OSD Location could not be determined.	0.000	18.361		0.000		0.000		0.000	Continuing	Continuing	0
		Subtotal	0.000	18.361		0.000		0.000		0.000			0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604665A: *FCS Sustainment & Training R&D*	PROJECT FC6: *FCS Network Hardware & Software*	

Support ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	655.745		610.389		0.000		610.389			0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Army		**DATE:** February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604665A: *FCS Sustainment & Training R&D*	**PROJECT** FC6: *FCS Network Hardware & Software*

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Increment 1 Total Program Tasks			#	#	#	#	#	#	#	#	#																	
Incr 1 Limited User Test FY 09			#																									
Incr 1 Milestone C				#																								
Incr 1 STX / FDT&E / LUT 10						#	#																					
Incr 1 Production Contract Award					#																							
Incr 1 Production Delivery							#	#	#	#																		
Incr 1 Initial Operational Test & Evaluation											#																	
Incr 1 First Unit Equipped											#																	
Incr 1 Initial Operational Capability													#															
Increment 2 Total Program Tasks										#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#		
Incr 2 CDR										#																		
Incr 2 FDT&E / STX / LUT 13															#	#												
Incr 2 Milestone C																		#										
Incr 2 Initial Operational Capability																										#		
Increment 1 Network Tasks			#	#	#	#	#	#	#	#	#																	
SOSCOE Build 2.5					#																							
SOSCOE Build 2.7					#																							
Incr 1 Battle Command Software Applications FQT				#	#	#																						
Incr 1 Fusion Software FQT					#	#																						
					#	#																						

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Army			**DATE:** February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604665A: *FCS Sustainment & Training R&D*	**PROJECT** FC6: *FCS Network Hardware & Software*	

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Incr 1 Logistics Products Application Software FQT																												
Incr 1 Network Management System FQT					#	#																						
Increment 2 Network Tasks										#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#		
SOSCOE Build 10.6 FQT								#																				
SOSCOE Build 10.8 FQT										#																		
SOSCOE Build 10.12 FQT														#														
Incr 2 Phase 1 Platform / System Software Integration Releases			#	#	#	#	#	#	#	#																		
Incr 2 Phase 1 Battle Command Integration Release				#	#	#	#	#																				
Incr 2 Phase 1 Fusion Integration Release				#	#	#	#																					
Incr 2 Phase 1 Network Comms Integration Release				#	#	#	#																					
Incr 2 Phase 1 Logistics Products Integration Release				#	#	#	#																					
Incr 2 Phase 1 Training Products Integration Release				#	#	#	#	#																				
Platform / System Network System Qualification Tests *									#	#	#	#	#	#	#													
Incr 2 Phase 1 NSQTs Completed										#	#	#	#															
Incr 2 Phase 2 NSQTs Completed													#	#														
Incr 2 Phase 2.1 NSQTs Completed															#													

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Army		**DATE:** February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604665A: *FCS Sustainment & Training R&D*	**PROJECT** FC6: *FCS Network Hardware & Software*

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
ICS Prototype Deliveries					#	#	#	#	#																			
Common Controller Milestones (PDR)					#																							
(CDR) *							#																					
CC Prototype Deliveries *									#	#	#																	
Air Sensors					#																							
Class I EO-IR/LD Milestones (CDR)				#																								
Class I EO-IR/LD Prototype Deliveries											#	#																
Ground Sensors					#																							
MREO-Lite Milestones (CDR)					#																							
MREO-Lite Prototype Deliveries					#	#	#	#	#																			
SUGV EO-IR Milestones (CDR)						#																						
SUGV EO-IR Prototype Deliveries											#																	
JTRS GMR Prototype Deliveries			#	#	#	#	#	#																				
JTRS HMS Prototype Deliveries				#	#	#	#																					

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604665A: *FCS Sustainment & Training R&D*	**PROJECT** FC6: *FCS Network Hardware & Software*

Schedule Details

	Start		End	
Event	**Quarter**	**Year**	**Quarter**	**Year**
Increment 1 Total Program Tasks	3	2009	3	2011
Incr 1 Limited User Test FY 09	3	2009	3	2009
Incr 1 Milestone C	4	2009	4	2009
Incr 1 STX / FDT&E / LUT 10	2	2010	3	2010
Incr 1 Production Contract Award	1	2010	1	2010
Incr 1 Production Delivery	3	2010	2	2011
Incr 1 Initial Operational Test & Evaluation	3	2011	3	2011
Incr 1 First Unit Equipped	3	2011	3	2011
Incr 1 Initial Operational Capability	1	2012	1	2012
Increment 2 Total Program Tasks	2	2011	2	2015
Incr 2 CDR	2	2011	2	2011
Incr 2 FDT&E / STX / LUT 13	3	2012	4	2012
Incr 2 Milestone C	2	2013	2	2013
Incr 2 Initial Operational Capability	2	2015	2	2015
Increment 1 Network Tasks	3	2009	3	2011
SOSCOE Build 2.5	1	2010	1	2010
SOSCOE Build 2.7	1	2010	1	2010
Incr 1 Battle Command Software Applications FQT	4	2009	2	2010

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604665A: *FCS Sustainment & Training R&D*	**PROJECT** FC6: *FCS Network Hardware & Software*

	Start		End	
Event	**Quarter**	**Year**	**Quarter**	**Year**
Incr 1 Fusion Software FQT	1	2010	2	2010
Incr 1 Logistics Products Application Software FQT	1	2010	2	2010
Incr 1 Network Management System FQT	1	2010	2	2010
Increment 2 Network Tasks	2	2011	2	2015
SOSCOE Build 10.6 FQT	4	2010	4	2010
SOSCOE Build 10.8 FQT	2	2011	2	2011
SOSCOE Build 10.12 FQT	2	2012	2	2012
Incr 2 Phase 1 Platform / System Software Integration Releases	3	2009	2	2011
Incr 2 Phase 1 Battle Command Integration Release	4	2009	4	2010
Incr 2 Phase 1 Fusion Integration Release	4	2009	3	2010
Incr 2 Phase 1 Network Comms Integration Release	4	2009	3	2010
Incr 2 Phase 1 Logistics Products Integration Release	4	2009	3	2010
Incr 2 Phase 1 Training Products Integration Release	4	2009	4	2010
Platform / System Network System Qualification Tests *	1	2011	3	2012
Incr 2 Phase 1 NSQTs Completed	2	2011	1	2012
Incr 2 Phase 2 NSQTs Completed	1	2012	2	2012
Incr 2 Phase 2.1 NSQTs Completed	3	2012	3	2012
ICS Prototype Deliveries	1	2010	1	2011
Common Controller Milestones (PDR)	1	2010	1	2010
(CDR) *	3	2010	3	2010

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604665A: *FCS Sustainment & Training R&D*	**PROJECT** FC6: *FCS Network Hardware & Software*

	Start		End	
Event	**Quarter**	**Year**	**Quarter**	**Year**
CC Prototype Deliveries *	1	2011	3	2011
Air Sensors	1	2010	1	2010
Class I EO-IR/LD Milestones (CDR)	4	2009	4	2009
Class I EO-IR/LD Prototype Deliveries	3	2011	4	2011
Ground Sensors	1	2010	1	2010
MREO-Lite Milestones (CDR)	1	2010	1	2010
MREO-Lite Prototype Deliveries	1	2010	1	2011
SUGV EO-IR Milestones (CDR)	2	2010	2	2010
SUGV EO-IR Prototype Deliveries	3	2011	3	2011
JTRS GMR Prototype Deliveries	3	2009	4	2010
JTRS HMS Prototype Deliveries	4	2009	3	2010