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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	26.699	22.205	17.797	-	17.797	21.119	26.607	24.518	23.709	Continuing	Continuing
571: <i>CLOSE CBT TACT TRAINER</i>	4.513	4.317	4.252	-	4.252	4.519	4.455	6.646	6.645	Continuing	Continuing
577: <i>Gaming Technology in Support of Army Training</i>	0.903	1.427	1.348	-	1.348	2.043	0.872	1.496	1.521	Continuing	Continuing
582: <i>SYNTHETIC ENVIR CORE</i>	19.361	13.914	9.616	-	9.616	11.889	18.784	12.709	12.760	Continuing	Continuing
585: <i>AVIATION COMBINED ARMS TACTICAL TRAINER</i>	1.922	2.547	2.581	-	2.581	2.668	2.496	3.667	2.783	Continuing	Continuing

Note

Change Summary Explanation: None required.

A. Mission Description and Budget Item Justification

The Combined Arms Tactical Trainers (CATT) represent a family of combined arms simulation systems designed to support the Army's simulation-based Combined Arms Training Strategy. CATT enables units, from crew to the battalion task force level, to conduct a wide variety of combat tasks on a realistic, interactive, synthetic battlefield. CATT's combination of manned simulators and staff officer workstations enables units to train as a combined arms team in a cost effective manner. The primary CATT system is the Close Combat Tactical Trainer (CCTT) which provides the underlying baseline architecture and After Action Review (AAR) for CATT expansions, Pre-Planned Product Improvements (P3I) and system enhancements. The Reconfigurable Vehicle Simulator (RVS) and Dismounted Soldier Training System (DSTS) variants support combat convoy operations and Improvised Explosive Devices (IED) tasks. Synthetic Environment (SE) Core provides for the expansion of the synthetic environment baseline to include enhanced interoperability and the products and infrastructure to support current and future combat operations and mission rehearsal required for Overseas Contingency Operations (OCO) and Decisive Operations. The first synthetic environments expanded were in the Aviation Combined Arms Tactical Trainer (AVCATT) and the CCTT for both the Active and Reserve components. Gaming Technology provides an application to train and rehearse convoy-operations, platoon level, mounted infantry tactics, dismounted operations, rules-of-engagement training, cross-cultural communications training, IED defeat training, route clearance, ground-air coordination, Unmanned Aerial Vehicle (UAV) integration, and other small unit and individual training and mission rehearsal requirements. Soldiers can train in a common environment on geotypical or geospecific terrain. It is also possible to link Gaming technology to actual communication, command, control, computer, and intelligence (C4I) systems and other CATT simulation systems to increase the utility and realism of the training. By practicing skills in CATT, units are able to effectively prepare for costly live fire and maneuver exercises, as well as train tasks deemed too hazardous to conduct in a live training environment. Fielded in both fixed site and mobile versions, CATT enables both Active and Reserve component units to prepare for real world contingency missions. By being able to use a wide array of training terrain databases and modify the behavior of the computer generated opposing forces, CATT offers an unlimited array of training options to support the Army's many regional combat missions. The combination of tough field and live fire training, and realistic simulation training in CATT, is the formula to prepare Soldiers and their Leaders for the uncertainties they face in current combat operations in Afghanistan, and their transition to Decisive Operations.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army				DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE				
2040: Research, Development, Test & Evaluation, Army		PE 0604780A: Combined Arms Tactical Trainer (CATT) Core				
BA 5: Development & Demonstration (SDD)						
FY 2013 Project 571 core funding of \$4.252 million for CCTT enables the P3I for the CCTT Dismounted Soldier Training System (DSTS) system in support of Infantry Brigade Combat Teams, Stryker Brigade Combat Teams, Airborne, Ranger, Special Forces units and Heavy Brigade Combat Teams.						
FY 2013 Project 577 core funding of \$1.348 million for Games for Training will integrate OneSAF and new commercial and government technology products into the current gaming system.						
FY 2013 Project 582 core funding of \$9.616 million for SE Core will provide for common terrain databases to be generated by the Terrain Database Center (TDC). The TDC continues development and refinement of the Standard Terrain Database Generation Capability (STDGC).						
FY 2013 Project 585 core funding of \$2.581 million for AVCATT will develop the capability for AVCATT to interoperate with real and simulated Army Battle Command Systems (ABCS) such as Blue Force Tracker (BFT), Force XXI Battle Command Brigade and Below (FBCB2), and Advanced Field Artillery Tactical Data Systems (AFATDs).						
B. Program Change Summary (\$ in Millions)		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget		27.670	22.226	17.550	-	17.550
Current President's Budget		26.699	22.205	17.797	-	17.797
Total Adjustments		-0.971	-0.021	0.247	-	0.247
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-			
• Congressional Rescissions		-	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-0.798	-			
• Adjustments to Budget Years		-0.173	-0.021	0.247	-	0.247

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604780A: Combined Arms Tactical Trainer (CATT) Core				PROJECT 571: CLOSE CBT TACT TRAINER			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
571: CLOSE CBT TACT TRAINER	4.513	4.317	4.252	-	4.252	4.519	4.455	6.646	6.645	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
This program provides for Engineering and Manufacturing Development (EMD) and Pre-Planned Product Improvements (P3I) for the Close Combat Tactical Trainer (CCTT), which will enhance readiness for both Active and Reserve component forces to support the execution of current and future combat operations including Overseas Contingency Operations (OCO) and Decisive Operations. The program develops a networked system of interactive computer driven simulators, emulators, and semi-automated forces that replicate combat vehicles and weapon systems, combat support systems, combat service support systems, and command and control systems to create a fully integrated, real-time collective task training environment. CCTT allows Soldiers to practice Tactics, Techniques and Procedures (TTP) that, if performed on real equipment, would be too hazardous, time-consuming and expensive. These trainers enhance realism and allow Soldiers and units to learn tactical, combat lessons on maneuver, command and control, convoy operations, and improved teamwork for increased survivability. The P3I enhances CCTT's capabilities as a tactical trainer and maintains concurrency with fielded, tactical equipment and force structure. These improvements will maintain interoperability with the Aviation Combined Arms Tactical Trainer (AVCATT), Army Battle Command System (ABCS), including Force XXI Battle Command Brigade and Below (FBCB2), and other simulation systems needed to execute training for current and future combat operations.											
FY 2013 core funding of \$4.252 million for CCTT enables the P3I for the CCTT Dismounted Soldier Training System (DSTS) in support of Infantry Brigade Combat Teams, Stryker Brigade Combat Teams, Airborne, Ranger, Special Forces units and Heavy Brigade Combat Teams.											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Government Program Management for the Close Combat Tactical Trainer (CCTT) program.							0.236	0.182	0.729	-	0.729
Articles:							0	0			
Description: Government Program Management for the CCTT program.											
FY 2011 Accomplishments: Supported government program management, engineering, technical, contracting support, and continued operational evaluation support.											
FY 2012 Plans: Supports government program management, engineering, technical, contracting support, and continues operational evaluation support.											
FY 2013 Base Plans:											

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)			R-1 ITEM NOMENCLATURE PE 0604780A: Combined Arms Tactical Trainer (CATT) Core			PROJECT 571: CLOSE CBT TACT TRAINER					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Supports government program management, engineering, technical, contracting support, and continues operational evaluation support.											
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the CCTT DSTS. Articles:							1.3350	4.1350	3.523	-	3.523
Description: Continue EMD phase contract activities for the CCTT DSTS. FY 2011 Accomplishments: Development of the CCTT DSTS. FY 2012 Plans: Enables the P3I for the CCTT DS system in support of Infantry Brigade Combat Teams, Stryker Brigade Combat Teams, Airborne, Ranger, Special Forces units and Heavy Brigade Combat Teams. FY 2013 Base Plans: Enables the P3I for the CCTT DSTS in support of Infantry Brigade Combat Teams, Stryker Brigade Combat Teams, Airborne, Ranger, Special Forces units and Heavy Brigade Combat Teams.											
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Armored Security Vehicle (ASV) and Knight vehicle variants of the CCTT Reconfigurable Vehicle Simulator (RVS). Articles:							2.9420	-	-	-	-
Description: Continue EMD phase contract activities for the ASV and Knight vehicle variants of the CCTT RVS. FY 2011 Accomplishments: Development of the ASV and Knight vehicle variants of the CCTT RVS.											
Accomplishments/Planned Programs Subtotals							4.513	4.317	4.252	-	4.252
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPA3, Appropriation NA0170: OPA3, Appropriation NA0170	84.279	13.290	19.984		19.984		26.324	31.365	30.893	Continuing	Continuing
D. Acquisition Strategy											
FY 2013 will enable Pre-Planned Product Improvements (P3I) for the Dismounted Soldier Training System (DSTS).											

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604780A: <i>Combined Arms Tactical Trainer</i> (CATT) Core	PROJECT 571: <i>CLOSE CBT TACT TRAINER</i>

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>				PROJECT 571: <i>CLOSE CBT TACT TRAINER</i>					

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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
Government Program Management	Various	PEO STRI:Orlando, FL	16.899	0.182		0.729		-		0.729	Continuing	Continuing	Continuing
Subtotal			16.899	0.182		0.729		-		0.729			

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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
Development of the ASV and Knight vehicle variants for CCTT RVS	C/CPFF	Lockheed Martin Corporation:Orlando, FL	8.302	-		-		-		-	0.000	8.302	8.302
Development of CCTT Dismounted Soldier Training System	C/FFP	Intelligent Decisions, Inc.:Ashburn, VA	2.876	4.135		3.523		-		3.523	Continuing	Continuing	Continuing
Subtotal			11.178	4.135		3.523		-		3.523			

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	28.077	4.317		4.252		-		4.252			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army

DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY

2040: Research, Development, Test & Evaluation, Army
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604780A: *Combined Arms Tactical Trainer (CATT) Core*

PROJECT

571: CLOSE CBT TACT TRAINER

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Development and P3I of the CCTT Dismounted Soldier Training System																												
Development of the ASV and Knight vehicle variants for the CCTT RVS																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>	PROJECT 571: <i>CLOSE CBT TACT TRAINER</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Development and P3I of the CCTT Dismounted Soldier Training System	2	2011	4	2017
Development of the ASV and Knight vehicle variants for the CCTT RVS	3	2011	3	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604780A: Combined Arms Tactical Trainer (CATT) Core				PROJECT 577: Gaming Technology in Support of Army Training			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
577: Gaming Technology in Support of Army Training	0.903	1.427	1.348	-	1.348	2.043	0.872	1.496	1.521	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

The Games for Training (GFT) program provides a commercial-off-the-shelf (COTS) product line of personal computer based gaming applications to train Soldiers in decision-making, team and individual tasks at different skill levels, using multiple mission scenarios. The program leverages the commercial game industry to provide state of the art training solutions. The GFT program provides Army-wide licenses from the commercial market, or from Research and Development agencies, and the hardware required to operate the systems. The individual products permit Soldiers and units to conduct training in a real-time, semi-immersive environment that will leverage Synthetic Environment Core (SE Core) capabilities and is compliant with Live, Virtual and Constructive Integrated Training Environment (LVC-ITE). The GFT program currently supports both Overseas Contingency Operations (OCO) and Decisive Operations.

FY 2013 core funding of \$1.348 million will integrate OneSAF and new commercial and government technology products into the current gaming system.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Games for Training (GFT) program.	0.754	1.133	1.009	-	1.009
Articles:	0	0			
Description: Continue EMD phase contract activities for the GFT program.					
FY 2011 Accomplishments: Funding provided modifications to the GFT system to integrate and provide interoperability with Army Battle Command Systems (ABCS) and other simulators and simulations in support of home station training, OCO and Decisive Operations.					
FY 2012 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)			R-1 ITEM NOMENCLATURE PE 0604780A: Combined Arms Tactical Trainer (CATT) Core			PROJECT 577: Gaming Technology in Support of Army Training					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Funding will provide modifications to the GFT system to integrate and provide interoperability with medical training systems, ABCS and other simulators and simulations in support of home station training, OCO and Decisive Operations.											
FY 2013 Base Plans: Funding will provide modifications to the GFT system to ensure compliance with the LVC-ITE in support of Decisive Operations.											
Title: Government Program Management for the Games for Training (GFT) program. Description: Government Program Management for the GFT program. FY 2011 Accomplishments: Supported Government program management, engineering, technical, contract and test support for the GFT program. FY 2012 Plans: Supports Government program management, engineering, technical, contract and test support for the GFT program. FY 2013 Base Plans: Supports Government program management, engineering, technical, contract and test support for the GFT program.							Articles: 0.149 0	0.294 0	0.339	-	0.339
Accomplishments/Planned Programs Subtotals							0.903	1.427	1.348	-	1.348
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPA 3: OPA 3, Appropriation NA0176 Gaming Technology in Support of Army Training	4.937		4.056	5.900	9.956		11.016	12.501	4.736	Continuing	Continuing
D. Acquisition Strategy											
Competitive contract against the approved Capabilities Production Document (CPD), dated 18 Sep 08.											

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>	PROJECT 577: <i>Gaming Technology in Support of Army Training</i>

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army											DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604780A: Combined Arms Tactical Trainer (CATT) Core				PROJECT 577: Gaming Technology in Support of Army Training					

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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
Government Program Management	Various	PEO STRI:Orlando, FL	0.304	0.294		0.339		-		0.339	Continuing	Continuing	Continuing
Subtotal			0.304	0.294		0.339		-		0.339			

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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
Games for Training	Various	PEO STRI:Orlando, FL	1.513	1.133		1.009		-		1.009	Continuing	Continuing	Continuing
Subtotal			1.513	1.133		1.009		-		1.009			

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			1.817	1.427		1.348		-		1.348			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE					PROJECT			
2040: Research, Development, Test & Evaluation, Army					PE 0604780A: Combined Arms Tactical Trainer					577: Gaming Technology in Support of Army			
BA 5: Development & Demonstration (SDD)					(CATT) Core					Training			

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
LVC-IA integration																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604780A: Combined Arms Tactical Trainer (CATT) Core	PROJECT 577: Gaming Technology in Support of Army Training	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
LVC-IA integration	2	2013	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604780A: Combined Arms Tactical Trainer (CATT) Core				PROJECT 582: SYNTHETIC ENVIR CORE			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
582: SYNTHETIC ENVIR CORE	19.361	13.914	9.616	-	9.616	11.889	18.784	12.709	12.760	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>This project supports the Synthetic Environment Core (SE Core) Program. SE Core's mission is to ensure the Army's virtual training systems and simulators are fully integrated and interoperable. SE Core provides visual models (buildings and vehicles), terrain (over which the simulator moves), and entity behaviors (models performing realistic and appropriate actions) that are relevant and realistic to Unified Land Operations. The result is a "Fair Fight" capability; no simulator or operator will have an inherent advantage over another. This allows for air and ground to have coordinated and integrated training events that accurately replicate combat operations. Additionally, SE Core is building the Army's Common Virtual Environment (CVE) that provides the linkage between simulators and establishes a common environment for interoperability. This allows various simulators to be "hooked up" together for a train as they fight capability. SE Core is a foundational element in the Army's Training Transformation Plan linking the embedded systems, multi-mode Live, Virtual, Constructive (LVC) training capability with current systems.</p> <p>The SE Core components are One Semi-Automated Forces (OneSAF) integration; terrain database production; common visual models; a virtual systems architecture; a dynamic environment; mission command development; and net ready. A major SE Core component is the Standard Terrain Database Generation Capability (STDGC) process used to produce the synthetic terrain used in simulators and simulations. This terrain produced by SE Core is a key component for virtual simulators and constructive simulations and will expand to meet the growing demands of today's and future simulations.</p> <p>FY 2013 base funding of \$9.616 million will provide expanded development and production for common terrain databases as well as refining the production process. FY2013 funds will focus on modifying the Terrain Development process for constructive Terrain Database Production and continue to enhance OneSAF in the SE Core Architecture, CCTT, AVCATT and other virtual simulator baselines. Maintaining OneSAF for virtual simulations enables interoperability with the LVC ITE and reduces cost as individual virtual simulators will no longer develop and maintain separate SAFs. The SE Core Product Line of Common Virtual Components will continue with upgrades, integration and refinement, and the continued development of common visual models.</p>											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Synthetic Environment Core (SE Core) program.							16.1570	12.0300	7.704	-	7.704
Articles:											
Description: Continue EMD phase contract activities for the SE Core program.											
FY 2011 Accomplishments:											

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APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604780A: Combined Arms Tactical Trainer (CATT) Core	PROJECT 582: SYNTHETIC ENVIR CORE				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
SE Core continued providing terrain databases to programs and improving the STDGC to increase efficiencies and increasing production outputs. SE Core continued integration of virtual requirements (new Contemporary Operating Environment and IED behaviors) into OneSAF. SE Core stood up a virtual systems Architectural Management process that evaluates and consolidates virtual training requirements into common components to reduce redundancy and increase commonality. FY 2012 Plans: Provides terrain databases to an expanded number of programs in support of the Integrated Training Environment (ITE). Architectural Management continues evaluation of virtual training requirements to harmonize the requirements throughout the virtual training domain as well as the Constructive and Live training domains. This is to ensure interoperability within the ITE. Continues to provide OneSAF the consolidated virtual SAF requirements. FY 2013 Base Plans: Provides expansion of the production capability to meet the growing demand for synthetic terrain for training including constructive simulations. In addition, SE Core will oversee the development of the SAF behaviors for the Dismounted Soldier System. Efforts to improve interoperability across simulators and simulations continue.						
Title: Government Program Management for the Synthetic Environment Core (SE Core) program. Articles: Description: Government Program Management for the SE Core program. FY 2011 Accomplishments: Provided program management, engineering and technical oversight, contract support, and test support (including travel for Subject Matter Experts) for development of SE Core. FY 2012 Plans: Provides program management, engineering and technical oversight, contract support, and test support (including travel for Subject Matter Experts) for development of SE Core. FY 2013 Base Plans: Provides program management, engineering and technical oversight, contract support, and test support (including travel for Subject Matter Experts) for development of SE Core.		3.204 0	1.884 0	1.912	-	1.912
Accomplishments/Planned Programs Subtotals		19.361	13.914	9.616	-	9.616

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604780A: Combined Arms Tactical Trainer (CATT) Core				PROJECT 582: SYNTHETIC ENVIR CORE				
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost	
• OPA3, Appropriation NA0173: OPA3, Appropriation NA0173 Aviation Combined Arms Tactical Trainer	25.974	9.413	10.977	1.000	11.977		9.322	13.452	15.425	Continuing	Continuing	
• OPA3, Appropriation NA0170: OPA3, Appropriation NA0170 Close Combat Tactical Trainer (CCTT)	84.279	13.290	19.984		19.984		26.324	31.365	30.893	Continuing	Continuing	
• RDTE, Appropriation 654760: RDTE, Appropriation 654760 One Semi-Automated Forces (OneSAF)	11.132	11.678	11.720		11.720		11.835	12.234	12.437	Continuing	Continuing	
• OMA, Appropriation, 121014000: OMA, Appropriation 121014000, TBWG		1.781	4.708		4.708		5.926	4.040	1.219	Continuing	Continuing	
D. Acquisition Strategy												
An extension to the Architecture & Integration (A&I) contract was awarded to Science Applications International Corp (SAIC) in 2Q09. A competitive, CPFF type contract for the development of SE Core Database Virtual Environment Development (DVED) project was awarded in FY06 to CAE with yearly options until FY11. Program re-competed both of these contracts into a single contract which was awarded in 4th QTR FY11 to SAIC.												
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.												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604780A: Combined Arms Tactical Trainer (CATT) Core				PROJECT 582: SYNTHETIC ENVIR CORE					
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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
Management Services	Various	Various:Various	3.622	-		-		-		-	0.000	3.622	3.622
Government Program Management Support	Various	PEO STRI:Orlando, FL	15.095	1.884		1.912		-		1.912	Continuing	Continuing	Continuing
Subtotal			18.717	1.884		1.912		-		1.912			
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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
Technology Development - Architecture and Integration	C/CPFF	SAIC:Orlando, FL	6.946	-		-		-		-	0.000	6.946	6.946
Technology Development - Architecture and Integration	C/CPFF	SAIC:Orlando, FL	50.785	-		-		-		-	0.000	50.785	50.785
Technology Development - Database Virtual Environment Development	C/CPFF	CAE, USA:Orlando, FL	56.179	-		-		-		-	0.000	56.179	56.179
Technology Development	C/CPFF	SAIC:Orlando, FL	-	12.030		7.704		-		7.704	Continuing	Continuing	Continuing
Subtotal			113.910	12.030		7.704		-		7.704			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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
Technology Development - Test Support	Various	Test Community:Various	0.125	-		-		-		-	0.000	0.125	0.125
Subtotal			0.125	-		-		-		-	0.000	0.125	0.125
Remarks Not Applicable													

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604780A: Combined Arms Tactical Trainer (CATT) Core				PROJECT 582: SYNTHETIC ENVIR CORE			
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	132.752	13.914		9.616		-		9.616			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army																DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY								R-1 ITEM NOMENCLATURE								PROJECT			
2040: Research, Development, Test & Evaluation, Army								PE 0604780A: Combined Arms Tactical Trainer								582: SYNTHETIC ENVIR CORE			
BA 5: Development & Demonstration (SDD)								(CATT) Core											

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>	PROJECT 582: <i>SYNTHETIC ENVIR CORE</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Common Virtual Environment Management Contract	4	2011	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604780A: Combined Arms Tactical Trainer (CATT) Core				PROJECT 585: AVIATION COMBINED ARMS TACTICAL TRAINER			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
585: AVIATION COMBINED ARMS TACTICAL TRAINER	1.922	2.547	2.581	-	2.581	2.668	2.496	3.667	2.783	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Aviation Combined Arms Tactical Trainer (AVCATT) is an Army aviation training system for Active, Reserve and Army National Guard Components. A single suite of equipment consists of two mobile trailers housing six reconfigurable networked simulators that support the AH-64A/D, UH-60A/L, CH-47D, and OH-58D aircraft. Other AVCATT modules, such as the Non-Rated Crewmember Manned Module (NCM3, a sub-system of AVCATT), can be linked to this basic configuration, when and where needed, to support specific unit training requirements. Roleplayer, Semi-Automated Forces (SAF), and After Action Review (AAR) workstations are also provided as part of each suite. AVCATT is a fully mobile system, capable of using shore and generator power and is transportable worldwide. The AVCATT system permits aviation units to conduct collective task training on a real-time, virtual battlefield in a combined arms scenario by leveraging Synthetic Environment Core (SE Core) capabilities. The AVCATT is designed to provide realistic, high intensity, collective and combined arms training for aviation units. AVCATT supports the Aviation Combined Arms Training Strategy, Army Forces Generation (ARFORGEN), Overseas Contingency Operations (OCO), and Decisive Operations.

FY 2013 core funding of \$2.581 million will develop the capability for AVCATT to interoperate with real and simulated Army Battle Command Systems (ABCS) such as Blue Force Tracker (BFT), Force XXI Battle Command Brigade and Below (FBCB2), and Advanced Field Artillery Tactical Data Systems (AFATDs).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Engineering and Manufacturing Development (EMD) phase contract activity for the Aviation Combined Arms Tactical (AVCATT) program.	1.752	2.547	2.581	-	2.581
Articles:	0	0			
Description: Continue EMD phase contract activities for the AVCATT program.					
FY 2011 Accomplishments: Conducted a technology refresh of various components of AVCATT. Examples include Servo Control Modules, Battle Master Controller and After Action Review computers and various projectors.					
FY 2012 Plans: Conduct a technology refresh of AVCATT's Image Processor Display Generation (IPDG) systems, including design, development, and test of the new systems.					
FY 2013 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army					DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604780A: <i>Combined Arms Tactical Trainer</i> (CATT) Core		PROJECT 585: <i>AVIATION COMBINED ARMS TACTICAL TRAINER</i>		

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Develop the capability to stimulate and be stimulated by Current Force virtual simulators and battle command systems through the use of the SE Core Gateway.					
Title: Government Program Management for AVCATT program. <div style="text-align: right;">Articles:</div>	0.170 0	-	-	-	-
Description: Government Program Management for the AVCATT program. FY 2011 Accomplishments: Supported Government program management, engineering, technical, contract, and test support for AVCATT technology upgrades.					
Accomplishments/Planned Programs Subtotals	1.922	2.547	2.581	-	2.581

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPA3: OPA3, Appropriation NA0173 Aviation Combined Arms Tactical Trainer	25.974	9.413	10.977	1.000	11.977		9.322	13.452	15.425	Continuing	Continuing

D. Acquisition Strategy
Small Business Set aside for technology refresh efforts.

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.

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Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army										DATE: February 2012																			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>										R-1 ITEM NOMENCLATURE PE 0604780A: <i>Combined Arms Tactical Trainer</i> (CATT) Core										PROJECT 585: <i>AVIATION COMBINED ARMS TACTICAL TRAINER</i>									

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Required Interoperability with battle command systems and virtual simulators																												
Technology refresh of IPDG Systems																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>	PROJECT 585: <i>AVIATION COMBINED ARMS TACTICAL TRAINER</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Required Interoperability with battle command systems and virtual simulators	2	2013	4	2017
Technology refresh of IPDG Systems	1	2012	1	2013