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

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE

# **| 0604760A - Distributive Interactive Simulations (DIS) - Engin**

|     | COST (In Thousands)                            | FY 2005<br>Estimate | FY 2006<br>Estimate | FY 2007<br>Estimate | FY 2008<br>Estimate | FY 2009<br>Estimate | FY 2010<br>Estimate | FY 2011<br>Estimate | Cost to<br>Complete | Total Cost |
|-----|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------|
|     | Total Program Element (PE) Cost                | 26323               | 29628               | 19596               | 19814               | 20123               | 14187               | 14443               | Continuing          | Continuing |
| C69 | REPRESENTATION OF SPACE CAPABILITIES           | 77                  | 6900                | 0                   | 0                   | 0                   | 0                   | 0                   | 0                   | 6977       |
| C73 | SYNTHETIC THEATER OF WAR                       | 1474                | 2159                | 2003                | 2417                | 2346                | 0                   | 0                   | 0                   | 13486      |
| C74 | DEVEL SIMULATION TECH                          | 3132                | 1842                | 1706                | 2943                | 3965                | 858                 | 464                 | Continuing          | Continuing |
| C77 | Army Geospatial Data Master Plan               | 1245                | 1150                | 193                 | 0                   | 603                 | 0                   | 504                 | Continuing          | Continuing |
| C78 | One Semi-Automated Forces (OneSAF)             | 20395               | 16591               | 15694               | 14454               | 13209               | 13329               | 13475               | 0                   | 143747     |
| C81 | Joint Training Integration & Evaluation Center | 0                   | 986                 | 0                   | 0                   | 0                   | 0                   | 0                   | 0                   | 986        |

A. Mission Description and Budget Item Justification: This program element supports the Army's Advanced Simulation Program which enables operational readiness and supports the development of concepts and systems for Stryker and Future Force through the application of new simulation technology and techniques. This development and application of simulation technology will provide the tools to electronically link all subcomponents together in a manner that is transparent to the user. The synthetic environment is used to verify the scenarios, tactics/techniques and procedures, train testers on new hardware/software and conduct trial test runs before costly live field tests. The tools developed are available for reuse by developers and users of simulations throughout the Army. Project C73, Synthetic Theater of War-Army (STOW-A), provides innovative applications of current systems (live, virtual and constructive, Command, Control, Communications, Computers and Integration (C41) Surveillance and Reconnaissance) to meet the urgent training requirements until availability of the next generation systems. STOW-A provides direct support to the Training, Exercises and Military Operations (TEMO) domain and the Advanced Concepts Requirements (ACR) domain. TEMO support derives from the demonstrated, low cost training capabilities that are provided by the toolkit. ACR support derives from the demonstrated capability of the kit to support battle lab and Army Warfighting Experiments (AWE) exercises and the development of Tactics, Techniques and Procedures (TTP) to support digital operations. Project C74 provides the resources necessary to perform the formally chartered mission of the Army's Simulation to C4ISR Interoperability Overarching Integrated Product Team (SIMCI OIPT). Project C77, Interactive Simulation, focuses on development of advanced simulation technology and tools to provide a reusable synthetic environment. This program will benefit the Army and DOD by providing standards for interoperability and software. The proj

The FY07, STOW-A, C73 project line will continue the development of the software to link entity-based simulations and simulators to live tactical command and control systems and incorporate live simulations through the instrumented operating systems at the Combat Training Centers (CTCs). The FY07, C74 Project line provides for Simulation-to-C4I interoperability (SIMCI) effort between the models and simulations and tactical C4I Systems. The FY07, C77 project line develops a geospatial process and policy for data management. The FY07, C78 Project funding will continue development of the software to provide OneSAF initial operational capability functionality for Army evaluation and test.

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# **ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)** February 2006 BUDGET ACTIVITY PE NUMBER AND TITLE 5 - System Development and Demonstration 0604760A - Distributive Interactive Simulations (DIS) - Engin FY 2007 FY 2005 FY 2006 **B. Program Change Summary** Previous President's Budget (FY 2006) 25477 22057 20945 Current BES/President's Budget (FY 2007) 26323 29628 19596 7571 Total Adjustments 846 -1349 Congressional Program Reductions -129 Congressional Rescissions -300 Congressional Increases 8000 Reprogrammings 846 SBIR/STTR Transfer Adjustments to Budget Years -1345

Change Summary Explanation: FY06 includes Congressional plus ups for Joint Training Integration and Evaluation Center (\$1M) and Army Space Modeling and Simulation (\$7M).

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# February 2006 **ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)** BUDGET ACTIVITY PE NUMBER AND TITLE **PROJECT** 5 - System Development and Demonstration 0604760A - Distributive Interactive Simulations (DIS) - Engin C69 FY 2005 FY 2009 FY 2010 FY 2006 FY 2007 FY 2008 FY 2011 Cost to Total Cost Estimate Estimate COST (In Thousands) Estimate Estimate Estimate Estimate Estimate Complete 77 C69 REPRESENTATION OF SPACE 6900 6977 **CAPABILITIES**

A. Mission Description and Budget Item Justification: Provides Modeling and Simulation (M&S) capabilities to represent an integrated operational space environment for Transformation Experimentation, Future Force design, and Army Service Component Command (ASCC) mission area responsibilities. The Army lacks space representations in its current M&S suite and capabilities for analysis and training are limited. Current tools cannot address space-based Intelligence Surveillance and Reconnaissance (ISR), communications, early warning, blue force tracking, information operations, and weather forecasting. This shortfall in M&S prevents space-based capabilities from being fully integrated into evaluations of Future Force doctrine, concepts, requirements, and training. Additionally the current force is limited in developing concepts and conducting mission assessments.

| Accomplishments/Planned Program   | FY 2005 | FY 2006 | FY 2007 |
|---|---------|---------|---------|
| FY05-FY06: Planned activities include initiation of the first phases of the Space Focused Area Collaborative Team (FACT) "roadmap/action plan." Planned activities include integrating the space operating system into a synthetic environment, ISR in OneSAF, communication improvements, as well as developing M&S to begin integrating an operational space environment for experimentation. | 77      | 6900    | 0       |
| Total   | 77      | 6900    | 0       |

C. Acquisition Strategy A competitive contract award will be executed by the U.S. Army Space and Missile Defense Battle Lab.

|  | &E COST   | T ANALYSIS                               | (R3)                           |                   |                                |                   |                                   |                   |                           | Februar             | y 2006            |  |
|--|---|--|--------------------------------|-------------------|--------------------------------|-------------------|-----------------------------------|-------------------|---------------------------|---------------------|-------------------|--|
| BUDGET ACTIVITY  5 - System Development            |   |  | PE NUMBI<br>0604760            |                   |                                | nteractiv         | ve Simul                          | ations (D         | OIS) - En                 | gin                 | PROJEC <b>C69</b> | CT   |
| I. Product Development                             | Contract<br>Method &<br>Type                        | Performing Activity & Location           | Total<br>PYs Cost              | FY 2005<br>Cost   | FY 2005<br>Award<br>Date       | FY 2006<br>Cost   | FY 2006<br>Award<br>Date          | FY 2007<br>Cost   | FY 2007<br>Award<br>Date  | Cost To<br>Complete | Total<br>Cost     | Target<br>Value of<br>Contract                 |
| Space Experimentation                              | SyColeman   | Huntsville, AL                           | 0                              | 77                | 2Q                             | 0                 |                                   | 0                 |                           | 0                   | 77                | C  |
| ASCC Space M&S Execution                           | TBD/Various   | Various, AL, FL, CA,<br>KA, NM, Co       | 0                              | 0                 |                                | 5950              | 2-3Q                              | 0                 |                           | Continue            | Continue          | Continue                                       |
| Subto  | otal:   |  | 0                              | 77                |                                | 5950              |                                   | 0                 |                           | Continue            | Continue          | Continue                                       |
| II. Support Costs                                  | Contract<br>Method &<br>Type                        | Performing Activity & Location           | Total<br>PYs Cost              | FY 2005<br>Cost   | FY 2005<br>Award<br>Date       | FY 2006<br>Cost   | FY 2006<br>Award<br>Date          | FY 2007<br>Cost   | FY 2007<br>Award<br>Date  | Cost To<br>Complete | Total<br>Cost     | Target<br>Value of<br>Contract                 |
| Subto  | our.  |  | 0                              |                   |                                |                   |                                   |                   |                           |                     | L                 |  |
|  |   |  |                                |                   |                                |                   |                                   |                   |                           |                     |                   |  |
| III. Test And Evaluation                           | Contract<br>Method &<br>Type                        | Performing Activity & Location           | Total<br>PYs Cost              | FY 2005<br>Cost   | FY 2005<br>Award<br>Date       | FY 2006<br>Cost   | FY 2006<br>Award<br>Date          | FY 2007<br>Cost   | FY 2007<br>Award<br>Date  | Cost To<br>Complete | Total<br>Cost     | Value of                                       |
| III. Test And Evaluation Subto                     | Method &<br>Type                                    |  |                                |                   | Award                          |                   | Award                             |                   | Award                     |                     |                   | Target<br>Value of<br>Contract                 |
|  | Method &<br>Type                                    |  | PYs Cost                       |                   | Award                          |                   | Award                             |                   | Award                     |                     |                   | Value of                                       |
|  | Method &<br>Type                                    |  | PYs Cost                       |                   | Award                          |                   | Award                             |                   | Award                     | Complete  Cost To   |                   | Value of                                       |
| Subto  | Method & Type otal:  Contract Method &              | Location  Performing Activity &          | PYs Cost 0                     | Cost<br>FY 2005   | Award Date  FY 2005 Award      | Cost<br>FY 2006   | Award<br>Date<br>FY 2006<br>Award | Cost FY 2007      | Award Date  FY 2007 Award | Complete  Cost To   | Cost              | Value of<br>Contract                           |
| Subto  | Method & Type otal:  Contract Method & Type Various | Location  Performing Activity & Location | PYs Cost  O  Total PYs Cost    | Cost FY 2005 Cost | Award Date  FY 2005 Award Date | Cost FY 2006 Cost | Award<br>Date<br>FY 2006<br>Award | Cost FY 2007 Cost | Award Date  FY 2007 Award | Cost To<br>Complete | Total<br>Cost     | Value of<br>Contract  Target Value of Contract |
| Subto  IV. Management Services  Program Management | Method & Type otal:  Contract Method & Type Various | Location  Performing Activity & Location | PYs Cost  O  Total PYs Cost  0 | FY 2005<br>Cost   | Award Date  FY 2005 Award Date | FY 2006<br>Cost   | Award<br>Date<br>FY 2006<br>Award | FY 2007<br>Cost   | Award Date  FY 2007 Award | Cost To<br>Complete | Total<br>Cost     | Value of<br>Contract  Target Value of Contract |

| Schedule Profile (R4 Exhibi                              | t) |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       | ]   | Feb | rua  | ry 2 | 200       | 6                |     |   |
|--|----|-----------------------|---|-------|---|-----|-----|------|-------|------|-----|-----|-----|-------|------|-------|-----|-----|------|------|-----------|------------------|-----|---|
| BUDGET ACTIVITY 5 - System Development and Demonstration |    | PE NUME <b>060476</b> |   |       |   | ive | Int | tera | ectiv | ve S | Sim | ula | tio | ns (I | DIS  | ) - E | Eng | gin |      |      | PRO<br>C6 | OJEC<br><b>9</b> | T   |   |
| Event Name   | H  | FY 05                 |   | FY 00 | 6 |     | FY  | 07   |       |      | FY  | 08  | 1   |       | FY ( | 09    |     |     | FY 1 |      |           |                  | Y 1 |   |
| M&S to represent space environment                       | 1  | 2 3 4                 | 1 | 2 3   | 4 | 1   | 2   | 3    | 4     | 1    | 2   | 3   | 4   | 1     | 2    | 3 4   | 4   | 1   | 2    | 3 4  | 1 1       | 1 2              | 3   | 3 |
| vaces to represent space cirvioninent                    |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |
|  |    |                       |   |       |   |     |     |      |       |      |     |     |     |       |      |       |     |     |      |      |           |                  |     |   |

| 5 - System Development and Demonstration 0604760A - Distributive Interactive Simulations (DIS) - Engin C69 | PROJECT <b>C69</b> |  |  |  |  |  |  |  |  |  |  |
|--|--------------------|--|--|--|--|--|--|--|--|--|--|
|  |                    |  |  |  |  |  |  |  |  |  |  |
| <u>FY 2005   FY 2006   FY 2007   FY 2008   FY 2009   FY 2010                                   </u>        | 010 FY 20:         |  |  |  |  |  |  |  |  |  |  |
| M&S to represent the space environment for training the Current Force and evaluating doctrine concep       |                    |  |  |  |  |  |  |  |  |  |  |

# February 2006 **ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)** PE NUMBER AND TITLE BUDGET ACTIVITY **PROJECT** 0604760A - Distributive Interactive Simulations (DIS) - Engin 5 - System Development and Demonstration C73 FY 2009 FY 2010 FY 2005 FY 2006 FY 2007 FY 2008 FY 2011 Cost to Total Cost COST (In Thousands) Estimate Estimate Estimate Estimate Estimate Estimate Estimate Complete C73 SYNTHETIC THEATER OF WAR 1474 2159 2003 2417 2346 13486

A. Mission Description and Budget Item Justification: This program supports development and integration activities for the Synthetic Theater Of War-Army (STOW-A) Digital Sustainment Training (DST) software baseline that includes integration of fielded simulations and simulators with C4ISR systems. The development and integration to be accomplished will result in the capability to provide a seamless synthetic environment which will support digital training, test and mission rehearsal requirements. Specific efforts will include integration of a ground maneuver simulation into the Fire Support Simulation Tools (FSST) architecture and enhancement of the extant intelligence capability of FSST. Additionally, better representation and fidelity of other battlefield operating systems functionality will be gained. Development focuses on leveraging existing and emerging technology in a manner that produces substantial and continual improvements in combat readiness through the use of full spectrum, high fidelity, distributed simulation capability to support a large scale user-based exercise/experiment for JOINT VENTURE training and analytical needs. The Digital Battlefield Sustainment Trainer (DBST) program is a strategic agility program designed to meet the Operational Needs and other critical initiatives from the field. It will do this through the application of available current and emerging technologies. This project develops innovative applications of current systems (live, virtual, constructive, C4ISR) to meet urgent needs across the domains (e.g., training shortfalls) until the next-generation systems are available. FY07 funding will continue development of software and hardware interfaces to provide the required digital training capability to the field, helping to overcome unique digital training challenges that currently exist in the U.S. Army at the brigade level. DBST is part of the Joint Land Component Constructive Training Capability - Entity Resolution Federation (JLCCTC-ERF).

| Accomplishments/Planned Program   |                    |                 |                  |                 |                   | FY 2005 | FY              | 2006 | FY 2007        |  |  |  |  |
|---|--------------------|-----------------|------------------|-----------------|-------------------|---------|-----------------|------|----------------|--|--|--|--|
| FY05-FY07 Accomplishments: Software Blocking, integral platform to Army Battle Command Systems (ABCS) provid Authorization(SSAA) for version VIII Army Constructive Trequired security solution for all Distributed Interactive Sim |                    | 336             | 1532             | 1257            |                   |         |                 |      |                |  |  |  |  |
| FY05-FY07: Continues development of integration software Constructive Simulation. (Software Blocking)   |                    | 280             | 206              | 616             |                   |         |                 |      |                |  |  |  |  |
| FY05-FY07: Initiates development of software to support J   | Joint Venture and  | d Joint Conting | gency Force Sim  | ulation - Simul | ation Integration |         | 140             | 421  | 130            |  |  |  |  |
| FY05: Continue verification and validation of software into Accreditation Process (DITSCAP).  | egration to includ | de DOD Inform   | nation Technolog | gy Security Cer | tification and    |         | 718             | 0    | 0              |  |  |  |  |
| Total   |                    |                 |                  |                 |                   | 1       | 474             | 2159 | 2003           |  |  |  |  |
|   |                    |                 |                  |                 |                   |         |                 |      |                |  |  |  |  |
| B. Other Program Funding Summary  | FY 2005            | FY 2006         | FY 2007          | FY 2008         | FY 2009           | FY 2010 | FY 2010 FY 2011 |      | npl Total Cost |  |  |  |  |
| OMA, 121014   | 2975               | 0               | 2901             | 3048            | 3223              | 0       | 0               |      | 0 15036        |  |  |  |  |

0604760A (C73) SYNTHETIC THEATER OF WAR Item No. 103 Page 7 of 33 Exhibit R-2A 556 Budget Item Justification

| ARMY RDT&E BUDGET ITEN   | February 2006  |                                |
|--|--|--------------------------------|
| UDGET ACTIVITY - System Development and Demonstration                    | PE NUMBER AND TITLE 0604760A - Distributive Interactive Simulations (DIS) -    | PROJECT C73                    |
|  |  |                                |
| Acquisition Strategy Development is accomplished through ontract (STOC). | delivery orders to competitively selected contractors based on performance spe | ecifications via PEO STRI Omin |
|  |  |                                |
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| ARMY RDT   | &E COST                      | Γ ANALYSIS                     | (R3)                |                 |                          |                 |                          |                 |                          | Februar             | y 2006           |                                |
|--|------------------------------|--------------------------------|---------------------|-----------------|--------------------------|-----------------|--------------------------|-----------------|--------------------------|---------------------|------------------|--------------------------------|
| BUDGET ACTIVITY 5 - System Development a   | and Demons                   | tration                        | PE NUMBI<br>0604760 |                 |                          | nteractiv       | ve Simul                 | ations (D       | OIS) - En                | gin                 | PROJEC <b>73</b> | CT                             |
| I. Product Development   | Contract<br>Method &<br>Type | Performing Activity & Location | Total<br>PYs Cost   | FY 2005<br>Cost | FY 2005<br>Award<br>Date | FY 2006<br>Cost | FY 2006<br>Award<br>Date | FY 2007<br>Cost | FY 2007<br>Award<br>Date | Cost To<br>Complete | Total<br>Cost    | Target<br>Value of<br>Contract |
| Enhanced Tactical Simulation<br>Interface Unit(ETSIU)/Enhanced<br>Protocol Interface Unit(EPIU)<br>Interface | C/CPFF                       | AEGIS, Orlando, FL             | 3173                | 306             | 1-2Q                     | 1031            | 1-2Q                     | 1257            | 1-2Q                     | Continue            | Continue         | Continue                       |
| STOW-A/DBST Software<br>Development  | Various                      | Multiple                       | 6925                | 246             | 1-2Q                     | 150             |                          | 0               |                          | 0                   | 7321             | 7321                           |
| Architecture Development   | C/CPIF                       | Multiple                       | 939                 | 277             | 1-2Q                     | 351             |                          | 0               |                          | 0                   | 1567             | 1567                           |
| Subto  | tal:                         |                                | 11037               | 829             |                          | 1532            |                          | 1257            |                          | Continue            | Continue         | Continue                       |
| II. Support Costs  | Contract<br>Method &<br>Type | Performing Activity & Location | Total<br>PYs Cost   | FY 2005<br>Cost | FY 2005<br>Award<br>Date | FY 2006<br>Cost | FY 2006<br>Award<br>Date | FY 2007<br>Cost | FY 2007<br>Award<br>Date | 1                   | Total<br>Cost    | Target<br>Value of<br>Contract |
| Engr & Technical Support   | Various                      | Multiple                       | 2165                | 29              | 1Q                       | 206             | 1-4Q                     | 616             | 1-4Q                     | Continue            | Continue         | Continue                       |
| Subto  | tal:                         | 1                              | 2165                | 29              |                          | 206             |                          | 616             |                          | Continue            | Continue         | Continue                       |
| III. Test And Evaluation   | Contract                     | Performing Activity &          | Total               | FY 2005         | FY 2005                  | FY 2006         | FY 2006                  | FY 2007         | FY 2007                  | Cost To             | Total            | Target                         |
| III. Test And Evaluation   | Method &<br>Type             | Location Location              | PYs Cost            | Cost            | Award<br>Date            | Cost            | Award<br>Date            | Cost            | Award<br>Date            |                     | Cost             | Value of<br>Contract           |
| DBST Integration, Evaluation and Test  | C/CPFF                       | Multiple                       | 1769                | 545             | 1-3Q                     | 0               |                          | 0               |                          | 0                   | 2314             | 2314                           |
| Subto  | tal:                         |                                | 1769                | 545             |                          | 0               |                          | 0               |                          | 0                   | 2314             | 2314                           |
|  |                              |                                |                     |                 |                          |                 |                          |                 |                          |                     |                  |                                |
| IV. Management Services  | Contract<br>Method &<br>Type | Performing Activity & Location | Total<br>PYs Cost   | FY 2005<br>Cost | FY 2005<br>Award<br>Date | FY 2006<br>Cost | FY 2006<br>Award<br>Date | FY 2007<br>Cost | FY 2007<br>Award<br>Date | Cost To<br>Complete | Total<br>Cost    | Target<br>Value of<br>Contract |

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Exhibit R-3

ARMY RDT&E COST ANALYSIS

|                                      | OT&E COS     | ST ANALY  |                           |      |      |           |          |           |          | Februar  |                      |        |
|--------------------------------------|--------------|-----------|---------------------------|------|------|-----------|----------|-----------|----------|----------|----------------------|--------|
| BUDGET ACTIVITY  5 - System Developm | ent and Demo | nstration | PE NUMBER <b>0604760A</b> |      |      | nteractiv | e Simula | ations (D | IS) - Er | ngin     | PROJEC<br><b>C73</b> | CT     |
| Program Management                   | Various      | Multiple  | 3450                      | 71   | 1-4Q | 421       | 1-4Q     | 130       | 1-4Q     | Continue | Continue             | Contin |
|                                      | Subtotal:    |           | 3450                      | 71   |      | 421       |          | 130       |          | Continue | Continue             | Contin |
| Project T                            | otal Cost:   |           | 18421                     | 1474 |      | 2159      |          | 2003      |          | Continue | Continue             | Contin |
|                                      |              |           |                           |      |      |           |          |           |          |          |                      |        |
|                                      |              |           |                           |      |      |           |          |           |          |          |                      |        |
|                                      |              |           |                           |      |      |           |          |           |          |          |                      |        |
|                                      |              |           |                           |      |      |           |          |           |          |          |                      |        |
|                                      |              |           |                           |      |      |           |          |           |          |          |                      |        |
|                                      |              |           |                           |      |      |           |          |           |          |          |                      |        |
|                                      |              |           |                           |      |      |           |          |           |          |          |                      |        |
|                                      |              |           |                           |      |      |           |          |           |          |          |                      |        |

| Schedule Profile (R4 Exhibit)   | February 2006   |       |
|---|---|-------|
| BUDGET ACTIVITY 5 - System Development and Demonstration                    | PE NUMBER AND TITLE  0604760A - Distributive Interactive Simulations (DIS) - Engin  C73   |       |
| Event Name  | FY 05 FY 06 FY 07 FY 08 FY 09 FY 10   | FY 11 |
| (1) DBST Survey/Fielding  | 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 1 2 3 4 1 1 1 2 3 4 1 1 1 2 3 4 1 1 1 2 3 4 1 1 1 2 3 4 1 1 1 2 3 4 1 1 1 2 3 4 1 1 1 2 3 4 1 1 1 2 3 4 1 1 1 2 3 4 1 1 1 2 3 4 1 1 1 1 2 3 4 1 1 1 1 2 3 4 1 1 1 1 2 3 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 2 3 4 |
| (2) Hawaii - New SBCT   | Hawaii - New SBCT   |       |
| (3) Pennsylvania National Guard Survey/Fielding                             | Pennsylvania NG   |       |
| (4) DBST Verification Validation & Accreditation (VV&A)                     | △ DBST VV&A   |       |
| (5) DBST Survey Fielding , (6) DBST Survey Fielding                         | DBST Survey Fielding  |       |
| DITSCAP   | DITSCAP   |       |
| Battle Command Training Center (BCTC) Fielding<br>General Support Eam (GST) | BCTC Fielding   |       |
| Live-Virtual-Constructive Integration                                       | LVC Integration   |       |
| Software Block Test 1 & 2   | Software Blocking   |       |
|   |   |       |
|   |   |       |

# Schedule Detail (R4a Exhibit) BUDGET ACTIVITY 5 - System Development and Demonstration PE NUMBER AND TITLE 0604760A - Distributive Interactive Simulations (DIS) - Engin C73

| Schedule Detail                       | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | FY 2010 | FY 2011 |
|---------------------------------------|---------|---------|---------|---------|---------|---------|---------|
| Award Engineering & Technical Support | 1-2Q    | 1-2Q    | 1-2Q    | 1-2Q    | 1-2Q    |         |         |
| Annual SW Version Release             | 3Q      | 3Q      | 3Q      | 3Q      | 3Q      |         |         |

|     | ARMY RDT&E BUDGET IT                        | TEM JU              | ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)  February 2006 |                     |                     |                     |                     |                     |                     |                  |  |  |  |  |  |
|-----|---|---------------------|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------|--|--|--|--|--|
|     | TACTIVITY tem Development and Demonstration |                     | PE NUMBER A <b>0604760A -</b>                                     |                     | ve Interac          | tive Simula         | ations (DIS         | ) - Engin           | PRO<br><b>C7</b> 4  | ЈЕСТ<br><b>4</b> |  |  |  |  |  |
|     | COST (In Thousands)                         | FY 2005<br>Estimate | FY 2006<br>Estimate   | FY 2007<br>Estimate | FY 2008<br>Estimate | FY 2009<br>Estimate | FY 2010<br>Estimate | FY 2011<br>Estimate | Cost to<br>Complete | Total Cost       |  |  |  |  |  |
| C74 | DEVEL SIMULATION TECH                       | 3132                | 1842  | 1706                | 2943                | 3965                | 858                 | 464                 | Continuing          | Continuing       |  |  |  |  |  |

A. Mission Description and Budget Item Justification: The FY07 funding in this project line supports the HQDA-chartered mission of the Simulation to Command and Control (C2), Communications, Computers, Intelligence (C4I) Interoperability (SIMCI) Overarching Integrated Product Team (IPT). This effort provides recommendations to Senior Army Leadership on strategies, methods, and changes in Army Policy, resulting in improved interoperability among Models and Simulations (M&S), Army Battle Command Systems (ABCS), and Weapon Systems. The PEO STRI-led SIMCI OIPT uses collaborative process among its approximately 30 Army organizations (including HQDA staff, combat developers and material developers) to identify key interoperability shortfalls and material solutions to them. SIMCI investments are comprised primarily of cost sharing opportunities, leveraging partial solutions in programs of record to enhance the interoperability of multiple systems in the joint operational environment. Key programs that will benefit from the cross-domain vision and practices of SIMCI include ABCS, Future Combat System (FCS), Live/Virtual/Constructive Integrate Architecture (LVC-IA), Software Blocking (SWB), Objective Initialization Capability (OIC), Joint Forces Command's Joint National Training Capability (JNTC), Joint Land Component Constructive Training Capability (JLCCTC) and the new Joint Command and Control (JC2) capability.

SIMCI investment will accelerate the implementation, within ABCS and M&S systems, of a common C2 Information Exchange Data Model (C2IEDM) that is used by other Services and Coalition nations, thus enhancing the inherent ability of Army systems to seamlessly interoperate within Joint, Interagency, and Multinational (JIM) operations. The SIMCI-sponsored Army C4I and Simulation Initialization System (ACSIS) capability will be expanded to address key training and operational data initialization gaps, providing timely, flexible, and common data updates to BC and M&S systems, thus reducing data latency and inter-system ambiguity. SIMCI's direct involvement with FCS will increase the visibility of that program's needs and capabilities, providing the various OIPT agencies with opportunity to leverage their systems fundamental capabilities to meet the needs of FCS, and vice versa. SIMCI investments will cement those relationships through co-development of common use products.

The Digital Integration Laboratory (DIL) provides a centrally controlled laboratory to conduct program development, integration and the mandated Intra-Army Interoperability Certification (IAIC) activities in support of PEO STRI products. The DIL has been declared by the Director, Central Test Support Facility (CTSF), an official extension of CTSF for performing IAIC testing. FY07 funding will ensure that DIL software, hardware, and operator capabilities remain synchronized with CTSF capabilities, providing a certified facility for PEO STRI programs, and others', to develop and test their products in accordance with HQDA CIO/G6-approved versions of Army Battle Command System (ABCS) versions being fielded to operational Army units.

| Accomplishments/Planned Program  | FY 2005 | FY 2006 | FY 2007 |
|--|---------|---------|---------|
| FY05-FY07: Continues management of the SIMCI efforts in support of the SIMCI OIPT's collaborative, Army-wide interoperability enhancement activities, including architecture alignment, data model alignment, common standards and products. Objectives are: Identify and articulate to HQDA Senior Leadership specific standards that require Army-wide implementation (such as C2IEDM in 2005); codevelop data standards, architecture standards, implementation specifications and joint initializations / scenario generation products; codevelop common C2IEDM integration/translation capability for BC/M&S applications; co-develop BC/M&S products to meet the first FCS Spin Out in FY08. Continue transition of SIMCI knowledge and proof-of-principle products to Army and Joint Programs of Record. Manage and sustain the PEO STRI DIL as an extension of the CTSF and the single point access for PEO STRI products to current | 3132    | 1842    | 1706    |
|  |         |         |         |

| ARMY RDT&E BUDGET ITEM                                   | February 2006   |                   |      |                    |
|--|---|-------------------|------|--------------------|
| BUDGET ACTIVITY 5 - System Development and Demonstration | PE NUMBER AND TITLE 0604760A - Distributive Interactive Sin | nulations (DIS) - |      | PROJECT <b>C74</b> |
| versions of ABCS.  | •   |                   |      |                    |
| Total  |   | 3132              | 1842 | 1706               |
|  | ·   | ·                 | •    |                    |

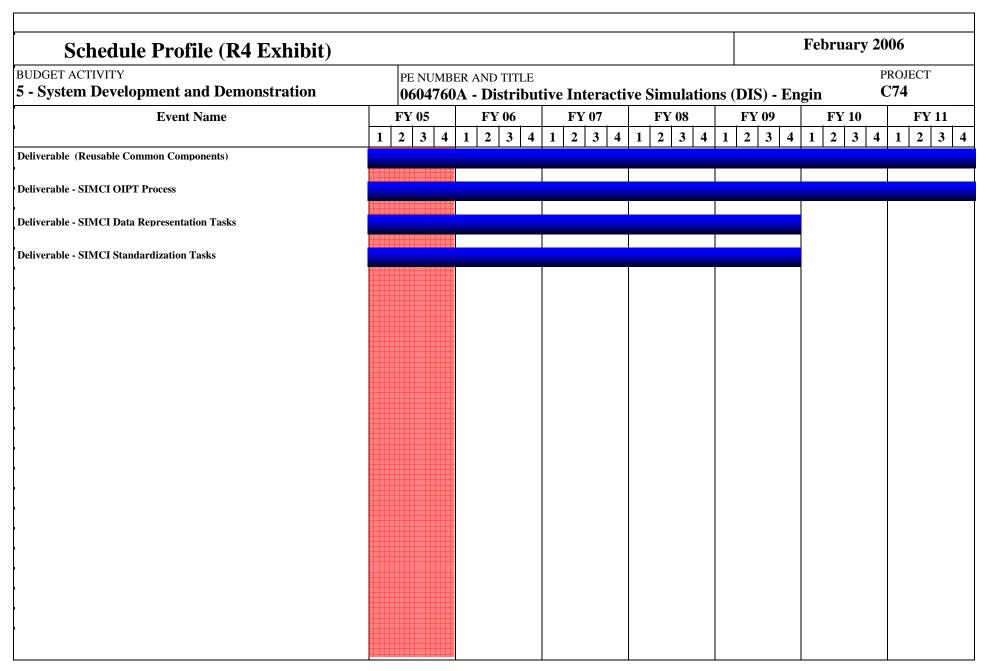
C. Acquisition Strategy SIMCI OIPT resources are allocated to multiple organizations and contracts to procure and execute approved functions and projects to support the SIMCI and components-based architecture alignment efforts.

| ARMY RDT&  | E COST                       | Γ ANALYSIS   | (R3)  |                 |                          |                 |                          |                 |                          | Februar             | y 2006        |                                |  |
|--|------------------------------|--|---|-----------------|--------------------------|-----------------|--------------------------|-----------------|--------------------------|---------------------|---------------|--------------------------------|--|
| BUDGET ACTIVITY  |                              |  | PE NUMBI  |                 |                          | I               | PROJECT                  |                 |                          |                     |               |                                |  |
| 5 - System Development a   | nd Demons                    | tration  | 0604760A - Distributive Interactive Simulations (DIS) - Engin C74 |                 |                          |                 |                          |                 |                          |                     |               |                                |  |
| I. Product Development   | Contract<br>Method &<br>Type | Performing Activity & Location                               | Total<br>PYs Cost   | FY 2005<br>Cost | FY 2005<br>Award<br>Date | FY 2006<br>Cost | FY 2006<br>Award<br>Date | FY 2007<br>Cost | FY 2007<br>Award<br>Date | Cost To<br>Complete | Total<br>Cost | Target<br>Value of<br>Contract |  |
| C4I Interoperability - Tng in the<br>System of Systems Architecture<br>(TSOSA)                             | C/CPAF                       | MITRE, CECOM, Ft<br>Monmouth, NJ                             | 230   | 0               |                          | 0               |                          | 0               |                          | 0                   | 230           | 230                            |  |
| C2 Information Exchange Data<br>Model (C2IEDM) Data Translator   | T&M                          | COLSA Corporation,<br>Huntsville, AL                         | 531   | 373             | 1-3Q                     | 93              | 1-3Q                     | 43              | 1-3Q                     | Continue            | Continue      | Continue                       |  |
| C4I Interoperability - SIMCI Battle<br>Management Language (BML)   | C/CPAF                       | Northrop Grumman<br>Information<br>Technology, McLean,<br>VA | 0   | 118             | 1-4Q                     | 0               |                          | 0               |                          | 0                   | 118           | 118                            |  |
| Enhanced Army C4I & Simulation<br>Initialization System (ACSIS) for<br>Objective Initialization Capability | T&M                          | COLSA Corporation,<br>Huntsville, AL                         | 0   | 0               |                          | 36              | 2-3Q                     | 82              | 2-3Q                     | Continue            | Continue      | Continue                       |  |
| Common C4I Adapter<br>Integration/Configuration Mgmt<br>Tool Implementation                                | In-House                     | PEO STRI, Orlando, FL  | 0   | 0               |                          | 232             | 1-4Q                     | 232             | 1-4Q                     | Continue            | 0             | Continue                       |  |
| Subtota  | al:                          |  | 761   | 491             |                          | 361             |                          | 357             |                          | Continue            | Continue      | Continue                       |  |
| II. Support Costs  | Contract                     | Performing Activity &  | Total   | FY 2005         | FY 2005                  | FY 2006         | FY 2006                  | FY 2007         | FY 2007                  | Cost To             | Total         | Target                         |  |
|  | Method &<br>Type             | Location   | PYs Cost  | Cost            | Award<br>Date            | Cost            | Award<br>Date            | Cost            | Award<br>Date            | Complete            | Cost          | Value of<br>Contract           |  |
| Facility Support for Digital<br>Integration Lab (DIL)  | In-House                     | PEO STRI (formerly<br>STRICOM), Orlando,<br>FL               | 60  | 350             | 1-3Q                     | 245             | 1-4Q                     | 245             | 1-4Q                     | Continue            | Continue      | Continue                       |  |
| HQDA/G3 Project Support  | T&M                          | Alion Science &<br>Technology                                | 0   | 0               |                          | 97              | 1-4Q                     | 87              | 1-3Q                     | Continue            | Continue      | Continue                       |  |
| MATRIX/Support Service<br>Contractor support   | In-House                     | PEO STRI, Orlando, FL  | 0   | 0               |                          | 92              | 1-4Q                     | 86              | 1-4Q                     | Continue            | Continue      | Continue                       |  |
| DIL Software Development Support   | T&M                          | COLSA Corporation,<br>Huntsville, AL                         | 0   | 0               |                          | 141             | 2-3Q                     | 92              | 2-3Q                     | Continue            | Continue      | Continue                       |  |

0604760A (C74) DEVEL SIMULATION TECH Item No. 103 Page 15 of 33 564

Exhibit R-3 ARMY RDT&E COST ANALYSIS

| ARMY RDT&E COST ANALYSIS (R3)                    |   |   |                         |                 |                          |                 |                          |                 |                          | Februar             | y 2006                 |                                |
|--|---|---|-------------------------|-----------------|--------------------------|-----------------|--------------------------|-----------------|--------------------------|---------------------|------------------------|--------------------------------|
| BUDGET ACTIVITY  5 - System Development          | and Demons  | tration                                 | PE NUMBE <b>0604760</b> |                 |                          | ations (D       | PROJECT DIS) - Engin C74 |                 |                          | СТ                  |                        |                                |
| Technical Exchange/Value<br>Methodology Workshop | T&M   | Lambert Consulting<br>Group, Dublin, OH | 0                       | 0               |                          | 33              | 2-3Q                     | 33              | 2-3Q                     | Continue            | Continue               | Continue                       |
| Subt   | otal:   |   | 60                      | 350             |                          | 608             |                          | 543             |                          | Continue            | Continue               | Continue                       |
| III. Test And Evaluation                         | Contract<br>Method &<br>Type  | Performing Activity & Location          | Total<br>PYs Cost       | FY 2005<br>Cost | FY 2005<br>Award<br>Date | FY 2006<br>Cost | FY 2006<br>Award<br>Date | FY 2007<br>Cost | FY 2007<br>Award<br>Date | Cost To<br>Complete | Total<br>Cost          | Target<br>Value of<br>Contract |
| Software Certification Testing                   | T&M   |   | 0                       | 0               |                          | 280             | 1-4Q                     | 186             | 1-4Q                     | Continue            | 0                      | Continu                        |
| Subt   | otal:   |   | 0                       | 0               |                          | 280             |                          | 186             |                          | Continue            | 0                      | Continue                       |
|  |   |   |                         |                 |                          |                 |                          |                 |                          |                     |                        |                                |
| IV. Management Services                          | Contract<br>Method &<br>Type  | Performing Activity & Location          | Total<br>PYs Cost       | FY 2005<br>Cost | FY 2005<br>Award<br>Date | FY 2006<br>Cost | FY 2006<br>Award<br>Date | FY 2007<br>Cost | FY 2007<br>Award<br>Date | Cost To<br>Complete | Total<br>Cost          | Target<br>Value of<br>Contract |
| IV. Management Services Program Management       | Method &  |   |                         |                 | Award                    |                 | Award                    |                 | Award                    |                     |                        | Value of                       |
|  | Method &<br>Type<br>Multiple  | Location                                | PYs Cost                | Cost            | Award<br>Date            | Cost            | Award<br>Date            | Cost            | Award<br>Date            | Complete            | Cost                   | Value of Contrac               |
| Program Management                               | Method & Type  Multiple otal: action to higher Arrements - \$2.823. | Location Various                        | PYs Cost 5060 5060      | Cost 2291       | Award<br>Date            | Cost 593        | Award<br>Date            | Cost<br>620     | Award<br>Date            | Complete            | Cost Continue Continue | Value of<br>Contract           |



# Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY

5 - System Development and Demonstration

PE NUMBER AND TITLE

0604760A - Distributive Interactive Simulations (DIS) - Engin

C74

| Schedule Detail   | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | FY 2010 | FY 2011 |
|---|---------|---------|---------|---------|---------|---------|---------|
| Integration of Training into Army Enterprise and Joint C4I Architectures                    | 1Q      |         |         |         | 4Q      |         |         |
| C2 Information Exchange Data Model (C2IEDM) Data Translation                                |         | 1Q      | 4Q      |         |         |         |         |
| C2 Information Exchange Data Model (C2IEDM) Implementation                                  |         |         |         | 3Q      |         |         |         |
| Enhanced Army C4I and Simulation Initialization System (ACSIS) for Obj. Initial. Capability |         | 3Q      | 4Q      |         |         |         |         |
| Common Scenario Generation Tool (CSGT)  |         |         |         | 4Q      |         |         |         |
| Representation of Communication Effects (CE) for Experimentation, Training and Operations   | 1Q      |         |         |         |         | 4Q      |         |
| Transition of Common Components/Services to Applications                                    | 1Q      |         |         |         |         |         | 3Q      |
| Configuration Management Tool Implementation  |         |         |         |         | 2Q      |         |         |
| Standardize Battle Management Language  |         |         |         |         | 4Q      |         |         |
| Joint Command and Control Integration   |         |         |         |         |         |         | 4Q      |

Item No. 103 Page 18 of 33 567

Exhibit R-4a Budget Item Justification

|   | ARMY RDT&E BUDGET IT                                       | I                   | February 2006       |                     |                     |                     |                     |                     |                     |            |
|---|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------|
| BUDGET ACTIVITY 5 - System Development and Demonstration  PE NUMBER AND TITLE 0604760A - Distributive Interactive Simulations (DIS) |  |                     |                     |                     |                     |                     | ) - Engin           | PRO.<br><b>C77</b>  | JECT<br>7           |            |
|   | COST (In Thousands)  | FY 2005<br>Estimate | FY 2006<br>Estimate | FY 2007<br>Estimate | FY 2008<br>Estimate | FY 2009<br>Estimate | FY 2010<br>Estimate | FY 2011<br>Estimate | Cost to<br>Complete | Total Cost |
| C77   | C77 Army Geospatial Data Master Plan 1245 1150 193 0 603 0 |                     |                     |                     |                     |                     |                     |                     |                     | Continuing |

A. Mission Description and Budget Item Justification: This project supports the development and maintenance of the Army Geospatial Data Integrated Master Plan (AGDIMP) approved by the Chief of Staff, Army in April 2005. This document provides the framework for future decisions and direction to generate, manage, analyze, and distribute geospatial data for battle management operations, training, and mission rehearsal. The AGDIMP also provides the processes and procedures to identify and refine Army geospatial resource requirements. Geospatial Information and Services provide the basis for situational awareness on the battlefield, actionable intelligence, and the common operational picture. Geospatial data provides Soldiers with the framework and background for displaying the location of friendly and enemy forces, and the location of critical features on the battlefield. Geospatial data, used in Army command and control systems, course of action analysis and mission rehearsal tools, simulators, and simulations provides insights on how the physical environment will impact combat operations. The Army's Future Force will include unmanned aerial and ground vehicles that require a greater degree of resolution in both terrain and enhanced feature data to navigate and move on the battlefield. This will minimize exposure of Soldiers to hostile environments and enemy forces. The Army will depend on a common set of geospatial data that is continually upgraded and made available through a network-centric enterprise of information that is accessible to all involved. The purpose of the AGDIMP is twofold. First, this plan describes a concept of operations for a complete, integrated, network-centric enterprise for collecting, managing, distributing, and updating geospatial data in the Army's Future Force. Although this plan encompasses most of the issues of an enterprise solution for geospatial needs and concerns, it does not contain the total level of detail or complexity to be considered complete. It does, however, contain a foundation of issues necessary to develop a concept of operations for a complete, integrated, enterprise, network-centric process for collecting, managing, distributing, and updating geospatial data. Second, this plan identifies activities and funding needed to execute the basic concept of operations described in the AGDIMP. The scope of the AGDIMP includes all activities starting with data acquisition from multiple sources, to include raw sensor feeds from national sensors to soldier/platform level, and culminating with accurate, robust, and timely geospatial (terrain-related) data and data management, integration, and conversion tools that support multiple battle command, training, and mission-rehearsal applications. The AGDIMP does not include the algorithms and functions used by the applications themselves to produce finished battle command or intelligence products. The AGDIMP will become part of a much larger effort to integrate geospatial activities across all Services, while documenting the complex framework for a "net ready" geospatial information and services architecture, an environment in which the Army's current and future forces must operate to achieve information dominance within the total battle space. This larger effort is currently being developed in conjunction with the Joint Forces Command and the other Services, including Special Operations Command.

| Accomplishments/Planned Program   | FY 2005 | FY 2006 | FY 2007 |
|---|---------|---------|---------|
| FY05: Supported the development of the Dynamic Readdressing and Management for Army (DRAMA) 2010.   | 1245    | 0       | 0       |
| FY06: Develops and integrates, an enterprise, geospatial process that can be used for network-centric operations. The network-centric, integrated geospatial process must include a process to identify requirements for new geospatial data, assemble the components of needed data, archive the data in a distributed network of storage facilities (or warehouses), and ensure the data are available to all authorized users. | 0       | 507     | 0       |
| FY06: Develops policy, procedures, and standards for geospatial data management, including fusion/integration (e.g., fusion and conflation), transformation, filtering, and dissemination of data across all echelons of command. This includes the timely distribution of appropriate data from the Top Secret network - the Joint Worldwide Intelligence Communications System, as well as the SIPRNET and                      | 0       | 643     | 0       |

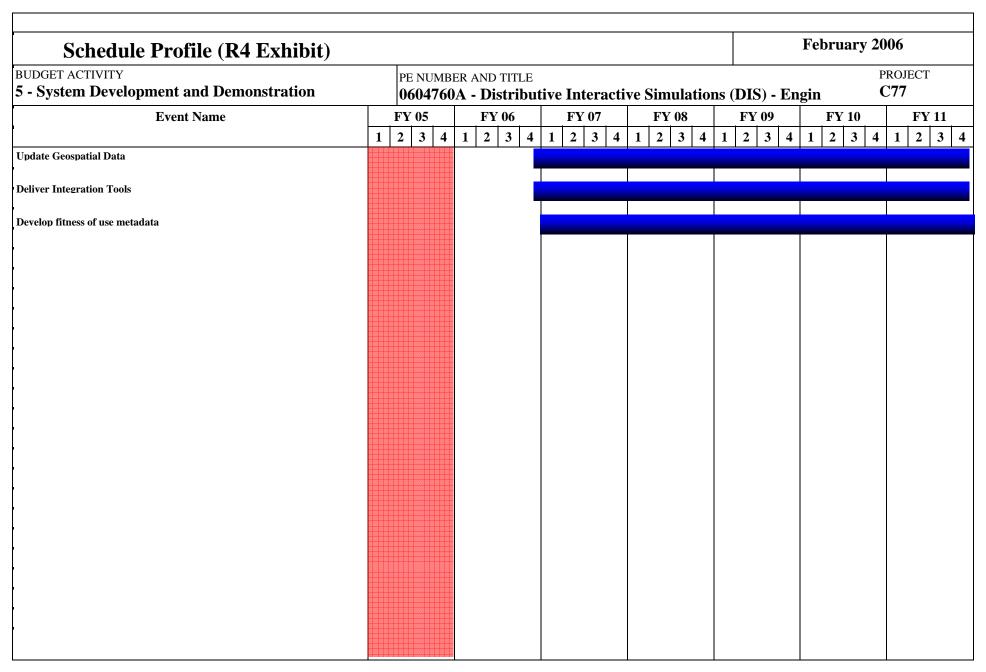
Exhibit R-2A Budget Item Justification

| ARMY RDT&E BUDGET ITEN  | ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)   |  |      |     |  |  |  |
|---|--|--|------|-----|--|--|--|
| BUDGET ACTIVITY 5 - System Development and Demonstration  | PE NUMBER AND TITLE 0604760A - Distributive Interactive Simula   | PE NUMBER AND TITLE  0604760A - Distributive Interactive Simulations (DIS) - Engir |      |     |  |  |  |
| NIPRNET.  |  |  |      |     |  |  |  |
| FY07: Develops common, analytical, geospatial services among the Ba elements. Establish an Army geospatial data dictionary. Establish an Asservices between BC and M&S. Define the requirements for metadata a planned services and applications as a function of varying quality geosproduct metadata. Establish a distributed, Army Geospatial Enterprise verification, validation, and accreditation (VV&A) of geospatial service Joint Geospatial Enterprise Service - Science and Technology program | rmy geospatial data model. Develop common analytical, geospatial tandards to determine the fitness of use (FoU) of existing and patial data. Provide the FoU data to the user as part of the analysis restbed to support the experimentation; evaluation; and es and applications., by supporting continued development of the | 0  | 0    | 193 |  |  |  |
| Total   |  | 1245   | 1150 | 193 |  |  |  |

C. Acquisition Strategy The Army's G-2 and G-3/5/7 will establish authority, for research development, test, and evaluation (RDT&E) including Operation and maintenance policies and requirements for Army geospatial data enhancements and/or augmentation and associated geospatial data warehouse(s), facilities, nodes, and staffing. Resources will be allocated to multiple organizations and contracts to obtain and execute approval functions and projects to support the AGDIMP.

| ARMY RDT&   | &E COST                      | Γ ANALYSIS                     | (R3)                    |                 |                          |                 | February 2006            |                 |                          |                     |               |                             |
|---|------------------------------|--------------------------------|-------------------------|-----------------|--------------------------|-----------------|--------------------------|-----------------|--------------------------|---------------------|---------------|-----------------------------|
| BUDGET ACTIVITY  5 - System Development a                       | and Demons                   | tration                        | PE NUMBE <b>0604760</b> |                 |                          | ations (D       | IS) - En                 | gin             | PROJE <b>C77</b>         | CT                  |               |                             |
| I. Product Development  | Contract<br>Method &<br>Type | Performing Activity & Location | Total<br>PYs Cost       | FY 2005<br>Cost | FY 2005<br>Award<br>Date | FY 2006<br>Cost | FY 2006<br>Award<br>Date | FY 2007<br>Cost | FY 2007<br>Award<br>Date | Cost To<br>Complete | Total<br>Cost | Targe<br>Value o<br>Contrac |
| Dynamic Readdressing and<br>Management for Army (DRAMA)<br>2010 | C/CPAF                       | Various                        | 0                       | 1245            | 2Q                       | 0               |                          | 0               |                          | 0                   | 1245          | 124:                        |
| Army Geospatial Data Integrated<br>Master Plan (AGDIMP)         | C/CPAF                       | Various                        | 0                       | 0               |                          | 843             | 2Q                       | 0               |                          | 0                   | 843           | 843                         |
| Subto   | tal:                         |                                | 0                       | 1245            |                          | 843             |                          | 0               |                          | 0                   | 2088          | 208                         |
| II. Support Costs   | Contract<br>Method &         | Performing Activity & Location | Total<br>PYs Cost       | FY 2005<br>Cost | FY 2005<br>Award         | FY 2006<br>Cost | FY 2006<br>Award         | FY 2007<br>Cost | FY 2007<br>Award         | Cost To<br>Complete | Total<br>Cost | Targe<br>Value o            |
| Subto   | Туре                         |                                | 0                       |                 | Date                     |                 | Date                     |                 | Date                     |                     |               | Contrac                     |
|   |                              |                                | 1 1                     |                 |                          | I               | I                        |                 | I                        |                     |               |                             |
| III. Test And Evaluation  | Contract<br>Method &<br>Type | Performing Activity & Location | Total<br>PYs Cost       | FY 2005<br>Cost | FY 2005<br>Award<br>Date | FY 2006<br>Cost | FY 2006<br>Award<br>Date | FY 2007<br>Cost | FY 2007<br>Award<br>Date | Cost To<br>Complete | Total<br>Cost | Targe<br>Value o<br>Contrac |
| Subto   | tal:                         |                                | 0                       |                 |                          |                 |                          |                 |                          |                     |               |                             |
|   |                              |                                |                         |                 |                          |                 |                          |                 |                          |                     |               |                             |
| IV. Management Services   | Contract<br>Method &<br>Type | Performing Activity & Location | Total<br>PYs Cost       | FY 2005<br>Cost | FY 2005<br>Award<br>Date | FY 2006<br>Cost | FY 2006<br>Award<br>Date | FY 2007<br>Cost | FY 2007<br>Award<br>Date | Cost To<br>Complete | Total<br>Cost | Targe<br>Value o<br>Contrac |
| Army Geospatial Data Integrated<br>Master Plan (AGDIMP)         | C/CPAF                       | Various                        | 0                       | 0               |                          | 307             | 2Q                       | 193             | 2Q                       | Continue            | Continue      | Continu                     |
| Subto   | . 1                          |                                | 0                       | 0               |                          | 307             |                          | 193             |                          | Continue            | Continue      | Continu                     |

| ARMY RDT&E COST ANALY                                 | <b>SIS</b> ( <b>R3</b> ) |      |                  | February 2006 |          |                 |  |  |
|---|--------------------------|------|------------------|---------------|----------|-----------------|--|--|
| UDGET ACTIVITY - System Development and Demonstration | PE NUMBER                |      | ulations (DIS) - | PROJECT C77   |          |                 |  |  |
| Project Total Cost:                                   | 0                        | 1245 | 1150             | 193           | Continue | Continue Contin |  |  |
|   |                          |      |                  |               |          |                 |  |  |
|   |                          |      |                  |               |          |                 |  |  |
|   |                          |      |                  |               |          |                 |  |  |
|   |                          |      |                  |               |          |                 |  |  |
|   |                          |      |                  |               |          |                 |  |  |
|   |                          |      |                  |               |          |                 |  |  |
|   |                          |      |                  |               |          |                 |  |  |
|   |                          |      |                  |               |          |                 |  |  |
|   |                          |      |                  |               |          |                 |  |  |
|   |                          |      |                  |               |          |                 |  |  |
|   |                          |      |                  |               |          |                 |  |  |
|   |                          |      |                  |               |          |                 |  |  |
|   |                          |      |                  |               |          |                 |  |  |



# Schedule Detail (R4a Exhibit)

February 2006

| BUDGET ACTIVITY                          | PE NUMBER AND TITLE   | PROJECT |
|--|---|---------|
| 5 - System Development and Demonstration | 0604760A - Distributive Interactive Simulations (DIS) - Engin | C77     |

| Schedule Detail  | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | FY 2010 | FY 2011 |
|--|---------|---------|---------|---------|---------|---------|---------|
| Plan for a Joint, Integrated, Network Centric End-toEnd Geospatial System              |         | 2-4Q    |         |         | 1-4Q    |         | 1-4Q    |
| Collect and Update Geospatial Data   |         | 2-4Q    |         |         | 1-4Q    |         | 1-4Q    |
| Catalog, Assess, Develop, and Disseminate Current Geospatial Data<br>Integration Tools |         | 2-4Q    |         |         | 1-4Q    |         | 1-4Q    |
| Verify, Manage, and Distribute Geospatial Data   |         | 2-4Q    |         |         | 1-4Q    |         | 1-4Q    |
| Develop and exploit fitness of use metadata  |         |         | 1Q      |         | 1-4Q    |         | 1-4Q    |

Item No. 103 Page 24 of 33

Exhibit R-4a
573

Budget Item Justification

## February 2006 **ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)** BUDGET ACTIVITY PE NUMBER AND TITLE **PROJECT** 5 - System Development and Demonstration 0604760A - Distributive Interactive Simulations (DIS) - Engin C78 FY 2009 FY 2005 FY 2006 FY 2007 FY 2008 FY 2010 FY 2011 Cost to Total Cost COST (In Thousands) Estimate Estimate Estimate Estimate Estimate Estimate Estimate Complete C78 One Semi-Automated Forces (OneSAF) 20395 16591 15694 14454 13209 13329 13475 143747

A. Mission Description and Budget Item Justification: This project develops and delivers software systems to realistically represent activities of units and forces in simulation. This representation is used to support the concept evaluation, experimentation, materiel acquisition and training communities. Initiatives include the systems engineering and design for development and evolution of the architecture and software tools for a universal Army computer generated forces system, One Semi-Automated Forces (OneSAF). OneSAF is a next generation higher fidelity Brigade and below SAF that will represent a full range of operations, systems and control processes in support of stand alone and embedded training and research, development and acquisition simulation applications. OneSAF will be fully interoperable with the Army's emerging virtual, live, and division and above constructive simulations and will provide next generation simulation products. OneSAF will replace a variety of simulations currently used within the Army to support analytic and training simulation activities. This project is a component of the Army Constructive Training Federation (ACTF).

The FY07 program will continue the development of the software required to provide OneSAF final operational capability for Army evaluation and test.

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| Accomplishments/Planned Program  |                   |                  |                 |                  |         | FY 200: | <u>5</u> | FY 20  | 006     | FY 2007       |
|--|-------------------|------------------|-----------------|------------------|---------|---------|----------|--------|---------|---------------|
| FY05-FY07: Continues development of functionality to pr infrastructure capable of supporting initial model development |                   | al services, com | ponents, synthe | etic environmen  | t and   |         | 5302     |        | 5527    | 3923          |
| FY05-FY06: Continues to develop life cycle applications a Version 1.0.   |                   |                  |                 |                  |         |         |          |        | 500     | 0             |
| FY05-FY07: Continues to develop functionality to represe   | nt behaviors, phy | sical models, ar | nd communicat   | ion models for ( | OneSAF. |         | 10945    |        | 6564    | 6786          |
| FY05-FY07: Continues verification & Validation of newly  | developed and i   | ntegrated softwa | are.            |                  |         |         | 1256     |        | 2000    | 2485          |
| FY05: Completed Commander's Rock Drill   |                   |                  |                 |                  |         |         | 1930     |        | 0       | 0             |
| FY06-FY07: Initiates New Equipment Training Team   |                   |                  |                 |                  |         |         | 0        |        | 2000    | 2500          |
| Total  |                   |                  |                 |                  |         | 2       | 20395    |        | 16591   | 15694         |
|  |                   |                  |                 |                  |         |         |          |        |         |               |
| B. Other Program Funding Summary   | FY 2005           | FY 2006          | FY 2007         | FY 2008          | FY 2009 | FY 2010 | F        | Y 2011 | To Comp | ol Total Cost |

Comment: OMA funding provides for OneSAF life cycle software maintenance of existing software.

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| ARMY RDT&E BUDGET ITEN                                   | M JUSTIFICATION (R2a Exhibit)   | Feb     | oruary 2006        |
|--|---|---------|--------------------|
| DGET ACTIVITY - System Development and Demonstration     | PE NUMBER AND TITLE  0604760A - Distributive Interactive Simulations (DIS)  | - Engin | PROJECT <b>C78</b> |
| Acquisition Strategy Development based on performance sp | pecifications via multiple Task Orders on competitively selected contracts. |         |                    |
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Exhibit R-2A

## February 2006 ARMY RDT&E COST ANALYSIS (R3) PE NUMBER AND TITLE BUDGET ACTIVITY **PROJECT** 5 - System Development and Demonstration 0604760A - Distributive Interactive Simulations (DIS) - Engin **C78** FY 2005 FY 2006 FY 2007 FY 2007 I. Product Development Performing Activity & Total FY 2005 FY 2006 Cost To Total Target Contract Method & Location PYs Cost Cost Award Cost Award Complete Cost Value of Award Cost Date Type Date Date Contract Architecture Dev & System CPFF Science Applications 29086 8409 1-20 1-20 3383 1-20 Continue 3370 Continue Continue Integration International Corp, Orlando, FL Integrated Environment Dev CPFF Advanced Systems 1176 1500 4911 1-2Q 1365 1-20 1-20 Continue Continue Continue Technology, Inc., Orlando FL Synthetic Environment Dev CPFF Science Applications 4017 1218 1-2Q 830 1-20 525 1-20 Continue Continue Continue International Corp, Orlando, FL Aegis Technologies Knowledge Acquisition/Knowledge CPFF 3819 500 1-2Q 1015 1-20 328 1-20 Continue Continue Continue Engineering Group, Huntsville, AL **OneSAF System Development CPFF** Various 5385 1634 1-2Q 1463 1-2Q 416 1-2Q Continue Continue Continue Model Development CPFF Acusoft/Various 11365 2147 1-2Q 1510 1-2Q 2000 1-2Q Continue Continue Continue NETT CPFF 0 2000 2-30 2500 1-20 Continue To be determined Continue Continue

Remarks: Each contract award is a Delivery Order on a competitively selected contract.

Subtotal:

Each Delivery Order will be recompeted in FY06 to award for post-Full Operational Capability (FOC) activities.

| II. Support Costs            | Contract | Performing Activity & | Total    | FY 2005 | FY 2005 | FY 2006 | FY 2006 | FY 2007 | FY 2007 | Cost To  | Total    | Target   |
|------------------------------|----------|-----------------------|----------|---------|---------|---------|---------|---------|---------|----------|----------|----------|
|                              | Method & | Location              | PYs Cost | Cost    | Award   | Cost    | Award   | Cost    | Award   | Complete | Cost     | Value of |
|                              | Type     |                       |          |         | Date    |         | Date    |         | Date    |          |          | Contract |
| System Analysis              | Various  | Multiple              | 2777     | 250     | 1-2Q    | 600     | 1-2Q    | 600     | 1-2Q    | Continue | Continue | Continue |
| Domain Analysis              | Various  | Multiple              | 2587     | 250     | 1-2Q    | 600     | 1-2Q    | 600     | 1-2Q    | Continue | Continue | Continue |
| Architecture Engr & Tech Spt | C/CPFF   | MITRE FFRDC           | 1676     | 200     | 1-2Q    | 260     | 1-2Q    | 270     | 1-2Q    | Continue | Continue | Continue |
| Subtot                       | al:      |                       | 7040     | 700     |         | 1460    |         | 1470    |         | Continue | Continue | Continue |

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Commander's Rock Drill

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Exhibit R-3 ARMY RDT&E COST ANALYSIS

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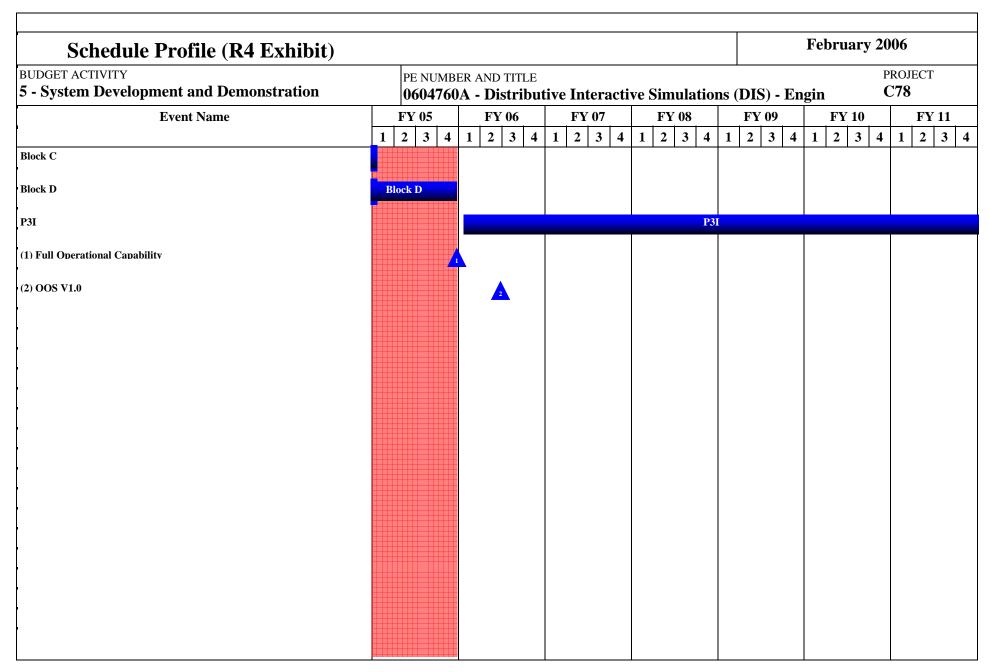
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|   | E COST                       | Γ ANALYSIS                     | (R3)              |                 |                          |                 |                          |                 |                          | Februar             | y 2006               |                             |
|---|------------------------------|--------------------------------|-------------------|-----------------|--------------------------|-----------------|--------------------------|-----------------|--------------------------|---------------------|----------------------|-----------------------------|
| BUDGET ACTIVITY  5 - System Development an      | nd Demons                    | tration                        |                   |                 |                          |                 |                          |                 |                          |                     | PROJEC<br><b>C78</b> | CT                          |
| III. Test And Evaluation                        | Contract<br>Method &<br>Type | Performing Activity & Location | Total<br>PYs Cost | FY 2005<br>Cost | FY 2005<br>Award<br>Date | FY 2006<br>Cost | FY 2006<br>Award<br>Date | FY 2007<br>Cost | FY 2007<br>Award<br>Date | Cost To<br>Complete | Total<br>Cost        | Targe<br>Value o<br>Contrac |
| OneSAF integration, evaluation and test         | C/CPAF                       | Ft Rucker, AL/Multiple         | 1050              | 604             | 1-3Q                     | 1300            | 1-3Q                     | 1000            | 1-3Q                     | Continue            | Continue             | Continu                     |
| OneSAF Verification, Validation & Accreditation | Various                      | Ft. Rucker, AL/Multiple        | 1418              | 557             | 1-3Q                     | 1500            | 1-3Q                     | 1000            | 1-3Q                     | Continue            | Continue             | Continu                     |
| Subtotal:                                       |                              |                                | 2468              | 1161            |                          | 2800            |                          | 2000            |                          | Continue            | Continue             | Continu                     |
| IV. Management Services                         | Contract<br>Method &<br>Type | Performing Activity & Location | Total<br>PYs Cost | FY 2005<br>Cost | FY 2005<br>Award<br>Date | FY 2006<br>Cost | FY 2006<br>Award<br>Date | FY 2007<br>Cost | FY 2007<br>Award<br>Date | Cost To<br>Complete | Total<br>Cost        | Targ<br>Value (<br>Contra   |
| D   | Туре                         | 26.11.1                        | 4075              | 1005            | Date                     | 1465            | Date                     | 1.400           | Date                     | g .:                | a i                  | Contrac                     |
| Program management Subtotal                     | Various                      | Multiple                       | 4875<br>4875      | 1005<br>1005    | 1-4Q                     | 1465<br>1465    | 1-4Q                     | 1400<br>1400    | 1-4Q                     | Continue Continue   | Continue<br>Continue | Continu<br>Continu          |
|   |                              |                                | <b></b> 0.cc      | 20205           |                          | 16591           |                          | 15694           |                          | G .:                |                      | Continu                     |
| Project Total Cos                               | st:                          |                                | 72966             | 20395           |                          | 165911          |                          | 156941          |                          | Continue            | Continue             | ( 'ontinit                  |



# Schedule Detail (R4a Exhibit) BUDGET ACTIVITY 5 - System Development and Demonstration PE NUMBER AND TITLE 0604760A - Distributive Interactive Simulations (DIS) - Engin C78

| Schedule Detail  | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | FY 2010 | FY 2011 |
|--|---------|---------|---------|---------|---------|---------|---------|
| Award OneSAF Development Task Orders for individual components to meet block requirement | 1Q      |
| Block C  | 1Q      |         |         |         |         |         |         |
| Block D  | 4Q      |         |         |         |         |         |         |
| OneSAF FOC (Version 1.0)   |         | 1Q      |         |         |         |         |         |
| OOS V1.0   |         | 2-3Q    |         |         |         |         |         |

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|     | ARMY RDT&E BUDGET IT                           | TEM JU              | STIFIC                        | ATION               | (R2a Ex             | xhibit)             |                     | ]                   | February 2          | 2006             |
|-----|--|---------------------|-------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------|
|     | T ACTIVITY stem Development and Demonstration  |                     | PE NUMBER A <b>0604760A</b> • |                     | ive Interac         | tive Simul          | ations (DIS         | S) - Engin          | PRO<br>C8:          | јест<br><b>1</b> |
|     | COST (In Thousands)                            | FY 2005<br>Estimate | FY 2006<br>Estimate           | FY 2007<br>Estimate | FY 2008<br>Estimate | FY 2009<br>Estimate | FY 2010<br>Estimate | FY 2011<br>Estimate | Cost to<br>Complete | Total Cost       |
| C81 | Joint Training Integration & Evaluation Center | C                   | 986                           | 0                   | 0                   | 0                   | 0                   | 0                   | 0                   | 986              |

A. Mission Description and Budget Item Justification: The Joint Training Integration and Evaluation Center (JTIEC) supports and actively participates with the Joint Forces Command (JFCOM), Joint Warfighting Center (JWFC), Joint National Training Capability (JNTC), and Joint Management Office (JMO) in a combined effort to advance Joint Training. The mission of the JTIEC is aligned with the Joint Advanced Training Technology Lab (JATTL) and the Joint Development Integration Facility (JDIF) missions. The JTIEC was established to promote collaboration in the research, development, integration, interoperability, demonstration, evaluation, and verification & validation training technologies and products. The JTIEC serves as an integration and evaluation environment for training systems and tools. It will serve as a common resource for evaluation of training technologies and products to address military and civilian training, education, and performance requirements. Working with the JFCOM JWFC JNTC JMO, the Center supports and collaborates on the research, development, demonstration, evaluation and interoperability of training tools, live-virtual-constructive simulations, federations, architectures, databases and performance measurement systems on projects of relevance to participating organizations, individual services and in support of Joint research & development, training exercises, mission rehearsal and experimentation. The JTIEC provides verification, validation, accreditation and certification capabilities and will be an integrated virtual battlespace environment that provides connection to the JNTC as a persistent host site for Joint training exercises and experimentation. In this capacity, the Center will include capabilities such as joint training performance & effectiveness evaluations, site planning and setup, configuration control, and communications planning and setup. The JTIEC will connect to the JATTL and provide a technology integration environment and infrastructure for service research and developm

| Accomplishments/Planned Program  | FY 2005 | FY 2006 | FY 2007 |
|--|---------|---------|---------|
| Provides verification, validation, accreditation and certification capabilities and an integrated virtual battlespace environment that provides connection to the JNTC for Joint training exercises and experimentation. | 0       | 986     | 0       |
| Total  | 0       | 986     | 0       |

C. Acquisition Strategy Not applicable for this item

| ARMY RDT&E COST ANALYSIS (R3)    |  |   |                       |                    |                                   |                               |                                |                  |                                   | Februar              | y 2006                |   |  |  |
|----------------------------------|--|---|-----------------------|--------------------|-----------------------------------|-------------------------------|--------------------------------|------------------|-----------------------------------|----------------------|-----------------------|---|--|--|
| BUDGET ACTIVITY                  |  |   | PE NUMBE              | ER AND TI          | ΓLE                               |                               |                                |                  |                                   |                      | PROJEC                | CT  |  |  |
| 5 - System Development           | and Demons   | tration                                     | 0604760               | A - Distr          | ibutive I                         | nteractiv                     | ve Simula                      | ations (D        | IS) - En                          | gin                  | C81                   |   |  |  |
| I. Product Development           | Contract<br>Method &<br>Type                       | Performing Activity & Location              | Total<br>PYs Cost     | FY 2005<br>Cost    | FY 2005<br>Award<br>Date          | FY 2006<br>Cost               | FY 2006<br>Award<br>Date       | FY 2007<br>Cost  | FY 2007<br>Award<br>Date          | Cost To<br>Complete  | Total<br>Cost         | Targe<br>Value o<br>Contrac                     |  |  |
| Integrated Product Environment   | Corps of<br>Engineers<br>Contract                  | Orlando, FL                                 | 0                     | 0                  |                                   | 550                           | 2-3Q                           | 0                |                                   | 0                    | 0                     | 1   |  |  |
| Subt                             | otal:  |   | 0                     | 0                  |                                   | 550                           |                                | 0                |                                   | 0                    | 0                     | (   |  |  |
| II. Support Costs                | Contract<br>Method &<br>Type                       | Performing Activity & Location              | Total<br>PYs Cost     | FY 2005<br>Cost    | FY 2005<br>Award<br>Date          | FY 2006<br>Cost               | FY 2006<br>Award<br>Date       | FY 2007<br>Cost  | FY 2007<br>Award<br>Date          | Cost To<br>Complete  | Total<br>Cost         | Targe<br>Value o<br>Contrac                     |  |  |
| Product Coordination             | SETA/TBD   | Orlando, FL                                 | 0                     | 0                  |                                   | 100                           | 2-3Q                           | 0                |                                   | 0                    | 100                   | (   |  |  |
| Subtotal:                        |  | 0   | 0                     |                    | 100                               |                               | 0                              |                  | 0                                 | 100                  | (                     |   |  |  |
|                                  |  |   |                       |                    |                                   |                               |                                |                  |                                   |                      |                       |   |  |  |
| III. Test And Evaluation         | Contract<br>Method &<br>Type                       | Performing Activity & Location              | Total<br>PYs Cost     | FY 2005<br>Cost    | FY 2005<br>Award<br>Date          | FY 2006<br>Cost               | FY 2006<br>Award<br>Date       | FY 2007<br>Cost  | FY 2007<br>Award<br>Date          | Cost To<br>Complete  | Total<br>Cost         | Value o<br>Contrac                              |  |  |
| Integration Evaluation/Test      | Method &<br>Type<br>Various/TBD                    |   | PYs Cost              | Cost 0             | Award                             | Cost<br>186                   | Award                          | Cost 0           | Award                             | Complete 0           | Cost<br>186           | Value o<br>Contrac                              |  |  |
|                                  | Method &<br>Type<br>Various/TBD                    | Location                                    | PYs Cost              | Cost               | Award                             | Cost                          | Award<br>Date                  | Cost             | Award                             | Complete             | Cost                  | Value o<br>Contrac                              |  |  |
| Integration Evaluation/Test Subt | Method & Type Various/TBD otal:                    | Location Orlando, FL                        | PYs Cost 0 0          | Cost 0 0           | Award<br>Date                     | Cost<br>186<br>186            | Award<br>Date<br>2-3Q          | Cost 0 0         | Award<br>Date                     | Complete 0 0         | Cost<br>186<br>186    | Value of Contract                               |  |  |
| Integration Evaluation/Test      | Method &<br>Type<br>Various/TBD                    | Location                                    | PYs Cost              | Cost 0             | Award                             | Cost<br>186                   | Award<br>Date                  | Cost 0           | Award                             | Complete 0           | Cost<br>186           | Value o Contrac                                 |  |  |
| Integration Evaluation/Test Subt | Method & Type Various/TBD otal:  Contract Method & | Location Orlando, FL  Performing Activity & | PYs Cost  0  0  Total | Cost 0 0 0 FY 2005 | Award<br>Date<br>FY 2005<br>Award | Cost<br>186<br>186<br>FY 2006 | Award Date 2-3Q  FY 2006 Award | Cost 0 0 FY 2007 | Award<br>Date<br>FY 2007<br>Award | Complete 0 0 Cost To | Cost  186  186  Total | Targe Value o Contrac  (  Targe Value o Contrac |  |  |

| ARMY RDT&E COST ANALY                                    | SIS (R3)     |   | February 2006 |   |  |       |  |  |
|--|--------------|---|---------------|---|--|-------|--|--|
| BUDGET ACTIVITY 5 - System Development and Demonstration | PE NUMBER AN | PE NUMBER AND TITLE 0604760A - Distributive Interactive Simulations (DIS) - Engin |               |   |  |       |  |  |
| Project Total Cost:                                      | 0            | 0   | 986           | 0 |  | 0 436 |  |  |
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