

Exhibit R-2, RDT&E Budget Item Justification									DATE: February 2000																													
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07					R-1 ITEM NOMENCLATURE Defense Information Infrastructure Engineering & Integration/PE 0302019K																																	
COST (in millions)		FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost																												
Total PE Cost: PE 0302019K		5.584	3.421*	5.704	5.961	6.127	6.660	7.097	Contg	Contg																												
DII Systems Engineering and Support/T62		1.575	.831	1.229	1.264	1.301	1.338	1.376	Contg	Contg																												
Modeling & Simulation/E62		4.009	2.590	4.475	4.697	4.826	5.322	5.721	Contg	Contg																												
<p>A. <u>Mission Description and Budget Item Justification:</u> This program element funds efforts involving the following areas: the development and fielding of the Defense Information Infrastructure (DII) Common Operating Environment (COE), engineering support of the DII including resolution of critical interoperability and technical integration issues, and the assessment of C4I initiatives that reside on the DII COE to ensure compatibility, interoperability and technical integration. This program element is under Budget Activity 07 because it involves efforts supporting operational systems development.</p> <p>B. <u>Program Change Summary:</u></p> <table> <thead> <tr> <th></th> <th>FY 99</th> <th>FY 00</th> <th>FY 01</th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget (FY 2000)</td> <td>4.777</td> <td>5.316</td> <td>5.521</td> </tr> <tr> <td>Appropriated Value</td> <td>4.975</td> <td>5.316</td> <td></td> </tr> <tr> <td>Adjustments to Appropriated Value</td> <td>.609</td> <td>-1.880</td> <td></td> </tr> <tr> <td>Congressional Rescission</td> <td></td> <td>-.015</td> <td></td> </tr> <tr> <td>Adjustments to Budget Year Since FY 2000 President's Budget</td> <td></td> <td></td> <td>.183</td> </tr> <tr> <td>Current Budget Submit/President's Budget (FY 2001)</td> <td>5.584</td> <td>3.421</td> <td>5.704</td> </tr> </tbody> </table> <p>* FY 2000 funding reduction used for offset to fund higher priority Departmental initiatives</p>												FY 99	FY 00	FY 01	Previous President's Budget (FY 2000)	4.777	5.316	5.521	Appropriated Value	4.975	5.316		Adjustments to Appropriated Value	.609	-1.880		Congressional Rescission		-.015		Adjustments to Budget Year Since FY 2000 President's Budget			.183	Current Budget Submit/President's Budget (FY 2001)	5.584	3.421	5.704
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<p>Change Summary Explanation:</p> <p>FY 1999 change due to undistributed congressional adjustments to Defense-wide RDT&E appropriation and below threshold reprogramming.</p> <p>FY 2000 reduction is a result of a required offset to fund higher priority Departmental initiatives.</p> <p style="text-align: center;">Page 2 of 13</p>		

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Exhibit R-2a, RDT&E Project Justification									DATE: February 2000		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07			DII Engineering & Integration/0302019K				DII Systems Engineering and Support/T62				
COST (in millions)			FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost			1.575	.831	1.229	1.264	1.301	1.338	1.376	Contg	Contg
<p>A. <u>Mission Description and Budget Item Justification:</u> Efforts under this project will strengthen critical Defense Information Infrastructure (DII) foundation technologies and programs through application of precise, short-term, technical, engineering and integration expertise. Provides expertise in support of the major DII components, which include: DII Common Operating Environment (COE), COE Data, Defense Information System Network (DISN), Defense Message System (DMS) and medium grade messaging, Global Combat Support System (GCSS), Global Command and Control System (GCCS), DoD Directory, DII Public Key Infrastructure (PKI), DII Control Concept (DIICC), enterprise management, Information Assurance (IA), and other related components. This project supports the definition and implementation of various aspects of evolving the DII. The evolution of the DII requires coordinated implementation of the DII components to form a coherent global information grid. This project supports definition of the common environments, developing system architecture constructs for the DII and components, providing engineering design and guidance for component evolution, including incorporation of new technology from industry, and implementing the infrastructure capability. Subtasks are assigned based on need to address specific technical problems, mitigate risks, and take advantage of cross-program synergies.</p> <p><u>FY1999 Accomplishments:</u></p> <ul style="list-style-type: none"> o Component Support and DII Integration <ul style="list-style-type: none"> Harmonized interfaces with service/agency technical implementations; Rejuvenated chief engineers panel for cross-program integration; COE V5.0 Risk assessment. (1st Qtr - 4th Qtr; \$705K) o Directories Support <ul style="list-style-type: none"> Analysis of DoD directories needs and vendor directories products, planned for piloting directory services, and developed plans/schema for near term medium-grade messaging pilot directory. (1st Qtr - 4th Qtr; \$202K) 											

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Project Cost			1.575	.831	1.229	1.264	1.301	1.338	1.376	Contg	Contg
FY1999 Accomplishments (Continued):											
<ul style="list-style-type: none"> o Joint Operational and Planning Execution System (JOPES) 2000 Established project team - Began Architecture/Schema Tiger Team; Completed tiger team effort; Refined database Schema. (1st Qtr - 4th Qtr; \$276K) o Satellite Communication (SATCOM) Support Defined two Transponder Media Mix options; Developed Hybrid Processed/Transponded concept; Use of analysis. (2nd Qtr - 4th Qtr; \$140K) o GCCS Y2K Support GCCS V3.X Y2K risk analysis and fixes; Concluded Y2K analysis. (1st Qtr - 4th Qtr; \$43K) o Joint DII Control System Deployable (JDIICS-D) Evaluated information assurance (IA) tools for JDIICS; Defined CONOPS for tools usage in JDIICS; Built proof-of-concept prototype. (3rd Qtr - 4th Qtr; \$76K) o National Missile Defense (NMD) Refined cost estimate for NMD implementation. (4th Qtr; \$133K) o Total \$1.575M 											
FY2000 Plans:											
Technical support activities are those needed to develop engineering concepts, provide superior scientific and systems analyses, assess systems and system component designs, development, and improvement programs. The detail of any given engineering task depends on the status of each of the components at the particular point in evolution of the global information grid.											

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Project Cost		1.575	.831	1.229	1.264	1.301	1.338	1.376	Contg	Contg
<u>FY2000 Plans (Continued):</u>										
<ul style="list-style-type: none"> o DII Component Support <ul style="list-style-type: none"> Address new DII component requirements to include architectures, processes, and supporting analyses. (1st Qtr - 4th Qtr; \$214K) o DII Integration <ul style="list-style-type: none"> Technical, operational and schedule component integration. (1st Qtr - 4th Qtr; \$247K) o GCSS and GCCS Integration <ul style="list-style-type: none"> Begin technical and operational integration of GCCS and GCSS; Migrate JOPES 2000. (1st Qtr - 4th Qtr; \$270K) o Cross Program Integration Engineering <ul style="list-style-type: none"> Cross-corporate and sponsor-base harmonization; Creation of fora for information exchange. (1st Qtr - 4th Qtr; 100K) o Total \$.831M 										
<u>FY2001 Plans:</u>										
<p>The exact detail of any given engineering task depends on the status of each of the components at the particular point in evolution of the global information grid. Technical support activities are those needed to develop engineering concepts, provide superior scientific and systems analyses, assess systems and system component designs, development, and improvement programs.</p> <ul style="list-style-type: none"> o DII Component Support <ul style="list-style-type: none"> Address inclusion of mission area domain components; Address new DII component requirements to include architectures, processes, and supporting analyses. (1st Qtr - 4th Qtr; \$496K) 										

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Project Cost		1.575	.831	1.229	1.264	1.301	1.338	1.376	Contg	Contg
<u>FY2001 Plans (Continued):</u>										
<ul style="list-style-type: none"> o DII Integration <ul style="list-style-type: none"> Technical, operational and schedule component integration; Enhance cross-program interoperability. (1st Qtr - 4th Qtr; \$415K) o GCSS and GCCS Integration <ul style="list-style-type: none"> Continue technical and operational integration of GCCS and GCSS. (1st Qtr - 4th Qtr; \$218K) o Cross Program Integration Engineering <ul style="list-style-type: none"> Cross-corporate and sponsor-base harmonization; Creation of fora for information exchange. (1st Qtr - 4th Qtr; \$100K) o Total \$1.229M 										
B. <u>Other Program Funding Summary:</u> N/A										
C. <u>Acquisition Strategy:</u> MITRE, McLean, VA.										
D. <u>Schedule Profile</u>										
FY99 - Component support & DII integration 1 st Qtr - 4 th Qtr Directories support 1 st Qtr - 4 th Qtr Joint Operational and Planning Execution System (JOPES) 2000 1 st Qtr - 4 th Qtr Satellite Communication (SATCOM) Support 2 nd Qtr - 4 th Qtr GCCS Y2K Support 1 st Qtr - 2 nd Qtr Joint DII Control System Deployable (JDIICS-D) 3 rd Qtr - 4 th Qtr National Missile Defense (NMD) 4 th Qtr										
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Project Cost		1.575	.831	1.229	1.264	1.301	1.338	1.376	Contg	Contg
<p>D. <u>Schedule Profile (Continued):</u></p> <p>FY00 - DII component support 1st Qtr - 4th Qtr DII integration 1st Qtr - 4th Qtr GCCS and GCCS integration 1st Qtr - 4th Qtr Cross program integration engineering 1st Qtr - 4th Qtr</p> <p>FY01 - DII component support 1st Qtr - 4th Qtr DII integration 1st Qtr - 4th Qtr GCCS and GCCS integration 1st Qtr - 4th Qtr Cross program integration engineering 1st Qtr - 4th Qtr</p> <p>FY02 - FY 05 Continue to support the definition and implementation of various aspects of evolving the DII. The evolution of the DII requires coordinated implementation of the DII components to form a coherent global information grid. This project supports definition of the common environments, developing system architecture constructs for the DII and components, providing engineering design and guidance for component evolution, including incorporation of new technology from industry, and implementing the infrastructure capability. Subtasks are assigned based on need to address specific technical problems, mitigate risks, and take advantage of cross-program synergies.</p>										

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Exhibit R-3 Cost Analysis								DATE: February 2000		
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RDT&E, Defense-Wide/07		DII Engineering & Integration/0302019K				DII Systems Engineering and Support/T62				
<u>Support Costs:</u>										
<u>Cost Category</u>	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total PYs Cost</u>	<u>FY 00 Cost</u>	<u>FY 00 Award Date</u>	<u>FY 01 Cost</u>	<u>FY 01 Award Date</u>	<u>Cost To Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
Engineering/Tech Svcs	FFRDC	MITRE, Mclean, VA	1.575	.831	1/00	1.229	1/01	Contg	Contg	3.639

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COST (in millions)		FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost		4.009	2.590	4.475	4.697	4.826	5.322	5.721	Contg	Contg
<p>A. <u>Mission Description and Budget Item Justification:</u> This effort supports the DOD communications planning and investment strategy for the successful deployment of DOD information systems by performing a broad spectrum of activities in support of C4I programs. DISA has the lead in DOD for providing modeling and simulation to DOD decision makers—from the OSD level to the war fighter—with services and a suite of tools capable of identifying key decision points that impact DOD command and control information systems. This work is essential to achieve the DISA goal of quality information services at an affordable cost by supporting cost effective products and services through modeling, simulation and assessment to support system: planning, engineering, implementation/upgrade, operations, training and security. These services and tools will provide modeling and analysis support: 1) to the key DISA programs of DMS, DISN, Public Key Infrastructure (PKI) and Electronic Commerce (EC); 2) to assess the DII's ability to support CINC's, JCS, Services, and other Federal agencies' current and emerging C4ISR (surveillance and reconnaissance) mission driven information requirements; 3) enhance the functionality of GOTS tools to engender an integrated environment in support of the modeling and simulation efforts of DISN, DMS, IA, GCCS, and the DII; 4) investigate methods linking these models with other GOTS used in information network analysis; and 5) explore the available COTS tools appropriate for developing models that will be used for sizing and performance assessment of information system architecture.</p> <p><u>FY1999 Accomplishments:</u></p> <ul style="list-style-type: none"> o DISA Program Support provided modeling and analysis support to the key DISA programs and initiatives of DMS, GCCS, DISN and EC. (\$1,875K) (1st Qtr - 4th Qtr) o Warfighter and CINC Support provided modeling and simulation assessment to evaluate communications and related systems to support CINC's, JCS, Services, and other Federal agencies' current and emerging C4ISR mission driven information requirements. (\$1,061K) (1st Qtr - 4th Qtr) o C3 Community Support provided DOD decision makers--from the OSD level to the warfighter--with a suite of tools capable of identifying key decision points required to carry out their mission in the most effective way. (\$1,073K) (1st Qtr - 4th Qtr) o Total \$4.009M 										

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<p><u>FY2000 Plans:</u></p> <ul style="list-style-type: none"> o DISA Program Support will provide (a) DISN performance assessments for existing and transitioning networks, applications, technology and develop recommendations for network performance improvement, survivability and reliability; (b) assess end-to-end system performance assessment for DMS, PKI and EC; (c) build new capability into models/tools to support these assessments; and (d) develop phase III of GCSS for GCCS integration with exercises. (\$1,605K) (1st Qtr - 4th Qtr). o Warfighter and CINC Support will provide (a) wartime performance and vulnerability assessments of the Korean communications infrastructure, (b) impact assessments of new technology programs, such as Global Broadcast Service (GBS), Information Dissemination Management (IDM), and Mobile User Objective System (MUOS), (c) performance assessments of DISN networks' capability to support dissemination of National Imagery and Mapping Agency (NIMA) products, and (d) development of message delay curves for the Joint Warfare System (JWARS). (\$415K)(1st Qtr - 4th Qtr). o C3 Community Support Modeling and Simulation (M&S) Tools will evaluate communication and related systems of military campaign outcomes by (a) ensuring availability of network models commensurate with the evolving DISN and technology; (b) enhancing M&S tools to support DISA Vision 2010 objective; (c) enhancing M&S capability to reflect the evolving DISN network and changing network technology development and incremental builds to an integrated M&S tool based on COTS products; (d) modeling DISN network; (e) supporting business case studies; (f) providing performance assessment of the DISN Asynchronous Transfer Mode (ATM) network; and (g) developing a system administrator test for GCCS operators. (\$570K) (1st Qtr - 4th Qtr). o Total \$2.590M 										

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Project Cost		4.009	2.590	4.475	4.697	4.826	5.322	5.721	Contg	Contg
<p><u>FY2001 Plans:</u></p> <ul style="list-style-type: none"> o DISA Program Support will (a) continue DISN performance assessments for existing and transitioning networks, applications, technology and develop recommendations for network performance improvement, survivability and reliability; (b) assess end-to-end system performance assessment for DMS, PKI EC, GCCS, and (c) build new capability into models/tools to support these assessments; (d) initiate the collection/analysis of operational system performance data and (e) continue GCCS integration with CINC exercises and refine Simulation Linkage (SIMLINK) and Global Telecommunication Satellite System (GTSS) based on CINC requirements. (\$2,775K) (1st Qtr - 4th Qtr). o Warfighter and CINC support will provide: (a) wartime performance and vulnerability assessments of the DISN networks for the warfighting CINCs and (b) assessments of the impact of new technology programs (e.g., Global Broadcast Service) on existing or planned DISN networks. (\$716K) (1st Qtr - 4th Qtr). o C3 Community Support Modeling and Simulation (M&S) Tools will: (a) continue to enhance M&S capability to reflect the evolving DISN network;(b) continue development and incremental builds to an integrated M&S tool based on COTS products end-to-end;(c) enhance existing COTS M&S tools to support network performance modeling and assessment, reflecting DISN user requirements; (d) evaluate the functionality of tools for integrating C4I concepts into network modeling/analyses/assessments; (e) enhance M&S tools to support DISA Vision 2010 objectives. (\$984K)(1st Qtr - 4th Qtr). o Total \$4.475 										
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Project Cost			4.009	2.590	4.475	4.697	4.826	5.322	5.721	Contg	Contg
B. <u>Other Program Funding Summary:</u>			O&M funding								
	<u>FY1999</u>	<u>FY2000</u>	<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>	<u>FY2004</u>	<u>FY2005</u>	<u>To Complete</u>			
	6.804	6.455	7.213	7.801	8.346	8.481	8.617	Contg			
C. <u>Acquisition Strategy:</u>			Work will continue under existing contract vehicles.								
D. <u>Schedule Profile</u>											
FY99 - M&S support to the key DISA programs, 1 st Qtr - 4 th Qtr			Modeling and simulation assessment to support CINC's, JCS, Services, and other Federal agencies, 1 st Qtr - 4 th Qtr								
			Identify key decision points for decision makers from the OSD level to the warfighter, 1 st Qtr - 4 th Qtr								
FY00 - Support key DISA programs, (a) DISN performance assessments and (b) support to Electronic Document Access (EDA) and Public Key Infrastructure (PKI), 1 st Qtr - 4 th Qtr			Support JWARS and Joint Simulation System (JSIMS), 1 st Qtr - 4 th Qtr								
			Identify key decision points by ensuring availability of network models, 1 st Qtr - 4 th Qtr								
FY01 - Support to the key DISA programs, especially integrated switching and transmission, 1 st Qtr - 4 th Qtr			Provide post-IOC development and oversight of Joint C2 representation and C2/JSIMS interfaces, 1 st Qtr - 4 th Qtr								
			Enhance M&S capability to reflect the evolving DISN network, 1 st Qtr - 4 th Qtr								
FY02 - FY05											
			Continue to provide M&S support to the key DISA programs, 1 st Qtr - 4 th Qtr								
			Continue to provide M&S assessment to CINC's, JCS, Services, and other Federal agencies, 1 st Qtr - 4 th Qtr								
			Continue to identify key decision points for decision makers, 1 st Qtr - 4 th Qtr								

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Cost Category	Contract Method & Type	Performing Activity & Location	Total PYS Cost	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Modeling & Simulation	FFRDC	MITRE, McLean, Va	2.014	.751	1/00	.860	1/01	Contg	Contg	3.625
	CPFF	SAIC Arlington, Va.	1.492	1.295	3/00	1.988	3/01	Contg	Contg	4.775
		Other	.503	.544	12/99	1.627	12/00	Contg	Contg	2.674
Subtotal Product Development			4.009	2.590		4.475				
Total Costs			4.009	2.590		4.475				

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