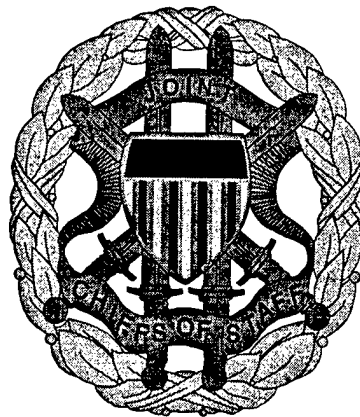


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THE JOINT STAFF

February 1997



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FY 1998/FY 1999

President's Budget

Information Technology

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A. Information Technology Support to the Joint Staff

1. Support and maintain new and existing Automated Information Systems (AIS) within the Joint Staff.
2. Ensure information systems supporting the Chairman and the Joint Staff utilize "state-of-the-market" technology with commercial-off-the-shelf products through well-managed updates and acquisitions.

B. FY98 Budget Request and Initiatives

1. Joint Modeling and Simulation (Joint M & S): This program was previously titled Joint Staff Simulation and Modeling (JSAM) and has been realigned under Core Infrastructure - Other as it does not fit the Core Infrastructure - Computing category. The Joint Modeling and Simulation program modernizes the Joint Staff analytical capabilities with high speed computers and models using advanced programming technologies to support the Joint Staff requirements tasked under the Goldwater-Nichols Act. The Joint Modeling and Simulation program consists of two components: Analytical Suite and Joint Analytical Model Improvement Program (JAMIP).

a) The Analytical Suite is the modernization and operation of hardware.

b) Joint Analytical Model Improvement Program (JAMIP) is the development, modernization, and maintenance of the specialized analytical software tools and models required to produce assessments in fulfillment of modeling and simulation support for the Chairman of the Joint Chiefs of Staff. The Joint Staff/J-8 share the lead with OSD/PA&E in improving the state of analytical models throughout DOD via JAMIP. Established by the Deputy Secretary of Defense in May 1995, JAMIP provides for the development of the Joint Warfare System (JWARS), the next generation model of joint warfare capable of addressing DOD force structure and system acquisition assessments as well as course-of-action analysis for the Commanders In Chief (CINCs), Services, and the entire joint analytical community. JAMIP also establishes the logistics infrastructure for the transition from the current models to JWARS. Over time, this initiative reduces costs and eliminates unnecessary expenditures across DOD by using best business principles and practices.

2. Joint Staff Automation for the Nineties (JSAN): JSAN is an acquisition and information management program which provides up-to-date office automation support to the Joint Staff. JSAN incorporates government computing standards and is targeted toward multi-level security. JSAN provides significant productivity enhancement for Joint Staff action officers, as well as Joint Staff General/Flag officers. This program will meet Joint Staff office automation requirements into the 21st century through the adoption of "open" standards and will provide a broad range of multiple systems connectivity. In FY97, we will upgrade one-third of the Joint Staff Action Officer workstations, expand external electronic connectivity, continue network and server technology refreshment, consolidate and integrate corporate database structure, continue efforts to expand secure processing environment, and continue migration to the Defense

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Messaging System environment. These initiatives will eliminate unnecessary expenditures yet continue to incorporate best business practices to enhance capability and functionality.

3. Joint Warfighting Center (JWFC): The JWFC has been realigned from Core Infrastructure - Other to the Military Personnel and Readiness category as this program supports joint training. The JWFC assists the Chairman of the Joint Chiefs of Staff, commanders of the unified commands, and Chiefs of the Services in their preparation for joint and multi-national operations in the conceptualization, development, and assessment of current and future joint doctrine and in the accomplishment of joint and multi-national training and exercise. JWFC continues to increase exercise training events in support of JCS, CINC, and Services clients. The long term goal is to reduce costs and eliminate unnecessary expenditures across DOD by using best business principles and practices.

4. Joint Simulation System (JSIMS). JSIMS funding is new to the Joint Staff starting in FY1997. JSIMS is a next generation Modeling and Simulation (M&S) tool to support training for Commanders in Chiefs (CINCs), their components, Joint Task Force (JTF) staffs, other Joint organizations, and the Services. JSIMS will provide the ability to jointly train, educate, develop doctrine and tactics, formulate and assess operational plans, assess warfighting situations, define operational requirements, provide operational input into the development of new weapon systems, and perform mission planning and mission rehearsal. JSIMS will support all phases of military operations and military Operations Other Than War (OOTW). JSIMS will allow war fighters to train-as-they-fight by interfacing into the simulation through their real world C4I systems.

To achieve this, the Services resolved in concert to take a common approach to the development of a next generation M&S system by replacing their aging suite of stove-piped M&S tools that perform poorly in the joint training context. JSIMS will be extensible to support the needs of a range of training audiences from the Strategic-National to the Tactical.

JSIMS will support the implementation of Joint Vision 2010 by permitting global interconnectivity of a near-real-time interactive simulation between our forces in every theater. JSIMS will replace a large number of existing M&S tools beginning with the Joint Training Confederation at Initial Operational Capability (IOC) in FY99. At Full Operational Capability (FOC), scheduled for FY03, JSIMS will support the full range of intended training.

C. Budget Changes:

1. Exhibit 43 Changes: Changes in the exhibit 43 are due primarily to the addition of the Joint Analytical Model Improvement Program (JAMIP), which began in late FY95, and the JSIMS program, which starts in FY97. The other major change is the realignment of JWFC support services from 4a to 4c. The majority of JWFC support services are actually in the operation of the wargames versus software development or modernization.

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2. Exhibit 43 (IT-1) Changes: One change affecting all programs is in the equipment purchases area. The FY97 President's Budget reflected FY97 equipment purchases under O&M as DOD was proposing to Congress that we fund all non-centrally managed equipment with O&M dollars. This proposal was denied, therefore, we have transferred those funds back from O&M to the Procurement appropriation for FY97-99.

a) The major change within the Joint Modeling and Simulation (Joint M&S) budget is the addition of the Joint Analytical Model Improvement Program (JAMIP) -- a Deputy Secretary of Defense directed program. Under JAMIP, a government and contractor team is performing initial design and prototype activities for the Joint Warfare System (JWARS). JWARS is the next generation model for joint modeling and simulation. There were also increases to the analytical suite. The increases between FY96/97/98 are due to the development of JWARS.

b) The major change in the Joint Staff Automation For The Nineties (JSAN) budget is increased funding starting in FY98 for the programmed upgrade/replacement of obsolete action officer workstations and peripherals to ensure capability to run the upgraded systems on JSAN. Additionally, funding increases for maintenance and enhancement of the Joint Staff Action Processing (JSAP) and Joint Staff Automated Messaging System (JSAMS) software and hardware.

c) JWFC budget increases in both FY97/98 to fund their increased roles and responsibilities (as recommended by the Commission on Roles & Missions (CORM) of the Armed Forces.)

d) This is the first time JSIMS is reflected in the Joint Staff's Information Technology Exhibit. JSIMS funding begins in FY97 and is reflected in program element 0902740J. This program is in Milestone 0.

DEPARTMENT OF DEFENSE
 Joint Staff
 Report on Information Technology (IT) Resources
 FY 1998 Budget Estimates
 (Dollars in Thousands)

	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
1. Equipment				
A. Capital Purchases	10,888	8,699	14,585	15,210
B. Purchases/Leases	0	293	338	350
Subtotal	<u>10,888</u>	<u>8,992</u>	<u>14,923</u>	<u>15,560</u>
2. Software				
A. Capital Purchases	0	0	0	0
B. Purchases/Leases	700	1,000	2,276	2,083
Subtotal	<u>700</u>	<u>1,000</u>	<u>2,276</u>	<u>2,083</u>
3. Services				
A. Communications	106	69	69	72
B. Processing	0	0	0	0
C. Other	0	0	0	0
Subtotal	<u>106</u>	<u>69</u>	<u>69</u>	<u>72</u>
4. Support Services				
A. Software	6,058	3,966	4,450	3,934
B. Equipment Maintenance	6,404	6,873	7,480	7,209
C. Other	31,491	59,070	67,015	68,114
Subtotal	<u>43,953</u>	<u>69,909</u>	<u>78,945</u>	<u>79,257</u>
5. Supplies	0	0	0	0
6. Personnel (Compensation/Benefits)				
A. Software	0	0	0	0
B. Equipment Maintenance	0	0	0	0
C. Processing	0	0	0	0
D. Communications	0	0	0	0
E. Other	6,985	8,577	8,679	8,864
Subtotal	<u>6,985</u>	<u>8,577</u>	<u>8,679</u>	<u>8,864</u>
7. Other (Non-FIP Resources)				
A. Capital Purchases	0	0	0	0
B. Other Current	0	244	282	292
Subtotal	<u>0</u>	<u>244</u>	<u>282</u>	<u>292</u>
8. Intra-Governmental Payments				
A. Software	0	0	0	0
B. Equipment Maintenance	0	0	0	0
C. Processing	0	0	0	0
D. Communications	0	0	0	0
E. Other	0	0	0	0
Subtotal	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
9. Intra-Governmental Collections				
A. Software	0	0	0	0
B. Equipment Maintenance	0	0	0	0
C. Processing	0	0	0	0
D. Communications	0	0	0	0
E. Other	0	0	0	0
Subtotal	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
NET IT RESOURCES	<u>62,632</u>	<u>88,791</u>	<u>105,174</u>	<u>106,128</u>
Workyears	33	40	40	40
Non-DBOF	33	40	40	40
DBOF	0	0	0	0

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Information Technology Resources by Functional Area
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 Joint Staff
 Information Technology Resources by Functional Area
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 (Dollars in Thousands)

	FY 1996	FY 1997	FY 1998	FY 1999
A. Core DII - Other				
1. Major Systems/Initiatives				
2. Non-Major Systems/Initiatives				
JOINT MODELING AND SIMULATION				
Development/Modernization	4,020	3,484	5,580	5,367
Current Services	14,242	16,937	19,839	19,600
Subtotal	18,262	20,421	25,419	24,967
Appropriation/Fund				
O&M, Def-Wide	13,404	16,084	18,973	18,717
Proc, Def-Wide	4,020	2,484	3,394	3,484
RDT&E, Def-Wide	0	1,000	2,186	1,883
Mil Pers, MC	58	59	60	61
Mil Pers, Navy	223	227	231	235
Mil Pers, Army	275	280	279	285
Mil Pers, AF	282	287	296	302
3. All Other Core DII - Other				
4. Total Core DII - Other				
Development/Modernization	4,020	3,484	5,580	5,367
Current Services	14,242	16,937	19,839	19,600
Subtotal	18,262	20,421	25,419	24,967
Appropriation/Fund				
O&M, Def-Wide	13,404	16,084	18,973	18,717
Proc, Def-Wide	4,020	2,484	3,394	3,484
RDT&E, Def-Wide	0	1,000	2,186	1,883
Mil Pers, MC	58	59	60	61
Mil Pers, Navy	223	227	231	235
Mil Pers, Army	275	280	279	285
Mil Pers, AF	282	287	296	302

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 Information Technology Resources by Functional Area
 FY 1998 Budget Estimates
 (Dollars in Thousands)

	FY 1996	FY 1997	FY 1998	FY 1999
B. Core DII - Value Added Services				
1. Major Systems/Initiatives				
2. Non-Major Systems/Initiatives				
JOINT STAFF AUTOMATION FOR THE NINETIES (JSAN)				
Current Services	17,708	15,916	20,388	20,813
Subtotal	17,708	15,916	20,388	20,813
Appropriation/Fund				
O&M, Def-Wide	9,115	8,523	9,954	9,122
Proc, Def-Wide	6,173	4,956	7,987	9,229
Mil Pers, MC	167	168	169	171
Mil Pers, Navy	646	651	656	661
Mil Pers, Army	813	819	818	821
Mil Pers, AF	794	799	804	809
3. All Other Core DII - Value Added Services				
4. Total Core DII - Value Added Services				
Current Services	17,708	15,916	20,388	20,813
Subtotal	17,708	15,916	20,388	20,813
Appropriation/Fund				
O&M, Def-Wide	9,115	8,523	9,954	9,122
Proc, Def-Wide	6,173	4,956	7,987	9,229
Mil Pers, MC	167	168	169	171
Mil Pers, Navy	646	651	656	661
Mil Pers, Army	813	819	818	821
Mil Pers, AF	794	799	804	809
C. Military Personnel and Readiness				
1. Major Systems/Initiatives				
2. Non-Major Systems/Initiatives				
JOINT SIMULATIONS SYSTEM				
Development/Modernization	0	21,054	24,321	25,179
Current Services	0	1,134	1,138	1,170
Subtotal	0	22,188	25,459	26,349
Appropriation/Fund				
RDT&E, Def-Wide	0	21,054	24,321	25,179
Mil Pers, MC	0	141	144	148
Mil Pers, Navy	0	392	386	397
Mil Pers, Army	0	293	291	301
Mil Pers, AF	0	308	317	324
JOINT WAR FIGHTING CENTER (JWFC)				
Development/Modernization	695	1,259	3,204	2,497
Current Services	25,967	29,007	30,704	31,170
Subtotal	26,662	30,266	33,908	33,667
Appropriation/Fund				
O&M, Def-Wide	22,240	25,146	26,814	27,503
Proc, Def-Wide	695	1,259	3,204	2,497

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	FY 1996	FY 1997	FY 1998	FY 1999
Mil Pers, MC	274	281	288	296
Mil Pers, Navy	922	941	927	953
Mil Pers, Army	1,002	1,098	1,092	1,128
Mil Pers, AF	1,529	1,541	1,583	1,622
3. All Other Military Personnel and Readiness				
4. Total Military Personnel and Readiness				
Development/Modernization	695	22,313	27,525	27,676
Current Services	25,967	30,141	31,842	32,672
Subtotal	26,662	52,454	59,367	60,348
Appropriation/Fund				
O&M, Def-Wide	22,240	25,146	26,814	27,503
Proc, Def-Wide	695	1,259	3,204	2,497
RDT&E, Def-Wide	0	21,054	24,321	25,179
Mil Pers, MC	274	422	432	444
Mil Pers, Navy	922	1,333	1,313	1,350
Mil Pers, Army	1,002	1,391	1,383	1,429
Mil Pers, AF	1,529	1,849	1,900	1,946
Functional Area Grand Total				
Development/Modernization	4,715	25,797	33,105	33,043
Proc, Def-Wide	4,715	3,743	6,598	5,981
RDT&E, Def-Wide	0	22,054	26,507	27,062
Current Services	57,917	62,994	72,069	73,085
O&M, Def-Wide	44,759	49,753	55,741	55,342
Proc, Def-Wide	6,173	4,956	7,987	9,229
Mil Pers, MC	499	649	661	676
Mil Pers, Navy	1,791	2,211	2,200	2,246
Mil Pers, Army	2,090	2,490	2,480	2,535
Mil Pers, AF	2,605	2,935	3,000	3,057
Total	62,632	88,791	105,174	106,128
Appropriation/Fund				
O&M, Def-Wide	44,759	49,753	55,741	55,342
Proc, Def-Wide	10,888	8,699	14,585	15,210
RDT&E, Def-Wide	0	22,054	26,507	27,062
Mil Pers, MC	499	649	661	676
Mil Pers, Navy	1,791	2,211	2,200	2,246
Mil Pers, Army	2,090	2,490	2,480	2,535
Mil Pers, AF	2,605	2,935	3,000	3,057

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DESCRIPTIVE SUMMARY

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A. AIS Title and Number:

Joint Modeling and Simulation (Joint M&S)

B. Functional Area:

Core DII - Other

C. Approved Life Cycle Cost and Program Cost (in millions of dollars):

1. Then year (Inflated) dollars

Approved Life-cycle cost: *

Estimated Life-cycle cost: *

Approved Program cost: *

Estimate Program cost:*

2. Constant base year (FY 1990) dollars

Approved Life-cycle cost: *

Estimated Life-cycle cost: *

Approved Program cost: *

Estimate Program cost: *

3. Sunk Cost (actual): \$ 162.16

4. Cost to Complete: N/A

5. * Life cycle costs no longer appropriate. Joint M&S consists of nine models, eight of which have matured into their deployment stage. With the exception of the Joint Warfare System (JWARS), all models have been incrementally enhanced and upgraded beyond what was planned in their original life cycle. Currently, incremental changes are made to the mature models, but no major reengineering will be done. Development occurred from 1984 through 1993 for the following models: Arsenal Exchange Model (AEM), Conventional Targeting Effectiveness Model (CTEM), Contingency Analysis Planning System (CAPS), Force Deployment Estimator (FDE), Tactical Warfare (TACWAR), Force Mix Database Tool (FORMIXT), Force Structure Assessment System (FSAS) and, Theater Analysis Model. JWARS constitutes new development. In accordance with DOD Acquisition Instruction 5000.1 the JWARS program is in Acquisition Category (ACAT III), which includes less-than-major automated information systems. Program costs estimated in the Future Years Defense Plan (FYDP) fall well below the threshold for a Major Automated Information System.

D. Cross reference to Justification books: The resources described under this AIS are in the Joint Staff, Operations and Maintenance, Defense-wide, Exhibit OP-5 (BA-04); Procurement,

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Defense-wide, Exhibits P-5 & P-5A; and RDT&E, Defense-wide, Exhibits R-1, R-2, R-3 & R-33.

E. System Description:

1. The Joint Modeling and Simulation program consists of two programs: the Analytical Suite program and the Joint Analytical Model Improvement Program (JAMIP).

a) The Analytical Suite program supports the operation, maintenance, and modernization of computing resources (hardware, operating system, and network) on which models, simulations, and analyses are conducted. Joint analysis models are the analytical software tools and simulations supporting the assessment requirements of the Chairman, Joint Chiefs of Staff. These models assist in conducting studies and evaluations of military forces, programs, and strategies. Key functions provided include: (1) software development, maintenance, documentation, and training on Joint Staff analytic tools and simulation models; (2) development, design, and integration of database, graphics environments, and simulations; (3) software engineering of application software to achieve software portability, interoperability, efficiency, performance, and enhanced analyst productivity; (4) contracted technical expertise; and (5) exploring leading edge technologies and methodologies in the joint modeling and simulation arena.

b) JAMIP is responsible for development, modernization, and maintenance of specialized analytical software tools and models. The Joint Staff/J-8 shares the lead with OSD/PA&E in improving the state of analytical models throughout DOD via the Joint Analytical Model Improvement Program (JAMIP). The JAMIP program provides for the development of Joint Warfare System (JWARS), the next generation model of joint warfare capable of addressing DOD force structure and system acquisition assessments as well as course-of-action analysis for the CINCs, Services, and the entire joint analytical community. Additionally, the JAMIP program provides for continued maintenance and field support of current models that will eventually be replaced by JWARS, and establishes the logistic infrastructure for the transition to JWARS. This includes user training, validation of new methods, configuration management, and planning for fielding and management of JWARS.

2. Hardware Modernization: consists of data communications system installation and hardware associated with JWARS development and operation and maintenance activities required to ensure continuous availability of computing resources to meet the needs of analysts.

3. Software and Model Modernization: provides ongoing development and modernization of modeling and simulation tools producing necessary functionality and responsiveness needed to support the Joint Staff and CINC operations. This effort includes development of new modeling tools, evolutionary refinement of existing capabilities, and enrichment of common data sharing technologies. Modernization efforts are designed to ensure that the system continues to meet the evolving computing requirements of the Joint Staff with effective, state-of-the-art systems. Declining manpower resources, increased analytical complexities, and increased reliance on

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modeling and simulation to support decisions and activities of national perspective dictate continuously improved computing capabilities.

F. Program Accomplishments and Plans:

1. FY 1996 Accomplishments:

a) Joint Analytical Model Improvement Program (JAMIP): Joint Warfare System (JWARS) prototype near completion. Initiated development of the Joint Data System (JDS) Data Warehouse to support existing simulations. Completed improvements to several joint models including Extended Air Defense Simulation (EADSIM), Force Deployment Estimator (FDE), Tactical Warfare (TACWAR), and Vector-In-Commander (VIC). Completed an aggressive program to convert JM&S software to open systems architecture, so that it will run on vendor independent hardware compatible with JSAN. Extended the scope of the CM database to all application software subsystems managed by J-8. The database provides a description of each component, tracks current status of Subsystem Change Requests (SCR) and Configuration Control Issues (CCI) for each component, and identifies personnel within the CM system. Completed two software releases of the software associated with the database to provide improvements and correct deficiencies. Continued decreasing dependency on Federally Funded Research & Development Centers (FFRDC) by discontinuing FFRDC support for the Air Courses of Action Assessment Model (ACAAM). Moved ACAAM to USPACOM to expedite the transition out of FFRDC and ensure that configuration management rested with the functional proponent. Conducted the following Interim Progress Reviews (IPRs): Contingency Analysis Planning System (CAPS); Dynamic Environmental Effects Model (DEEM); Force Deployment Estimator (FDE); Force Structure Assessment System (FSAS); External Logistics Processor, Medical Module (LPXMED); Medical Planning and Execution System (MEPES); and Regional Development Simulation System (RDSS). Reduced costs by archiving 18 application software subsystems which no longer met mission requirements.

b) Analytical Suite: Upgraded network communications lines to state-of-the-art 10BaseT wiring. Upgraded single existing router and installed second router introducing system reliability through redundant routing. Replaced aging single principal server with two upgraded hardware units for improved system reliability via more capable, redundant server units. Completed planned deployment of Distributed Analysis for Decision Support (DADS) system to 14 sites (principally warfighting CINCs) for improved collaboration in analytic endeavors. Two connections to the Global Command and Control System (GCCS) and one connection to the Secret Internet Protocol Routed Network (SIPRNET) were installed in J8 to support classified electronic exchanges between the Joint Staff and CINCs, services, and agencies within the Department of Defense.

2. FY 1997 Planned Program:

a) Joint Analytical Model Improvement Program (JAMIP): JWARS prototype completion scheduled for March, 1997. JWARS lead developer contract award planned for

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March 97. Joint Staff to begin development of the Configuration Management Plan (CMP) and the fielding plan to guide the development of JWARS. Begin development of JWARS Block I. Continue to manage and maintain the current suite of models. Continue to use the TQM concept to improve the Subsystem Change Request (SCR) and Configuration Control Issue (CCI) processes and update the CMP as necessary.

b) Analytical Suite: Upgrade one quarter of hardware devices (servers, workstations, printers) on network. Implement network administration tools to improve ability to anticipate network problems, support improved resource application, and improve feedback to customers. Implement upgraded backup and archival hardware/software for more robust recovery capability. Install hardware/software firewall between the Analytical Suite and all external connections (e.g., to JSAN) as a precautionary security measure. Extend DADS to support Joint Warfare System (JWARS) development as requested by Office of Secretary of Defense, JWARS Program Office.

3. FY 1998 Planned Program:

a) Joint Analytical Model Improvement Program (JAMIP): Continue to manage and maintain the current suite of models. Continue development and begin testing of JWARS Block I.

b) Analytical Suite: Initiate upgrade of communications to 100BaseT wiring. Upgrade one quarter of hardware devices (servers, workstations, printers) on network. Continue to explore opportunities to foster improved collaboration in analytic endeavors. Upgrade to ethernet switching hubs to accommodate 100 Mbps to the server. Install tranceiver cards on the workstations to receive the higher speed connections. Continue to further advances in connecting the Analytical Suite and JSAN networks. Continue to implement system software management tools to improve administration of the network.

4. FY 1999 Planned Program:

a) Joint Analytical Model Improvement Program (JAMIP): Continue to manage and maintain the current suite of models. JWARS Block I completed in December 1998. Begin development of JWARS Block II. JDS Data Warehouse IOC planned December of 1998.

b) Analytical Suite: Upgrade one quarter of hardware devices (servers, workstations, printers) on network. Upgrade of communications to fiber optic wiring to improve network performance with high-speed technology. Install software that can resolve or support the year 2000 (date) issue.

G. Contract Information: Several contracts exist to support this component:

1. General technical support is provided by SETA Corporation.

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2. Wargaming and simulation analysis support is provided by Booz-Allen and Hamilton, and BDM Corporation.

3. GRCI is developing JWARS prototype.

4. A dedicated J-8 Directorate procurement contract does not exist for Analytical Suite. J-8 employs Defense Supply Services - Washington as its procurement contracting office to obtain needed hardware or software via GSA schedule or direct acquisition

H. Comparison with FY 1996 Descriptive Summary:

1. Technical Changes:

a) Joint Analytical Model Improvement Program (JAMIP): Joint Warfare System (JWARS) is a new program since the FY 1996 Descriptive Summary. Replacement planning of existing models, and development and fielding of the new system (JWARS) have become major activities.

b) Analytical Suite: CD-ROM jukebox capability is being pursued for implementation on the Joint Staff Automation for the Nineties (JSAN) system and is not a requirement on the Analytical Suite at this time. The anticipated requirements for multi-level security on the Sequent machines and secure Ingres/ptx were not realized. Connectivity between the Joint Staff and the CINCs was established via JSAN and Analytical Network versus just an improvement to the Analytical Suite.

2. Schedule Changes: Transition plan for legacy models developed.

3. Cost Changes: Increase in funding is due to the addition of JWARS in JAMIP.

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A. AIS Title and Number:

Joint Staff Automation for the Nineties (JSAN)

B. Functional Area:

Core DII - Value Added Service

C. Approved Life Cycle Cost and Program Cost (in millions of dollars):

1. Then year (Inflated) dollars

Approved Life-cycle cost: \$ 97.9

Estimated Life-cycle cost: \$ 97.9

Approved Program cost: \$ 55.6

Estimated Program cost: \$ 55.6

2. Constant base year (FY 1990) dollars

Approved Life-cycle cost: \$ 84.4

Estimated Life-cycle cost: \$ 84.4

Approved Program cost: \$ 47.5

Estimated Program cost: \$ 47.5

3. Sunk Cost (actual): \$ 46.1

4. Cost to Complete: \$ 51.8

D. Cross reference to Justification books: The resources described under this AIS are in the Joint Staff, Operations and Maintenance, Defense-wide, Exhibit OP-5 (BA-01); Procurement, Defense-wide, Exhibit P-5; and Exhibit P-5A.

E. System Description: JSAN satisfies mandatory headquarters office automation support requirements such as local area networking, word processing, electronic mail, data base applications, graphics, and spreadsheet capabilities. In addition, JSAN provides new capabilities such as external connectivity, strategic geographical mapping, automated workflow processing, and other specialized processing functions. JSAN maintains technology currency by requiring the contractor to implement a technology refreshment program during and after deployment process. JSAN will ultimately provide a migration path to a multi-level secure environment for information processing. This migration will be a major improvement over the previous system which requires all operations be performed at the TOP SECRET, system high level. Also, JSAN incorporates government computing requirements such as standardization, integration, and interoperability with other automated information systems. Capability gains associated with open systems, commercial standardization, and multi-level secure processing provide the

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foundation for Joint Staff Action Officers to use JSAN at productivity levels far beyond traditional proprietary office systems.

F. Program Accomplishments and Plans:

1. FY 1996 Accomplishments: Established external connectivity to the Secret Internet Protocol Router Network (SIPRNET). Completed switch over from Top Secret FDDI router-based backbone architecture to a Switched Ethernet-based architecture to improve network capacity to handle the additional bandwidth requirement as a result of implementing automated workflow processing and installing the geographical mapping server. Installed unclassified FDDI backbone and Ethernet subnetwork infrastructure to accommodate connection to unclassified Internet Protocol Router Network (NIPRNET/Internet). Continued efforts to prepare for migration to the Defense Message System (DMS) by implementing Microsoft Exchange on the unclassified network. Upgraded approximately one-third of all Joint Staff Action Officer workstations from Intel 486/66-based workstations to Pentium/133-based workstations, to include new and more capable peripherals (printers, scanners, CD-ROMS, etc.).

2. FY 1997 Planned Program: Continue efforts to expand external connectivity. Continue network and server technology refreshment. Plan to continue efforts to consolidate and integrate corporate database structure. Explore technologies supporting telecommunications connections to external LANs and to implement video to the desktop and distributed collaborative video teleconferencing. Initial Multilevel secure computing will be introduced through the implementation of Personal Computer (PC) card readers and Fortezza card technologies, part of the National Security Agency (NSA) Multi-Level Information System Security Initiative (MISSI) Program. Continue efforts to prepare for migration to DMS; specifically, to migrate Microsoft Exchange to the JSAN Top Secret Network. Participate in the Pilot Testing Program for DMS - unclassified. Will expand access to contract to other DOD agencies. Upgrade approximately one-third of all Joint Staff Action Officer workstations from Intel 486-based workstations to Pentium-based workstations to include new and more capable peripherals (printer, scanner, CD-ROMS, etc.).

3. FY 1998 Planned Program: Start planning for next contract award because the current contract with GTE expires November 2000. Continue expanding connectivity to classified and unclassified network. Identify and evaluate the impact of Pentagon renovation will have on our network. Continue network and server technology refreshment. Continue efforts to consolidate and integrate corporate database structure. Continue efforts to expand multi-level security processing environment through the implementation of additional PC card readers and Fortezza cards. Implement migration to DMS. Upgrade approximately one-third of all Joint Staff Action Officer workstations from Intel 486-based workstations to Pentium-based workstations to include new and more capable peripherals (printer, scanner, CD-ROMS, etc.).

4. FY 1999 Planned Program: Continue efforts to award the follow-on contract for JSAN support. Continue expanding connectivity to the unclassified network. Identify and evaluate the impact of the Pentagon renovation on our network. Continue efforts to expand external

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connectivity. Continue network and server technology refreshment. Continue efforts to consolidate and integrate corporate database structure. Continue efforts to expand multi-level security processing environment through the implementation of additional PC card readers and Fortezza cards. Continue migration to DMS.

G. Contract Information:

The JSAN contract is a firm fixed priced (FFP) indefinite delivery/indefinite quantity (ID/IQ) contract with one base year and seven option years. The JSAN contract was awarded to CONTEL Federal Systems in December 1991. On 20 November 1992, JSAN contract award to CONTEL Federal Systems was reconfirmed by the General Services Board of Contract Appeals (GSECA) in response to a contract protest by a competing vendor. On 26 January 1994, the Court of Appeals for the Federal Circuit further upheld the JSAN contract award. The JSAN contractor's new name is GTE Government Systems Corporation, resulting from acquisition of CONTEL Federal Systems and GTE and the novation agreement.

H. Comparison with FY 1996 Description Summary:

1. Technical Changes: None.

2. Schedule Changes: Two efforts planned for FY 96 slipped to FY 97. The plan to explore technologies supporting external telecommunication connections was initiated in FY 96; however, the technology for our current Windows environment was not available. We are continuing to explore this capability by testing a video card for the next version of our Windows environment. The technology to implement the second plan, to introduce multi-level security to JSAN, was also not available. We are expecting the first delivery on which to perform our internal tests this year.

3. Cost Changes: None.

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A. AIS Title and Number

Joint Warfighting Center (JWFC)

B. Functional Area:

Core DII - Military Personnel and Readiness (Training)

C. Approved Life Cycle Cost and Program Cost (in millions of dollars):

1. Then year (Inflated) dollars

Approved Life-cycle cost: *

Estimated Life-cycle cost: *

Approved Program cost: *

Estimate Program cost:*

2. Constant base year (FY 1990) dollars

Approved Life-cycle cost: *

Estimated Life-cycle cost: *

Approved Program cost: *

Estimate Program cost: *

3. Sunk Cost (actual): \$ 69.3

4. Cost to Complete: N/A

5. * Life cycle costs no longer appropriate. The computer simulations and models being used by JWFC are not the original models as they have been modified extensively by the proponents for continued use past their original life cycle. However, these models and simulations continue to provide training and exercise support required to meet CINC's training and mission needs. The average age of JWFC's 11 models is 8 years. Incremental changes are made to these models, but no major reengineering is programmed. The models include: Joint Theater Level Simulation (JTLS), Joint Conflict Model (JCM), Joint Training System (JTS), Aggregate Level Simulation Protocol (ALSP), Corps Battle Simulation (CBS), Research and Evaluation and System Analysis (RESA), Air Warfare Simulation (AWSIM), Marine Tactical Warfare Simulation (MTWS), Tactical Simulation - Intelligence model (TACSIM), Availability of Mobility Platform (AMP), and Portable Space Model (PSM).

D. Cross reference to Justification books: The resources described under this AIS are in the Joint Staff, Operations and Maintenance, Defense-wide, Exhibit OP-5 (BA-01); Procurement, Defense-wide, Exhibit P-5; and Exhibit P-5A.

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E. System Description:

The JWFC's mission is to support and assist the Chairman of the Joint Chiefs of Staff, Commanders of the Unified Commands, and Chiefs of the Services in their preparation of joint and multinational operations in the conceptualization, development and assessment of current and future joint doctrine and in the accomplishment of joint and multinational training and exercises. The JWFC uses state-of-the-art warfighting computer simulations and secure communications to support both on-site and user home station training via distributed audio, video, and data networking. The warfighting simulations operate on various computer hardware platforms ranging from minicomputers to high-end networked computer workstations. The simulations provide the stimulus needed for joint and interoperability staff training at the Joint Task Force level and above. The budget for fiscal year 1996 and beyond has been increased to account for the normal ADP equipment considerations of the Center, and for the expanded mission requirements and responsibilities of the command. Fiscal year 1994 studies conducted by the Vice Director of the Operational Plans and Interoperability Directorate (VJ-7) were revised in mid-year to adjust for the new mission and accentuation of the command. The command has a two star level Commander as directed by the Chairman, Joint Chiefs of Staff.

F. Program Accomplishments and Plans:

1. FY 1996 Accomplishments: The JWFC supported sixteen exercises for CINC clients during fiscal year 1996 at a variety of locations to include Europe, Hawaii, Japan, Thailand, Korea, Panama, and multiple CONUS locations. The JWFC also served as the proponent for Joint Training Simulations, represented the CINCs, and was directed to be the Joint Staff Executive Agent for the Joint Simulation System. The JWFC was also involved with supporting the CJCS's number one priority program, Joint Vision 2010 (JV 2010), by developing and documenting some initial concepts which will be coordinated through the various CINC's staff and the Services.

2. FY 1997 Planned Program: JWFC plans to support ten "full support" exercises/training events and twelve "less than full support" events during the fiscal year 1997 using distributed simulations, interactive computing technologies, and based on the CJCS-approved Joint Training System (JTS). Training and doctrine development capabilities will continue to be enhanced during this year to achieve full operational and readiness capabilities. Full capabilities will be achieved and will support JTS for CINC/JTF staffs and Joint Doctrine Development leveraging of synthetic environments. The JWFC will continue as the proponent for Joint Training Simulations and represent the CINCs. As new initiatives, the JWFC will become the facilitator for the Joint Simulations System (JSIMS), with J-7 being the Executive Agent, and will continue to improve and refine the initial concepts that were documented for the Chairman's JV 2010 program.

3. FY 1998 Planned Program: JWFC plans to support ten "full support" service training events, doctrine development, and twelve "less than full support" events using state-of-the-art facilities and automated technologies based on the CJCS-approved Joint Training System (JTS).

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The command expects to support fifteen exercise/training events in support of JCS, CINC, and Services clients. The JWFC will continue as proponent of Joint Training Simulations, the Joint Simulations System (JSIMS), continue their efforts on the CJCS' JV 2010 program, and represent the CINCs.

4. FY 1999 Planned Program: Expected level of exercise and training operations include twenty-five events as a full service training support organization with an accentuation as a leaded in Joint Doctrine. The JWFC will continue as proponent of Joint Training Simulations, represent the CINCs, and be the Joint Staff Executive Agent for the Joint Simulations System (JSIMS).

G. Contract Information:

The general support contract will be awarded early in fiscal year 1997. The current general support contractor (Veda Incorporated) and its subcontractor (Sterling Software Incorporated) provide the full range of Technology Support functions in the areas of computer systems management, computer operations, simulation operations, logistics operations, telecommunications engineering, exercise support, and simulation design and development. The services of Cubic Applications Incorporated have been used to provide training preparation and support, exercise after action review support, a professional free-thinking Opposing Forces (OPFOR) group, and simulation instructional planning services. The operations and training support provided by Cubic Applications Incorporated in fiscal year 1995 will be integrated into the new general support contract requirements. Also, support for computer simulation and distributed exercise technology is received from Rolands and Associates under a separate JWFC contract, and Lawrence Livermore Laboratory on a fee-for-hire basis to debug, enhance, and adapt the joint coalition models, Joint Theater Level Simulation (JTLS) and Joint Conflict and Tactical Simulation (JCATS). The Doctrine Division is supported by OC Incorporated under a contractual arrangement that was awarded in September 1996 under a separate JWFC contract action. Additional, the MITRE Corporation provides systems C4I research, planning, and task engineering support to the JWFC under a contractual agreement with U.S. Army's Communications and Electronics Command (CECOM). MITRE provides objective technical assessment and review of C4I systems and capabilities, assess future telecommunication plans, reviews contractor deliverables, and assists in developing new distributed computer simulation concepts and techniques beyond the scope of the general support contract.

H. Comparison with FY 1996 Description Summary:

The JWFC Vision and Mission statements were revised and reissued in early FY 1994 to include a broadened mission responsibility. This required there-capitalization of the Command AIS computer systems to create a world-class distributed simulation capability, the expansion of the staff, and a significant increase in contractor support. In FY 1995, the Chairman directed that the JWFC's mission be further broadened to include peacekeeping doctrinal support and oversight of DOD's Modeling and Simulation Coordination Center. In FY 1996, the CJCS requested JWFC support for the Joint Vision 2010 program, provided CINC Initiative Funds, and directed the allocation of personnel to initiate the effort. The JWFC also initiated an internal

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management control program to support the approved Joint Simulations System (JSIMS). This control program will be used to track the JSIMS expenditures during FY 1997.

1. Technical Changes: None.

2. Schedule Changes: Six exercises planned for FY 96 were canceled due to real world events (Bosnia and planning for the SOUTHCOM relocation).

3. Cost Changes: Cost increases from the previous year (FY 1997) President's Budget submission: Additional baseline funding specifically supports the recommendations of the Commission on Roles and Missions (CORM) of the Armed Forces (also titled "Directions for Defense", May 24, 1995). Joint training and doctrine -- the JWFC's core mission -- were prevalent themes throughout the CORM. Specifically, the CORM recommended:

"Emphasis on joint training throughout DoD must be increased. To this end, we recommend that joint training be fully funded in DoD's budget and that the Commanders in Chief (CINCs) be given more control over the portions of Services component training budgets that are integral to joint training ... The CINCs also need improved simulation techniques, more rigorous training readiness standards, and better tools for conducting and evaluating joint training."

This increase funding support the specific CORM initiative to "...provide the money necessary for the Joint Warfighting Center." At the previously stated funding levels the JWFC could not perform its mission as further emphasized by the CORM. The increased level of funding will provide for enhanced support to the Unified Commanders (CINCs), allowing the JWFC to conduct additional major exercises supporting CINC training programs by developing, coordinating, and executing new joint training modeling and simulation tools via the Joint Training Simulation Plan (JTSP), and developing joint doctrine in conjunction with exercises and simulation capabilities.

These additional funding levels change the cycle and program costs. Due to ongoing nature of the JWFC mission, the cost to complete will be "not applicable".

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- A. AIS Title and Number:
Joint Simulation System (JSIMS)
- B. Functional Area:
Core DII - Military Personnel and Readiness (Training)
- C. Approved Life Cycle Cost and Program Cost (in millions of dollars):

1. Then year (Inflated) dollars

Approved Life-cycle cost: *

Estimated Life-cycle cost: *

Approved Program cost: *

Estimated Program cost: *

2. Constant base year (FY 1990) dollars

Approved Life-cycle cost: *

Estimated Life-cycle cost: *

Approved Program cost: *

Estimated Program cost: *

3. Sunk Cost (actual): \$11.3 (funded by the Defense Modeling and Simulation Office in FY 96)

4. Cost to Complete: N/A. This will be a continuing program.

5. * Life cycle costs have not been determined. JSIMS is in Milestone 0 and the program is still being defined. Estimated completion date for the life cycle costs is 4th quarter FY97.

D. Cross reference to Justification books: The resources (except for FY96) described under this AIS are in the Joint Staff, RDT&E Budget Item Justification, R-2 Exhibit.

E. System Description:

1. JSIMS funding is new to the Joint Staff starting in FY1997. JSIMS is a next generation Modeling and Simulation (M&S) tool to support training for Commanders in Chiefs (CINCs), their components, Joint Task Force (JTF) staffs, other Joint organizations, and the Services. JSIMS will provide the ability to jointly train, educate, develop doctrine and tactics, formulate and assess operational plans, assess warfighting situations, define operational requirements, provide operational input into the development of new weapon systems, and perform mission planning and mission rehearsal. JSIMS will support all phases of military operations and

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military Operations Other Than War (OOTW). JSIMS will allow war fighters to train-as-they-fight by interfacing into the simulation through their real world C4I systems.

2. To achieve this, the Services resolved in concert, to take a common approach to the development of a next generation M&S system to replace their aging suite of stove-piped M&S tools that perform poorly in the joint training context. JSIMS will be extensible to support the needs of a range of training audiences from the Strategic-National to the Tactical.

3. JSIMS will support the implementation of Joint Vision 2010 by permitting global interconnectivity of a near-real-time interactive simulation between our forces in every theater JSIMS will replace a large number of existing M&S tools beginning with the Joint Training Confederation at Initial Operational Capability (IOC) in FY99. At Full Operational Capability (FOC), scheduled for FY03, JSIMS will support the full range of intended training.

D. Program Accomplishments and Plans:

1. FY 1996 Accomplishments: In FY1996, the JSIMS program demonstrated the Joint Training Federation's Prototype (JTFp). This effort defines and develops the interfaces needed for the JSIMS program to succeed. The JTFp demonstrations proved that the JSIMS JTFp is being conceived and designed in accordance with the High Level Architecture which is the standard technical architecture recently adopted by a joint body for all of DOD's future modeling and simulation (M&S) efforts/programs. The program also accomplished Domain Engineering (DE), which is actually Systems Engineering applied to the JSIMS modeling and simulation development program. DE takes a warfighting domain (i.e.; Air and Space, Land, or Maritime) and defines it in detail. This enables design of military war or OOTW operations in a given domain to support a given training exercise. Also, the basic interaction of two or more domains is defined. This DE activity output (domain definition) will be given to the Integration and Development contractor team selected via the Source Selection Process to use as a starting point in the effort to produce the JSIMS product/capability. The JSIMS program developed the Joint Conceptual Model of the Mission Space (JCMMS), which is a common/consistent abstract representation of the entire realm which our armed forces must operate in to perform both war and OOTW missions. This effort integrates all the various domains, to include functional processes such as logistics, intelligence, weather, command, control, communications, and computers, intelligence, surveillance, and reconnaissance (C4ISR), and SOF into a consistent "picture" which can be used to support joint and/or specific service training needs. The JCMMS effort will ensure that no matter what service or combination of joint organizations are involved in a training situation, the total environment along w/each object (i.e.; Aircraft Carrier, B-2, M1A1 etc.) will be consistent. This includes that object's appearance, performance characteristics, and human-machine interface (simulation of the human thought/behavioral processes involved) will be the same regardless of the training audience constituents involved. The JSIMS program also developed the Functional Requirements Document (FRD) which will capture the requirements for JSIMS identified to-date resulting from Joint Warfighting Center (JWFC)-led efforts to express the requirements for JSIMS. The JWFC is the JSIMS program's center of gravity for JSIMS requirements collection, deconfliction, and synthesis. The FRD is to

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be published in Nov 96 and become part of the JSIMS Acquisition Program Baseline. The JSIMS program also accomplished several important acquisition activities, including release of the Request for Proposal for the Integration and Development (I&D) contract on 19 Jul 96. The Program Office has received initial technical proposals from vendors, conducted an initial review of proposals, and received oral briefings from all vendors. The Source Selection Advisory Council has met once and provided an initial review of the source selection process.

2. FY 1997 Planned Program: The joint program office (JPO) is working to receive all vendor's best and final offers for the I&D contract by the end of Oct 96. Contract award is scheduled for late first quarter FY97. The first iterations of the JSIMS architecture and software environment should be delivered in FY1997.

3. FY 1998 Planned Program: Continuous refinement and development of major iterations of the JSIMS modeling and simulation environment.

4. FY 1999 Planned Program: Continuous refinement and development of major iterations of the JSIMS modeling and simulation environment. IOC is currently planned for fourth quarter FY 1999.

E. Contract Information: The JSIMS I&D contract will be a single award contract, with a 7 year performance period. It will have a zero based award fee structure to provide flexibility in directing efforts to reduce to total cost risk. A Technical Direction Document will be used to provide contractor with prioritized taskings.

F. Comparison with FY 1997 Descriptive Summary. JSIMS is a new program and was not reflected in the DOD FY 1997 IT exhibit.

1. Technical Changes: None.
2. Schedule Changes: None.
3. Cost Changes: None.

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 Exhibit 43 (IT-3) IT Resources Requirements & Indefinite Delivery/Indefinite Quantity Contracts
 Lead Components
 FY 1998/99 OSD/OMB Submission
 (Dollars in Thousands)

- A. Contract Name: Joint Staff Automation for the Nineties (JSAN)
- B. Description of Contracts: Indefinite Delivery/Indefinite Quantity
- C. Contract Number: F19630-92-D-0001
- D. Estimated Contract Requirements by appropriation (\$000):

	<u>FY 1995</u>	<u>FY 1996</u>	<u>FY 1997</u>
Procurement	6,939	6,648	0
O&M	7,204	8,414	13,605
Other (Specify)	0	0	0
Total	14,143	15,062	13,605

E. Contract Data:

1. Contract awarded to: CONTEL Federal Systems, Inc., changed to GTE Government Systems Corporation 20 November 1992 (via novation agreement).

2. Contract Award Date: 14 Nov 91 (affirmed by GSBCA, 20 November 1992)

3. Brand names and model numbers of primary hardware and software: IBM RISC System 6000 Model 2XX, Model 5XX, and Model 9XX series processor; however, this was changed to DEC Alpha processors for network servers and Intel-based 486 and Pentium workstations due to contractor (Contel then GTE)/Subcontractor (IBM then Loral) to deliver NSA evaluated/DIA certified Compartmented Mode Workstations (CMWs) that satisfied the Joint Staff requirements for multi-level security.

4. Contract duration (in years): 1 base year and 7 option years

5. Contract renewal option: Annual

6. Estimated value of contract: \$91.6 Million

7. Minimum obligation by FY:

FY 1993: \$5.0 Million

FY 1994-2000: No minimum obligation by FY is required. As of the end of FY 1995, the estimated remaining minimum obligation for minimum contract quantities through 19 Nov 00 (end of contract) is \$1.5 Million.

The Joint Staff
Year 2000 Report
(Dollars in Thousands)

At this time, we have not completed calculation of the costs associated with the Year 2000 problem but are actively pursuing a resolution for each of our information systems. We realize this is both a hardware and software problem, but believe our software is more susceptible. The reason being, the hardware problem exists mainly with large, main frame systems that use only the last two digits of a year. We, overwhelmingly, use small desktop systems (i.e., Sun, IBM-compatible PCs, etc.) whose operating systems use a four digit year. Therefore, our biggest concern is in the software arena. Since these software items are COTS, our analysis must be more painstaking because it requires the coordination with many vendors to compile the data. At this time, we do not have the dollar values.