INTEGRATED INFORMATION
SUPPORT SYSTEM (I-ISS)
Volume III - I-ISS Configuration Management
Part 5 - System Hardware Document

General Electric Company
Production Resources Consulting
One River Road
Schenectady, New York 12345

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PREPARED FOR:

MATERIALS LABORATORY
AIR FORCE WRIGHT AERONAUTICAL LABORATORIES
AIR FORCE SYSTEMS COMMAND
WRIGHT-PATTERSON AFB, OH 45433-6833

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This technical report has been reviewed and is approved for publication.

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FOR THE COMMANDER:

Gerald C. Shumaker, Branch Chief
AFWAL/MLTC
WRIGHT PATTERSON AFB OH 45433

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The computer software contained herein are theoretical and/or references that in no way reflect Air Force-owned or -developed computer software.

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The physical computer hardware which constitutes the Test Bed VAX computer is listed in this document.

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1 November 1985
Title

Integrated Information Support System (IISS)
Vol III - IISS Configuration Management
Part 5 - System Hardware Document
The Integrated Information Support System is a test computing environment used to investigate and demonstrate and test the concepts of information management and information integration in the contexts of Aerospace Manufacturing. Specifically, IISS addresses the problems of integration of data resident on heterogeneous databases supported by heterogeneous computers, interconnected via a Local Area Network. A common Data Model is maintained and provides the mechanism required to integrate the data.
PREFACE

This system hardware document covers the work performed under Air Force Contract F33615-80-C-5155 (ICAM Project 6201). This contract is sponsored by the Materials Laboratory, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio. It was administered under the technical direction of Mr. Gerald C. Shumaker, ICAM Program Manager, Manufacturing Technology Division, through Project Manager, Mr. David Judson. The Prime Contractor was Production Resources Consulting of the General Electric Company, Schenectady, New York, under the direction of Mr. Alan Rubenstein. The General Electric Project Manager was Mr. Myron Hurlbut of Industrial Automation Systems Department, Albany, New York.

Certain work aimed at improving Test Bed Technology has been performed by other contracts with Project 6201 performing integrating functions. This work consisted of enhancements to Test Bed software and establishment and operation of Test Bed hardware and communications for developers and other users. Documentation relating to the Test Bed from all of these contractors and projects have been integrated under Project 6201 for publication and treatment as an integrated set of documents. The particular contributors to each document are noted on the Report Documentation Page (DD1473). A listing and description of the entire project documentation system and how they are related is contained in document FTR560100001, Project Overview.

The subcontractors and their contributing activities were as follows:

**TASK 4.2**

<table>
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<tr>
<th>Subcontractors</th>
<th>Role</th>
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</thead>
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<tr>
<td>Boeing Military Aircraft Company (BMAC)</td>
<td>Reviewer.</td>
</tr>
<tr>
<td>D. Appleton Company (DACOM)</td>
<td>Responsible for IDEF support, state-of-the-art literature search.</td>
</tr>
<tr>
<td>General Dynamics/Ft. Worth</td>
<td>Responsible for factory view function and information models.</td>
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</table>
Subcontractors

Illinois Institute of Technology

Role

Responsible for factory view function research (IITRI) and information models of small and medium-size business.

North American Rockwell

Reviewer.

Northrop Corporation

Role

Responsible for factory view function and information models.

Pritsker and Associates

SofTech

Role

Responsible for IDEF2 support.

Responsible for IDEF0 support.

TASKS 4.5 - 4.9 (TEST BED)

Subcontractors

Boeing Military Aircraft Company (BMAC)

Role

Responsible for consultation on applications of the technology and on IBM computer technology.

Computer Technology Associates (CTA)

Assisted in the areas of communications systems, system design and integration methodology, and design of the Network Transaction Manager.

Control Data Corporation (CDC)

Role

Responsible for the Common Data Model (CDM) implementation and part of the CDM design (shared with DACOM).

D. Appleton Company (DACOM)

Role

Responsible for the overall CDM Subsystem design integration and test plan, as well as part of the design of the CDM (shared with CDC). DACOM also developed the Integration Methodology and did the schema mappings for the Application Subsystems.
Subcontractors

Digital Equipment Corporation (DEC)

Role
Consulting and support of the performance testing and on DEC software and computer systems operation.

McDonnell Douglas Automation Company (McAuto)

Responsible for the support and enhancements to the Network Transaction Manager Subsystem during 1984/1985 period.

On-Line Software International (OSI)

Responsible for programming the Communications Subsystem on the IBM and for consulting on the IBM.

Rath and Strong Systems Products (RSSP) (In 1985 became McCormack & Dodge)

Responsible for assistance in the implementation and use of the NRP II package (PIOS) that they supplied.

SofTech, Inc.

Responsible for the design and implementation of the Network Transaction Manager (NTM) in 1981/1984 period.

Software Performance Engineering (SPE)

Responsible for directing the work on performance evaluation and analysis.

Structural Dynamics Research Corporation (SDRC)

Responsible for the User Interface and Virtual Terminal Interface Subsystems.

Other prime contractors under other projects who have contributed to Test Bed Technology, their contributing activities and responsible projects are as follows:

<table>
<thead>
<tr>
<th>Contractors</th>
<th>ICAM Project</th>
<th>Contributing Activities</th>
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<tr>
<td>Boeing Military Aircraft Company (BMAC)</td>
<td>1701, 2201, 2202</td>
<td>Enhancements for IBM node use. Technology Transfer to Integrated Sheet Metal Center (ISMC).</td>
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<tr>
<td>Contractors</td>
<td>ICAM Project</td>
<td>Contributing Activities</td>
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<tr>
<td>Control Data Corporation (CDC)</td>
<td>1502, 1701</td>
<td>IISS enhancements to Common Data Model Processor (CDMP).</td>
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<tr>
<td>D. Appleton Company (DACOM)</td>
<td>1502</td>
<td>IISS enhancements to Integration Methodology.</td>
</tr>
<tr>
<td>General Electric</td>
<td>1502</td>
<td>Operation of the Test Bed and communications equipment.</td>
</tr>
<tr>
<td>Hughes Aircraft Company (HAC)</td>
<td>1701</td>
<td>Test Bed enhancements.</td>
</tr>
<tr>
<td>Structural Dynamics Research Corp</td>
<td>1502, 1701, 1703</td>
<td>IISS enhancements to User Interface/Virtual Terminal Interface (UI/VTI).</td>
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SECTION 1
SYSTEM HARDWARE

Listed below is the computer hardware currently available on the AF VAX test bed computer.

20 Mb memory
2 300 Mb disk drives (RM05)
3 456 Mb disk drives (RA81)
1 800/1600 bpi tape drive (TUV7)
5 40-line asynchronous data multiplexor (DZ11)
1 synchronous data communication channel (DUP11)
1 MASSBUS adapter
1 UNIBUS adapter
1 445 lpm line printer (LP11)
1 180 cps console device (LA120)
6 VT100 terminals
2 VT240 terminals with color monitors
END
7-87
DTIC