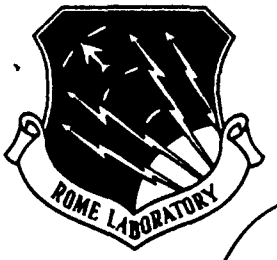

RL-TR-94-101
Final Technical Report
August 1994

JTIDS SOFTWARE AND TEST ENGINEERING

Harris Corporation

Dennis Tebbe
W. John Maxey (Rome Laboratory)

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Rome Laboratory
Air Force Materiel Command
Griffiss Air Force Base, New York

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This report contains a detailed accounting of contractor technical support to the JTIDS Program Office AT ESC. This support includes Test Data Management and Test Resource Management. Also, software engineering for the Network Design Aid Tool was provided to the JTIDS Program Office, and is reported in this Final Report.

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FINAL REPORT
JTIDS

1.0 INTRODUCTION

This report is submitted in accordance with the requirements of Contract F30602-92-D-0134, Task 001 for the period 01 February 93 through 31 January 94.

2.0 ACTIVITIES FOR PERIOD

A. Test Data Management

1. The Management of the Material Improvement Program (MIP) database has been successfully transferred to the government. Over the past year of this tasking, successful review boards have been accomplished with closure of over 100 MIP reports. During this time period , new participants to the process were brought on board, dramatically increasing the number of reports managed by the system. The MIP database will continually support JTIDS into the future. Due to the growth of the system, and the inadequacies of the current database software, plans to allow for a networked system among participants are in the works. This will require a rehosting of the data to a new computer platform and database software.

B. Test Resource Management and Analysis

Highlights during the past year include the completion of the scheduled JTIDS developmental multi-service test program (MS-DT-III), the Army Class 2M reliability demonstration, and the development of the 1994 Program Introduction Document (PID).

MSDT-III was completed in March 93. Numerous Test Plan Working Group (TPWG) meetings provided the forum to coordinate Air Force and Army test assets and test objectives. As experienced in previous testing, establishing the crypto requirements early on for the event helps avoid aborting a mission because of misunderstanding or lack of adequate authorization.

The Army JTIDS Class 2M reliability test was an example of outstanding planning and execution. The

Army Independent evaluators were invited to attend all planning meetings. Definitions of failure criteria, procedures and test personnel were established in a manner that would support an independent evaluators ability to assess the data collected. During the test execution; environmental conditions, on duty test personnel, incident reporting procedures, and maintenance actions consistently followed the plan and were clearly documented. The key to a an undisputable reliability test is to identify and agree to the valid, recordable test condition variables prior to the start of the test. The test environment should minimize any unplanned or un-recordable variable which could later compromise the validity of agreed to test conditions.

The PID is a document developed by the program office which scopes test requirements for the upcoming year. It is provided to the Air Force test agency selected to conduct the test. The test agency then responds with a Statement of Capability (SOC). The test agency should be invited early on in the PID development process in order to provide insight to objectives, schedule impacts and potential test options which could drastically change the scope of the effort. early involvement by the test agency assures quick turn around time for the SOC and transition of funds which are required to support the test.

C. Software Engineering

1. Upon completion of this task, the Network Design Aid (NDA) developers have scheduled a dry -run Formal Qualification Testing on Build 1 for the second week of February. At the start of this task the NDA preliminary design review was held signifying the end of preliminary design for the entire NDA Software.

For the duration of this task, both technical and management support has been provided to the government. This task has also provided technical government representation at meetings where government personnel could not be present.

2. With regard to support for CSSA equipment acquisition, the development of a complete equipment list for the CSSA under this task has resulted in a contract being awarded to GEC-Marconi to purchase and install all equipment to duplicate the GEC environment at the CSSA facility in Warner-Robbins GA. This tasking aided in the determination of whether GEC's bid for such work was fair and accurate. It provided analysis to a reduction in risk for the acquisition process.

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