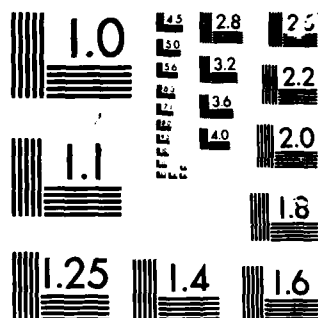


14

R M HARTT ET AL. 31 JAN 86 LMI-DL503 DTIC-TR-86/9

NL



MICROCOPY

CHART

AD-A166 655

**MICROCOMPUTER-BASED
LOCAL AUTOMATION MODEL:
TEST PLAN**

31 January 1986

Richard W. Hartt
Dennis J. O'Connor

Prepared pursuant to Department of Defense Contract No MDA903-85-C-0139 (Task Order DL503). Views or conclusions expressed in this document should not be interpreted as representing official opinion or policy of the Department of Defense. Except for Government purposes, permission to quote from or reproduce portions of this document must be obtained from the Logistics Management Institute.

LOGISTICS MANAGEMENT INSTITUTE
6400 Goldsboro Road
Bethesda, Maryland 20817-5886

DTIC
ELECTE
MAY 1 1986
A

This document has been approved
for public release and sale; its
distribution is unlimited.

INSTRUCTIONS FOR PREPARATION OF REPORT DOCUMENTATION PAGE

GENERAL INFORMATION

The accuracy and completeness of all information provided in the DD Form 1473, especially classification and distribution limitation markings, are the responsibility of the authoring or monitoring DoD activity.

Because the data input on this form will be what others will retrieve from DTIC's bibliographic data base or may determine how the document can be accessed by future users, care should be taken to have the form completed by knowledgeable personnel. For better communication and to facilitate more complete and accurate input from the originators of the form to those processing the data, space has been provided in Block 22 for the name, telephone number, and office symbol of the DoD person responsible for the input cited on the form.

All information on the DD Form 1473 should be typed.

Only information appearing on or in the report, or applying specifically to the report in hand, should be reported. If there is any doubt, the block should be left blank.

Some of the information on the forms (e.g., title, abstract) will be machine indexed. The terminology used should describe the content of the report or identify it as precisely as possible for future identification and retrieval.

NOTE: Unclassified abstracts and titles describing classified documents may appear separately from the documents in an unclassified context, e.g., in DTIC announcement bulletins and bibliographies. This must be considered in the preparation and marking of unclassified abstracts and titles.

The Defense Technical Information Center (DTIC) is ready to offer assistance to anyone who needs and requests it. Call Data Base Input Division, Autovon 284-7044 or Commercial (202) 274-7044.

SECURITY CLASSIFICATION OF THE FORM

In accordance with DoD 5200.1-R, Information Security Program Regulation, Chapter IV Section 2, paragraph 4-200, classification markings are to be stamped, printed, or written at the top and bottom of the form in capital letters that are larger than those used in the text of the document. See also DoD 5220.22-M, Industrial Security Manual for Safeguarding Classified Information, Section II, paragraph 11a(2). This form should be unclassified, if possible.

SPECIFIC BLOCKS

Block 1a. Report Security Classification: Designate the highest security classification of the report. (See DoD 5220.1-R, Chapters I, IV, VII, XI, Appendix A.)

Block 1b. Restricted Marking: Enter the restricted marking or warning notice of the report (e.g., CNWDI, RD, NATO).

Block 2a. Security Classification Authority: Enter the commonly used markings in accordance with DoD 5200.1-R, Chapter IV, Section 4, paragraph 4-400 and 4-402. Indicate classification authority.

Block 2b. Declassification / Downgrading Schedule: Indicate specific date or event for declassification or the notation, "Originating Agency Determination Required" or "OADR." Also insert (when applicable) downgrade to on (e.g., Downgrade to Confidential on 6 July 1983). (See also DoD 5220.22-M, Industrial Security Manual for Safeguarding Classified Information, Appendix II.)

NOTE: Entry must be made in Blocks 2a and 2b except when the original report is unclassified and has never been upgraded.

Block 3. Distribution/Availability Statement of Report: Insert the statement as it appears on the report. If a limited distribution statement is used, the reason must be one of those given by DoD Directive 5200.20, Distribution Statements on Technical Documents, as supplemented by the 18 OCT 1983 SECDEF Memo, "Control of Unclassified Technology with Military Application." The Distribution Statement should provide for the broadest distribution possible within limits of security and controlling office limitations.

Block 4. Performing Organization Report Number(s): Enter the unique alphanumeric report number(s) assigned by the organization originating or generating the report from its research and whose name appears in Block 6. These numbers should be in accordance with ANSI STD 239-74, "American National Standard Technical Report Number." If the Performing Organization is also the Monitoring Agency, enter the report number in Block 4.

Block 5. Monitoring Organization Report Number(s): Enter the unique alphanumeric report number(s) assigned by the Monitoring Agency. This should be a number assigned by a DoD or other government agency and should be in accordance with ANSI STD 239-74. If the Monitoring Agency is the same as the Performing Organization, enter the report number in Block 4 and leave Block 5 blank.

Block 6a. Name of Performing Organization: For in-house reports, enter the name of the performing activity. For reports prepared under contract or grant, enter the contractor or the grantee who generated the report and identify the appropriate corporate division, school, laboratory, etc., of the author.

Block 6b. Office Symbol: Enter the office symbol of the Performing Organization.

Block 6c. Address: Enter the address of the Performing Organization. List city, state, and ZIP code.

Block 7a. Name of Monitoring Organization: This is the agency responsible for administering or monitoring a project, contract, or grant. If the monitor is also the Performing Organization, leave Block 7a. blank. In the case of joint sponsorship, the Monitoring Organization is determined by advance agreement. It can be either an office, a group, or a committee representing more than one activity, service, or agency.

Block 7b. Address: Enter the address of the Monitoring Organization. Include city, state, and ZIP code.

Block 8a. Name of Funding/Sponsoring Organization: Enter the full official name of the organization under whose immediate funding the document was generated, whether the work was done in-house or by contract. If the Monitoring Organization is the same as the Funding Organization, leave 8a blank.

Block 8b. Office Symbol: Enter the office symbol of the Funding/Sponsoring Organization.

Block 8c. Address: Enter the address of the Funding/Sponsoring Organization. Include city, state and ZIP code.

Block 9. Procurement Instrument Identification Number: For a contractor grantee report, enter the complete contract or grant number(s) under which the work was accomplished. Leave this block blank for in-house reports.

Block 10. Source of Funding (Program Element, Project, Task Area, and Work Unit Number(s)): These four data elements relate to the DoD budget structure and provide program and/or administrative identification of the source of support for the work being carried on. Enter the program element, project, task area, work unit accession number, or their equivalents which identify the principal source of funding for the work required. These codes may be obtained from the applicable DoD forms such as the DD Form 1498 (Research and Technology Work Unit Summary) or from the fund citation of the funding instrument. If this information is not available to the authoring activity, these blocks should be filled in by the responsible DoD Official designated in Block 22. If the report is funded from multiple sources, identify only the Program Element and the Project, Task Area, and Work Unit Numbers of the principal contributor.

Block 11. Title: Enter the title in Block 11 in initial capital letters exactly as it appears on the report. Titles on all classified reports, whether classified or unclassified, must be immediately followed by the security classification of the title enclosed in parentheses. A report with a classified title should be provided with an unclassified version if it is possible to do so without changing the meaning or obscuring the contents of the report. Use specific, meaningful words that describe the content of the report so that when the title is machine-indexed, the words will contribute useful retrieval terms.

If the report is in a foreign language and the title is given in both English and a foreign language, list the foreign language title first, followed by the English title enclosed in parentheses. If part of the text is in English, list the English title first followed by the foreign language title enclosed in parentheses. If the title is given in more than one foreign language, use a title that reflects the language of the text. If both the text and titles are in a foreign language, the title should be translated, if possible, unless the title is also the name of a foreign periodical. Transliterations of often used foreign alphabets (see Appendix A of MIL-STD-847B) are available from DTIC in document AD-A080 800.

Block 12. Personal Author(s): Give the complete name(s) of the author(s) in this order: last name, first name, and middle name. In addition, list the affiliation of the authors if it differs from that of the performing organization.

List all authors. If the document is a compilation of papers, it may be more useful to list the authors with the titles of their papers as a contents note in the abstract in Block 19. If appropriate, the names of editors and compilers may be entered in this block.

Block 13a. Type of Report: Indicate whether the report is summary, final, annual, progress, interim, etc.

Block 13b. Time Covered: Enter the inclusive dates (year, month, day) of the period covered, such as the life of a contract in a final contractor report.

Block 14. Date of Report: Enter the year, month, and day, or the year and the month the report was issued as shown on the cover.

Block 15. Page Count: Enter the total number of pages in the report that contain information, including cover, preface, table of contents, distribution lists, partial pages, etc. A chart in the body of the report is counted even if it is unnumbered.

Block 16. Supplementary Notation: Enter useful information about the report in hand, such as: "Prepared in cooperation with...", "Translation at (or by)..." "Symposium..." If there are report numbers for the report which are not noted elsewhere on the form (such as internal series numbers or participating organization report numbers) enter in this block.

Block 17. COSATI Codes: This block provides the subject coverage of the report for announcement and distribution purposes. The categories are to be taken from the "COSATI Subject Category List" (DoD Modified), Oct 65, AD-624 000. A copy is available on request to any organization generating reports for DoD. At least one entry is required as follows:

Field - to indicate subject coverage of report.

Group - to indicate greater subject specificity of information in the report.

Sub-Group - if specificity greater than that shown by Group is required, use further designation as the numbers after the period (.) in the Group breakdown. Use only the designation provided by AD-624 000.

Example: The subject "Solid Rocket Motors" is Field 21, Group 08, Subgroup 2 (page 32, AD-624 000).

Block 18. Subject Terms: These may be descriptors, keywords, posting terms, identifiers, open-ended terms, subject headings, acronyms, code words, or any words or phrases that identify the principal subjects covered in the report, and that conform to standard terminology and are exact enough to be used as subject index entries. Certain acronyms or "buzz words" may be used if they are recognized by specialists in the field and have a potential for becoming accepted terms. "Laser" and "Reverse Osmosis" were once such terms.

If possible, this set of terms should be selected so that the terms individually and as a group will remain UNCLASSIFIED without losing meaning. However, priority must be given to specifying proper subject terms rather than making the set of terms appear "UNCLASSIFIED." Each term on classified reports must be immediately followed by its security classification, enclosed in parentheses.

For reference on standard terminology the "DTIC Retrieval and Indexing Terminology" DRIT-1979, AD-A068 500, and the DoD "Thesaurus of Engineering and Scientific Terms (TEST) 1968, AD-672 000, may be useful.

Block 19. Abstract: The abstract should be a pithy, brief (preferably not to exceed 300 words), factual summary of the most significant information contained in the report. However, since the abstract may be machine-searched, all specific and meaningful words and phrases which express the subject content of the report should be included, even if the word limit is exceeded.

If possible, the abstract of a classified report should be unclassified and consist of publicly releasable information (Unlimited), but in no instance should the report content description be sacrificed for the security classification.

NOTE: An unclassified abstract describing a classified document may appear separately from the document in an unclassified context e.g., in DTIC announcement or bibliographic products. This must be considered in the preparation and marking of unclassified abstracts.

For further information on preparing abstracts, employing scientific symbols, verbalizing, etc., see paragraphs 2.1(n) and 2.3(b) in MIL-STD-847B.

Block 20. Distribution / Availability of Abstract: This block must be completed for all reports. Check the applicable statement: "unclassified / unlimited," "same as report," or, if the report is available to DTIC registered users "DTIC users."

Block 21. Abstract Security Classification: To ensure proper safeguarding of information, this block must be completed for all reports to designate the classification level of the entire abstract. For CLASSIFIED abstracts, each paragraph must be preceded by its security classification code in parentheses.

Block 22a,b,c. Name, Telephone and Office Symbol of Responsible Individual: Give name, telephone number, and office symbol of DoD person responsible for the accuracy of the completion of this form.

UNCLASSIFIED/UNLIMITED

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION Unclassified/Unlimited			1b. RESTRICTIVE MARKINGS	
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT	
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE			Approved for public release; distribution unlimited.	
4. PERFORMING ORGANIZATION REPORT NUMBER(S) TASK ORDER DL503			5. MONITORING ORGANIZATION REPORT NUMBER(S) DTIC/TR-86/9	
6a. NAME OF PERFORMING ORGANIZATION Logistics Management Institute		6b. OFFICE SYMBOL (if applicable)		7a. NAME OF MONITORING ORGANIZATION Defense Technical Information Center
6c. ADDRESS (City, State, and ZIP Code) 6400 Goldsboro Road Bethesda, MD 20817-5886			7b. ADDRESS (City, State, and ZIP Code) DTIC-E Cameron Station, Alexandria, VA 22304	
8a. NAME OF FUNDING/SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (if applicable)		9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER MDA903-85-C-0139
8c. ADDRESS (City, State, and ZIP Code)			10. SOURCE OF FUNDING NUMBERS	
			PROGRAM ELEMENT NO.	PROJECT NO.
			TASK NO.	WORK UNIT ACCESSION NO.
11. TITLE (Include Security Classification) Microcomputer-Based Local Automation Model: Test Plan				
12. PERSONAL AUTHOR(S) Hartt, Richard W., O'Connor, Dennis J.				
13a. TYPE OF REPORT		13b. TIME COVERED FROM TO		14. DATE OF REPORT (Year, Month, Day) Jan 86
15. PAGE COUNT 140				
16. SUPPLEMENTARY NOTATION				
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUB-GROUP	Local Automation Model; Libraries; Information Systems;	
9	2		Integrated Library Systems; Intelligent Gateway Processor;	
5	2		Test Plan ; Test and Evaluation	
19. ABSTRACT (Continue on reverse if necessary and identify by block number) The document provides a comprehensive test plan to determine whether the prototype system meets the functions and capabilities required for the microcomputer-based Local Automation Model (MicroLAM). The procedures and methods for testing the prototype system are described. The evaluation criteria used in assessing system performance is provided. The test plan will assist in the development of the functional specifications for use in acquiring the production system. Evaluation forms used by test participants for each major system function are provided in the appendices.				
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT. ☐ DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION Unclassified/Unlimited	
22a. NAME OF RESPONSIBLE INDIVIDUAL R. Paul Ryan			22b. TELEPHONE (Include Area Code) 202-274-5367	22c. OFFICE SYMBOL DTIC-EB

DD FORM 1473, 84 MAR

83 APR edition may be used until exhausted
All other editions are obsolete.

SECURITY CLASSIFICATION OF THIS PAGE

UNCLASSIFIED/UNLIMITED

**MICROCOMPUTER-BASED
LOCAL AUTOMATION MODEL:
TEST PLAN**

31 January 1986

**Richard W. Hartt
Dennis J. O'Connor**

Prepared pursuant to Department of Defense Contract No. MDA903-85-C-0139 (Task Order DL503). Views or conclusions expressed in this document should not be interpreted as representing official opinion or policy of the Department of Defense. Except for Government purposes, permission to quote from or reproduce portions of this document must be obtained from the Logistics Management Institute.

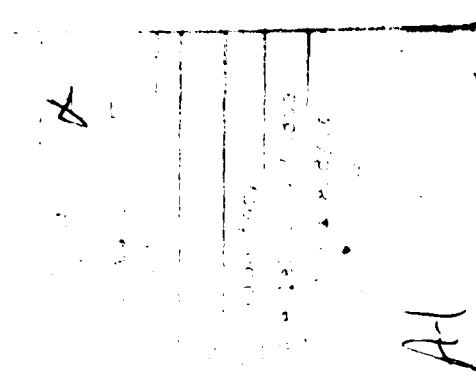
**LOGISTICS MANAGEMENT INSTITUTE
6400 Goldsboro Road
Bethesda, Maryland 20817-5886**

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1. GENERAL	1- 1
1.1 Purpose	1- 1
1.2 Project Description and References	1- 1
1.3 Terms and Abbreviations	1- 2
2. TEST BACKGROUND AND PREPARATION	2- 1
2.1 Background	2- 1
2.2 Pretest Activity	2- 1
2.3 Test Schedule	2- 2
2.4 Personnel	2- 2
3. TEST SPECIFICATION AND DESCRIPTION	3- 1
3.1 Test Specification	3- 1
3.2 Test Description	3- 2
3.3 Test Procedures	3- 3

APPENDIX

- A. TEST PLAN CHECKLIST: REFERENCE
- B. TEST PLAN CHECKLIST: CATALOGING
- C. TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL
- D. TEST PLAN CHECKLIST: REPORTS AND OTHER PRINTED OUTPUT
- E. TEST PLAN CHECKLIST: SECURITY AND ACCESS CONTROL
- F. TEST PLAN CHECKLIST: RELIABILITY AND MAINTAINABILITY
- G. TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION
- H. TEST PLAN CHECKLIST: HARDWARE AND SOFTWARE FEATURES



SECTION 1. GENERAL

1.1 Purpose.

This Test Plan for the microcomputer-based Local Automation Model (microLAM) is written to:

- Establish a comprehensive test plan to determine whether the prototype system provides the functions and capabilities required for the microLAM;
- Describe the procedures and methods for testing the prototype system;
- Provide a record of the evaluation criteria used for assessing prototype system performance;
- Assist in the development of microLAM functional specifications for use in acquiring the microLAM production system.

1.2 Project Description and References.

The microLAM encompasses a system design, development, and evaluation project sponsored by the Defense Technical Information Center (DTIC) located at Cameron Station, Alexandria, Virginia. The requirements for the system are documented in Microcomputer-Based Local Automation Model: Functional Description, Logistics Management Institute, October 1985.

The prototype system – planned for implementation at the U.S. Army Training and Doctrine Command (TRADOC) Technical Library at Fort Monroe, Virginia – will provide the opportunity to demonstrate and evaluate an automated library system with special features for bibliographic information sharing. The system will support conventional collection-handling capabilities such as original cataloging and citation retrieval, and in addition, it will facilitate information sharing between Department of Defense (DoD) technical libraries and DTIC by incorporating intelligent gateway processing capabilities.

Gateway capabilities required for the system include automatic searching of both the local technical library catalog and the DTIC Technical Reports (TR) data base using a single search language and format, downloading of information from the TR data base to the local system, and machine-aided translation of locally created catalog citations into a format acceptable for entry in the

TR data base. Thus, with one system and one set of commands, a technical library can maintain and expand a catalog tailored to its needs, access the information contained in the TR data base, and contribute directly to the timely dissemination of scientific and technical information via direct cataloging in the TR data base.

The prototype and production systems will be implemented using commercially available library software. The gateway features available in the prototype system will be provided through adaptation of a subset of the Integrated Information System (IIS) developed by the Technology Information System group at Lawrence Livermore National Laboratory. The commercial library package chosen for the prototype system is the Unicorn Collection Management System developed by Sirsi Corporation.

1.3 Terms and Abbreviations.

The following terms, acronyms, and abbreviations are used in this document:

- DROLS: Defense RDT&E On-Line System
- DTIC: Defense Technical Information Center
- IIS: Integrated Information System – an intelligent gateway developed and supported by the Technology Information System group at Lawrence Livermore National Laboratory
- LAM: Local Automation Model – a project sponsored by the Defense Technical Information System for demonstrating, evaluating, and acquiring an integrated library system encompassing local collection management, and access to external bibliographic resources
- LLNL: Lawrence Livermore National Laboratory – a Department of Energy-funded, contractor-operated research and development laboratory located in Livermore, California
- LMI: Logistics Management Institute – the microLAM system developer
- TIS: Technology Information System – used to describe both the work on advanced information-handling technology and the organizational element performing this work at LLNL
- TRADOC: U.S. Army Training and Doctrine Command, the command at which the prototype system will be implemented
- TRALINET: TRADOC Library Network, comprised of TRADOC technical libraries and managed by TRADOC personnel at Ft. Monroe, Virginia
- TR Data Base: The Technical Reports data base operated and maintained by DTIC containing more than 1 million citations to reports published or sponsored by DoD.

SECTION 2. TEST BACKGROUND AND PREPARATION

2.1 Background.

The application software for the microLAM consists of two major components: (1) a commercial library software package supporting local collection cataloging, retrieval, and circulation management and control and (2) an intelligent gateway providing access to the DTIC TR data base for cataloging and retrieval. The gateway also provides post-processing capabilities such as transferring TR database citations to the local system, translating and merging citations from both sources into a common format, eliminating duplicate or unwanted citations, and citation sorting.

The test procedures described in this document are designed for testing the prototype system. The objective of the test is to determine whether the LAM concept, i.e. the interoperability of library software with gateway software to provide simultaneous access to two or more heterogenous data bases, is feasible. The results of the test will be used in the development of functional specifications for acquisition of the microLAM production system.

After the Unicorn package has been installed at the prototype site, integration of Unicorn with the gateway software will proceed. Requirements for the integration are specified in Local Automation Model: Program Specification - User Access for Cataloging and Retrieval, Logistics Management Institute, September 1985. When the integration is complete, the fully integrated system will be installed.

2.2 Pretest Activity.

In preparation for the testing, two activities must be completed: software and hardware acquisition and installation, and catalog development.

Software and Hardware Acquisition and Installation. The system developer (LMI) has made arrangements with Sirsi Corporation and Lawrence Livermore National Laboratory for acquiring the software and hardware required for the prototype system. The hardware and the commercial software package will be installed at the TRADOC Technical Library at Ft. Monroe in January 1986.

The integrated software (commercial package merged with the gateway software) will be installed in the spring of 1986.

Catalog Development. A catalog of TRADOC library holdings will be developed from existing bibliographic citations: technical report citations from the DTIC TR data base and book citations from OCLC, Inc. Both sets of citations will be copied to magnetic tape, reformatted for use in the microLAM catalog, and loaded into the prototype system by TRADOC Library Network (TRALINET) Center and Sirsi personnel.

2.3 Test Schedule.

Testing will take place at two locations: the TRADOC Technical Library and the TRALINET Center, both at Ft. Monroe, Virginia. The system configuration includes two workstations in the library and one in the TRALINET Center for system use; each of the workstations can be used for normal library operations as well as for system testing. The system test can commence when the test participants have been trained and gained experience on the system. The system test will end no later than May 15, 1986.

2.4 Personnel.

As primary users of the system, the TRADOC Technical Library staff and TRALINET Center staff are the key test participants. TRADOC is encouraged to provide as many staff members as possible from the two organizations to participate in the test.

Staff members from DTIC are invited to provide assessments of software performance, functionality, and technical suitability.

Test participants may perform their evaluations independently of each other, consistent with existing assignments and job responsibilities.

Staff members from LMI will be responsible for compiling and summarizing the results and evaluating selected features. Test results will be coordinated with TRADOC library and TRALINET staffs, DTIC participants, and project members from Lawrence Livermore National Laboratory.

Recommendations covering organizational responsibilities for testing each of the system functions included in the checklists are discussed in Section 3.2, "Test Description."

SECTION 3. TEST SPECIFICATION AND DESCRIPTION

3.1 Test Specification.

3.1.1 Requirements.

Functions and processes required for the microLAM system have been documented in the microLAM Functional Description cited earlier. These requirements are reflected in the checklists contained in Appendices A through H, which serve as evaluation forms to be used by the test participants as described in Section 3.2. Separate checklists are provided for each major system function as follows:

- Reference – Appendix A
- Cataloging – Appendix B
- Circulation Management and Control – Appendix C
- Reports and Other Printed Output – Appendix D
- Security and Access Control – Appendix E
- Reliability and Maintainability – Appendix F
- Ease of Use and Modification – Appendix G
- Hardware and Software Features – Appendix H.

3.1.2 System Functions.

The prototype testing will focus on verifying the availability of functions supporting cataloging, retrieval, and circulation management and control. Although the production system may offer additional functions, only those three functions were identified as critical by potential system users.

More than 300 features are included for evaluation, and while some may not appear essential for prototype system implementation, they have all been included to make the test as comprehensive and complete as possible. To aid test participants, the checklists have been annotated with an "*" in the left-hand margin for essential or critical features.

Some features marked with an "*" may appear different from or contradict features not marked as critical. Such apparent contradictions occur because the checklists allow for differences in implementation methods. Where alternative implementation methods are most likely to be used to meet requirements for critical features, the alternative methods are listed for evaluation.

3.2 Test Description.

Each of the checklists in Appendices A through H is comprised of software features grouped into categories. Thus, a three-tiered hierarchy has been created: functions comprised of categories comprised of features. The Unicorn package will be tested by feature; that is, test participants will conduct the test by determining whether the package offers the feature on the checklist. Examples of features are: "System provides on-line updating of catalog," "System provides global search and replace," "System provides record locking for update."

The features have been constructed to be answered in a "yes/no" format with five scoring levels designed to differentiate among the performance levels. This scoring will allow test participants to indicate not only that a feature is or is not available but also that a feature is available with limitations. The scale to be used by test participants in rating each feature is as follows:

- 1 – No, the system does not offer the feature
- 2 – Yes, the system offers the feature with severe limitations
- 3 – Yes, the system offers the feature with moderate limitations
- 4 – Yes, the system offers the feature with minor limitations
- 5 – Yes, the system offers the feature without limitations.

To complete the checklists, a test participant exercises the features listed, checks the appropriate score column (1, 2, 3, 4, or 5), and adds any comments in the column provided on the checklist.

To minimize the time required by any participant, we recommend that primary responsibility for completing the checklists be assigned as follows:

- TRADOC Technical Library Staff, Ft. Monroe
 - Appendix A – Reference

- Appendix B – Cataloging
- Appendix C – Circulation Management and Control
- Appendix D – Reports and Other Printed Output
- TRALINET Staff, Ft. Monroe
 - Appendix E – Security and Access Control
 - Appendix F – Reliability and Maintainability
 - Appendix H – Hardware and Software Features
- Shared Responsibility (Library Staff and TRALINET Staff)
 - Appendix G – Ease of Use and Modification.

The project team from LMI will test selected system features, coordinate the test activity, and compile the test results. Members of the DTIC staff are invited to participate in the testing.

While responsibilities for completing each of the checklists are assigned to specific test participants, all participants are invited to prepare and submit evaluations on any or all of the eight functions.

3.3 Test Procedures.

The test participants will initiate and run all tests at any time from the installation of the system until all testing is completed (not later than May 15, 1986). Neither the initiation nor the pace of the testing is predetermined. Control of the testing is maintained by the individual test participant. Before beginning the formal evaluation of any function, test participants are encouraged to read the user manual and other available documentation produced by Sirsi and Lawrence Livermore National Laboratory on the use of the software packages.

Each test is initialized by logging-on to the prototype system. To perform the tests, a participant should first choose the function to be evaluated. Test participants are encouraged to read through each checklist completely before performing any evaluations. After choosing the function to be evaluated, the participants should evaluate the package for all the features on the checklist using the five-point scale shown in Section 3.2. As stated previously, while participants are required to

assign a numerical score for each feature, they are also encouraged to provide written comments whenever possible to assist in the overall evaluation.

The evaluation is complete when the participants have rated each feature for the functions within their responsibility. The completed checklists should be sent to the Logistics Management Institute, 6400 Goldsboro Road, Bethesda, Maryland 20817-5886, Attention: DL503 Project Leader.

APPENDIX A

TEST PLAN CHECKLIST: REFERENCE

This appendix contains the test plan checklist for the "Reference" function and features of the prototype system. Check only one score per feature. Indicate your score by placing a mark in the column corresponding to the score you feel most accurately describes the feature. Use the following scoring scale and corresponding criteria:

- 1 – No, the package does not offer the feature
- 2 – Yes, the package offers the feature but with severe limitations
- 3 – Yes, the package offers the feature with moderate limitations
- 4 – Yes, the package offers the feature with minor limitations
- 5 – Yes, the package offers the feature without limitations

Please make any additional comments in the space provided on the checklist. If there is not enough room for your comments, please use the reverse side of the checklist or attach a separate sheet of paper with the comments. Make clear reference to the function and feature you are commenting on by using the same numbering system or title used on the checklist.

As you perform your evaluations, pay particular attention to the features marked with an "*" in the left-hand margin. These features are considered critical to the implementation of the system and deserve special attention during benchmarking.

Additional copies of this appendix may be reproduced locally or may be obtained from the Logistics Management Institute, Attention: DL503 Project Leader, 6400 Goldsboro Road, Bethesda, MD 20817-5886. Completed checklists should also be mailed to that address.

TEST PLAN CHECKLIST: REFERENCE

FUNCTION/FEATURE

SCORE

COMMENTS

	1	2	3	4	5
1. Search Formulation					
a. System permits search expressions and formulation to be tested prior to full-scale use					
b. System supports a variety of search arguments:					
• search of multiple fields with single keyword					
• keywords derived from authority lists or controlled vocabularies contained in the system					
• data aggregates (phrases)					
• complete names, titles, etc.					
c. System permits use of explicit logical (Boolean) operators:					
• AND					
• OR					
• XOR					
• NOT					
• Other _____					
d. System permits Boolean searches consistent with levels used by DROLS					

TEST PLAN CHECKLIST: REFERENCE (CONTINUED)

COMMENTS

FUNCTION/FEATURE

SCORE

1 2 3 4 5

* e. System permits use of relational operators:

- less than
- greater than
- equal to
- less than or equal to
- greater than or equal to
- not equal to

f. System supports explicit truncation (use of special symbol inserted by user):

- infix
- prefix
- suffix
- combinations
- fixed number of characters
- variable number of characters

g. System supports use of search term qualifiers:

- form of publication
- medium of publication
- data element type
- data field type
- data base identifier
- other _____

TEST PLAN CHECKLIST: REFERENCE (CONTINUED)

FUNCTION/FEATURE	SCORE					COMMENTS
	1	2	3	4	5	
h. System permits user to limit search by:						
• setting universe within which search will be performed and data retrieved (DTIC, local, or both)						
• number of items to search						
• most recent data base updates						
• other _____						
i. System employs a stop word list						
j. System supports full range of:						
• search commands						
• search requests						
• search responses						
k. System provides workforms or templates for search expression formulation						
l. System supports menu-driven searching using:						
• fixed menu approach						
• flexible menu approach						
• user selection of menu level						

TEST PLAN CHECKLIST: REFERENCE (CONTINUED)

<u>FUNCTION/FEATURE</u>		<u>SCORE</u>					<u>COMMENTS</u>
		1	2	3	4	5	
*	m. System supports searching of multiple data bases (running on the local machine) at one time	—	—	—	—	—	
	n. Search expression input via:						
	• keyboard	—	—	—	—	—	
	• menu	—	—	—	—	—	
	• optical character reader	—	—	—	—	—	
2.	Retrieval						
*	a. System supports many data base access points:						
	• titles	—	—	—	—	—	
	• personal authors	—	—	—	—	—	
	• corporate authors	—	—	—	—	—	
	• subject headings	—	—	—	—	—	
	• any field can be defined as retrievable	—	—	—	—	—	
*	b. System retrieves records from multiple files with single search	—	—	—	—	—	

TEST PLAN CHECKLIST: REFERENCE (CONTINUED)

<u>FUNCTION/FEATURE</u>		<u>SCORE</u>					<u>COMMENTS</u>
		1	2	3	4	5	
* c.	System provides a variety of retrieval controls:						
	• set/change defaults for display formats						
	• display search status at any time						
	• set print line length						
	• set page or screen size						
	• specify lifetime of saved search						
	• set format of output						
* d.	System limits use of controls by authorization						
e.	System supports browsing:						
	• in index files						
	• in retrieved data item list						
	• in thesaurus or authority list						
	• forward						
	• backward						
f.	System supports retrieval from authority file or thesaurus for search expression formulation, etc.						

TEST PLAN CHECKLIST: REFERENCE (CONTINUED)

<u>FUNCTION/FEATURE</u>		<u>SCORE</u>					<u>COMMENTS</u>
		1	2	3	4	5	
g.	System permits retrieval to be limited by:						
	• universe						
	• qualifiers						
	• number of items (in succession or at intervals)						
* h.	Null retrieval produces message						
	Single-citation retrieval produces:						
* i.	• abbreviated citation for initial retrieval						
	• brief citation on request						
	• full citation on request						
* j.	Multiple-citation retrieval produces:						
	• initial count of hits (responses)						
	• initial list of truncated citations						
	• subsequent list of expanded partial citations on request						
* k.	• full citation on request						

TEST PLAN CHECKLIST: REFERENCE (CONTINUED)

COMMENTS

FUNCTION/FEATURE

SCORE

1 2 3 4 5

3. Display/Printed Output

* a. System displays messages:

- logon and logoff
- session initiation and termination
- error messages
- exceptional conditions
- information messages
- instructional/help messages

* b. System supports data displays of varying content:

- bibliographic data displays
- holdings and location data displays
- textual data displays
- search status displays
- adjacent term displays
- displays of index terms corresponding with truncated search term
- report displays
- browse mode displays
- delinquency data displays
- other

TEST PLAN CHECKLIST: REFERENCE (CONTINUED)

FUNCTION/FEATURE	SCORE					COMMENTS
	1	2	3	4	5	
c. System supports several forms of display:						
• count of retrieved items						
• abbreviated entry displays (with user-selected formats and content)						
• full record displays						
d. Data displayed in a meaningful form for each type of use						
e. System provides workforms or templates for data entry:						
• search expression formulation						
• gateways						
• bibliographic workform or template						
• report generation workform						
• other _____						
f. System supports various data representations in displays (e.g., coded data, abbreviations, etc.)						
g. System provides a variety of display formats (e.g., list, paragraphed, tabular)						

TEST PLAN CHECKLIST: REFERENCE (CONTINUED)

<u>FUNCTION/FEATURE</u>	<u>SCORE</u>					<u>COMMENTS</u>
	1	2	3	4	5	
* h. System provides various orderings of records and data elements in displays (e.g., by title, name, subject, etc.)	—	—	—	—	—	
* i. System supports protected fields in displays	—	—	—	—	—	
* j. System supports workstation printers	—	—	—	—	—	
4. Disposition of Retrieved Data						
* a. System supports downloading of retrieved data	—	—	—	—	—	
* b. System permits retrieved data to be processed by user software (post-processing)	—	—	—	—	—	
* c. System permits user specification of system device to be used for output	—	—	—	—	—	

APPENDIX B

TEST PLAN CHECKLIST: CATALOGING

This appendix contains the test plan checklist for the "Cataloging" function and features of the prototype system. Check only one score per feature. Indicate your score by placing a mark in the column corresponding to the score you feel most accurately describes the feature. Use the following scoring scale and corresponding criteria:

- 1 – No, the package does not offer the feature
- 2 – Yes, the package offers the feature but with severe limitations
- 3 – Yes, the package offers the feature with moderate limitations
- 4 – Yes, the package offers the feature with minor limitations
- 5 – Yes, the package offers the feature without limitations

Please make any additional comments in the space provided on the checklist. If there is not enough room for your comments, please use the reverse side of the checklist or attach a separate sheet of paper with the comments. Make clear reference to the function and feature you are commenting on by using the same numbering system or title used on the checklist.

As you perform your evaluations, pay particular attention to the features marked with an "*" in the left-hand margin. These features are considered critical to the implementation of the system and deserve special attention during benchmarking.

Additional copies of this appendix may be reproduced locally or may be obtained from the Logistics Management Institute, Attention: DL503 Project Leader, 6400 Goldsboro Road, Bethesda, MD 20817-5886. Completed checklists should also be mailed to that address.

TEST PLAN CHECKLIST: CATALOGING

<u>FUNCTION/FEATURE</u>		<u>SCORE</u>					<u>COMMENTS</u>
		1	2	3	4	5	
1.	Duplicate Checking						
a.	System provides workform or template (on the video display terminal screen) for entering a search of the data base to check for possible duplicate citations						
* b.	System performs specified search and retrieves and displays records which meet search criteria						
c.	System provides the user a choice of output formats for citations found during a duplicate check search (<i>abbreviated or full length citations</i>)						
2.	Data Entry						
* a.	System provides on-line updating of catalog						
* b.	System provides convenient workforms or templates for entry of bibliographic data during cataloging						
* c.	Data entry modes supported:						
	• on-line (user terminal)						
	• batch						

TEST PLAN CHECKLIST: CATALOGING (CONTINUED)

COMMENTS

SCORE

FUNCTION/FEATURE

1 2 3 4 5

* d. Input devices supported:

- keyboard
- wand reader
- stationary reader
- magnetic tape (reel or cassette)
- disk
- diskette
- other _____

* e. System produces helpful messages in response to user requests for assistance/help or in response to errors entered by the user

* f. Transactions journalized to provide for back-up and recovery (system operator testing)

3. Data Editing and Modification

a. During on-line cataloging, the system allows the user to edit and correct input data without reentering the entire record

b. System allows for entry of bibliographic records in steps, with input being saved at each step for editing and augmentation at successive steps

TEST PLAN CHECKLIST: CATALOGING (CONTINUED)

<u>FUNCTION/FEATURE</u>	<u>SCORE</u>					<u>COMMENTS</u>
	1	2	3	4	5	
c. System provides global search and replace	_____	_____	_____	_____	_____	
d. System provides range search and replace	_____	_____	_____	_____	_____	
* e. Once entered by the user, system performs error checking for:	_____	_____	_____	_____	_____	
• coded values	_____	_____	_____	_____	_____	
• required spacing and punctuation	_____	_____	_____	_____	_____	
• internal consistency of data	_____	_____	_____	_____	_____	
• presence of required data element values	_____	_____	_____	_____	_____	
• duplicate data	_____	_____	_____	_____	_____	
4. Data Update	_____	_____	_____	_____	_____	
* a. System automatically restricts or controls user access for modifying or updating data base (catalog) contents	_____	_____	_____	_____	_____	
b. System supports data base updating by:	_____	_____	_____	_____	_____	
• adding citations	_____	_____	_____	_____	_____	
• deleting citations	_____	_____	_____	_____	_____	
• replacing existing citations	_____	_____	_____	_____	_____	
• deleting or adding terms on authority lists corresponding to added or deleted citations	_____	_____	_____	_____	_____	

TEST PLAN CHECKLIST: CATALOGING (CONTINUED)

<u>FUNCTION/FEATURE</u>	<u>SCORE</u>					<u>COMMENTS</u>
	1	2	3	4	5	
* c. System supports on-line modification of data in individual records:						
• add data						
• change data						
• delete data						
* d. System supports record update at data element level						
* e. System provides record locking during update (records being updated cannot be accessed by other users through retrieval applications)						
* f. System provides immediate access to all newly created records (once update is completed and records are released from any lock-out controls)						

APPENDIX C

TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL

This appendix contains the test plan checklist for the "Circulation Management and Control" function and features of the prototype system. Check only one score per feature. Indicate your score by placing a mark in the column corresponding to the score you feel most accurately describes the feature. Use the following scoring scale and corresponding criteria:

- 1 – No, the package does not offer the feature
- 2 – Yes, the package offers the feature but with severe limitations
- 3 – Yes, the package offers the feature with moderate limitations
- 4 – Yes, the package offers the feature with minor limitations
- 5 – Yes, the package offers the feature without limitations

Please make any additional comments in the space provided on the checklist. If there is not enough room for your comments, please use the reverse side of the checklist or attach a separate sheet of paper with the comments. Make clear reference to the function and feature you are commenting on by using the same numbering system or title used on the checklist.

As you perform your evaluations, pay particular attention to the features marked with an "*" in the left-hand margin. These features are considered critical to the implementation of the system and deserve special attention during benchmarking.

Additional copies of this appendix may be reproduced locally or may be obtained from the Logistics Management Institute, Attention: DL503 Project Leader, 6400 Goldsboro Road, Bethesda, MD 20817-5886. Completed checklists should be mailed to this address also.

TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL

<u>FUNCTION/FEATURE</u>		<u>SCORE</u>					<u>COMMENTS</u>
		1	2	3	4	5	
1.	Data Entry						
a.	System provides workforms or templates for data entry:						
	• patron record workform						
	• routing data (for serials)						
	• patron profile data						
2.	Patron Identification						
a.	System displays clearance level and need-to-know of patron						
b.	System employs machine-readable patron identification numbers (PIN) to identify patron to system						
c.	System uses preprinted PIN labels						
d.	System uses special patron cards						
e.	System supports other patron identification numbers:						
	• TRADOC badge/employee number						
	• Social Security number						

TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL (CONTINUED)

COMMENTS

SCORE

1 2 3 4 5

3 Item Identification

a. System employs machine-readable item identification numbers (IIN) to identify individual bibliographic items

b. IINs are usable in other library applications such as serials control and circulation control

c. System uses preprinted or prepared IIN labels

* d. System supports other item identification numbers:

- local system number
- AD number

4 Holding Charge-Out

a. System permits charging of items to patrons

b. System requires PIN input before charge

c. System permits multiple items to be charged with single PIN entry

TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL (CONTINUED)

COMMENTS

FUNCTION/FEATURE

SCORE

1 2 3 4 5

d. System permits PIN and IIN to be entered quickly and accurately by:

- wand reader
- stationary laser scanner
- keyboard
- other device _____

e. System indicates erroneous identification number readings to the operator

f. Charge of item not previously discharged causes automatic discharge from previous patron

g. System supports numerous patron types

h. System supports numerous material types

i. Loan periods selected by library staff at time of check-out

j. System supports printing of date-due slips at workstation:

- routinely
- on demand

TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL (CONTINUED)

<u>FUNCTION/FEATURE</u>		<u>SCORE</u>					<u>COMMENTS</u>
		1	2	3	4	5	
* k.	System supports printing of classified document receipts at workstation:						
	• routinely						
	• on demand						
l.	System supports charge via portable terminal						
m.	System automatically notifies user that patron being charged with item has other delinquencies						
n.	System requires password (or equivalent) for overrides						
o.	System permits all types of material to be charged, including serial issues, equipment, facilities, etc.						
5.	Discharge						
a.	System permits discharge of items returned by patron						
b.	Discharge is fast and error free						
c.	System signals unsuccessful discharge to operator						

TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL (CONTINUED)

FUNCTION/FEATURE	SCORE					COMMENTS
	1	2	3	4	5	
d. System produces discharge receipts:						
• routinely						
• on demand						
e. System permits suitably authorized staff to backdate a discharge						
f. System automatically produces transit slip when item must be sent to another location						
g. System identifies items not charged						
6. Controlled Circulation						
a. System supports controlled circulation of items to patrons						
b. System permits creation and maintenance of patron interest profiles						
c. System maintains routing list for each item included in controlled circulation:						
• by person						
• by department or other organizational unit						
• by other designation _____						

TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL (CONTINUED)

COMMENTS

FUNCTION/FEATURE

SCORE

1 2 3 4 5

d. System provides manual override of automatic routing

e. System maintains routing list:

- on-line
- batch mode

f. Library staff must indicate to system which items should be routed to each patron

7 Renewal

a. System supports renewal of charged items

b. Renewal function is controlled by patron and material types

c. Loan periods governed by:

- system tables
- material type
- patron type

d. System permits renewal of item without item or patron present

e. Telephone renewal requires both PIN and IIN

TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL (CONTINUED)

COMMENTS

SCORE

1 2 3 4 5

FUNCTION/FEATURE

f. System limits successive renewals:

- by item
- by patron

g. System prevents renewal if recall for item is outstanding

h. System resolves hold/renewal conflicts

8. Holds

a. System permits placing of holds on items

b. System governs placement of holds

- patron type
- material type
- number of holds already outstanding on an item
- patron delinquencies

c. System permits holds to be placed at title-specific level

d. System limits:

- number of holds per title
- number of holds per patron

TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL (CONTINUED)

COMMENTS

SCORE

5

4

3

2

1

FUNCTION/FEATURE

e. System supports:

- hold activation date
- hold cancellation date

f. System produces hold listings:

- in printed form
- on-line

9. Recalls

a. System permits recall of items on request

b. Requests are governed by:

- patron type
- material type
- item status
- type of requestor
- reason for recall
- other conditions
- combination of other factors

c. Recalls require both PIN and IIN

d. System produces recall notices

e. System places block on patron who has not returned recalled item

TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL (CONTINUED)

COMMENTS

FUNCTION/FEATURE

SCORE

1 2 3 4 5

f. System supports:

- recall after specified date
- recall cancellation date

g. System limits number of recall requests per patron

h. System produces recall list:

- in printed form
- on-line

10. Overdues

a. System permits detection and notification of overdue holdings

b. System automatically determines overdue date based on:

- charge date
- loan period
- grace period
- non-chargeable days (e.g., holidays)

c. System blocks additional charges for patron with overdue materials

d. System permits override of block by authorized staff member

TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL (CONTINUED)

FUNCTION/FEATURE	SCORE					COMMENTS
	1	2	3	4	5	
e. System provides for overdue threshold (beyond which patron may not charge additional items)	—	—	—	—	—	
f. System produces overdue notices	—	—	—	—	—	
g. System records overdues on delinquency report	—	—	—	—	—	
h. System records overrides in audit trail	—	—	—	—	—	
11. Reserve Collection Management						
a. System permits library to establish and maintain a reserve collection	—	—	—	—	—	
b. System treats reserve collection as a pseudo-patron to which items may be charged for defined time periods	—	—	—	—	—	
c. System supports inclusion of uncataloged material in reserve collection	—	—	—	—	—	
d. System supports all functions and features of circulation under reserve collection management	—	—	—	—	—	
e. System provides for loan periods established by library (1 hour, 3 hours, 1 day, etc.)	—	—	—	—	—	

TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL (CONTINUED)

<u>FUNCTION/FEATURE</u>		<u>SCORE</u>					<u>COMMENTS</u>
		1	2	3	4	5	
f.	System supports special patron classes	—	—	—	—	—	
g.	System recognizes materials belonging in the reserve collection wherever they are discharged	—	—	—	—	—	
h.	System records statistics for reserve collection activity separately from those for regular collection	—	—	—	—	—	
12.	Interlibrary Loan						
a.	System supports dual-level functions and features of circulation (e.g., charge to library and charge to patron)	—	—	—	—	—	
b.	System permits separate loan periods and other parameters in interlibrary loan	—	—	—	—	—	
c.	System provides all circulation functions and features in interlibrary loan	—	—	—	—	—	
d.	System permits discharge of item at lending library without discharge at borrowing library	—	—	—	—	—	

TEST PLAN CHECKLIST: CIRCULATION MANAGEMENT AND CONTROL (CONTINUED)

<u>FUNCTION/FEATURE</u>		<u>SCORE</u>					<u>COMMENTS</u>
		1	2	3	4	5	
13. Materials Booking							
a. System permits booking of:							
• films							
• audiovisual materials							
• other materials _____							
• meeting rooms							
b. System supports special:							
• material types							
• patron classes							
• loan periods							
• fine amounts (and other charges)							
c. System supports materials, equipment, and facilities inventory							
d. System supports:							
• charge							
• discharge							
• renewal							
• holds							

APPENDIX D

TEST PLAN CHECKLIST: REPORTS AND OTHER PRINTED OUTPUT

This appendix contains the test plan checklist for "Reports and Other Printed Output" features of the prototype system. Check only one score per feature. Indicate your score by placing a mark in the column corresponding to the score you feel most accurately describes the feature. Use the following scoring scale and corresponding criteria:

- 1 – No, the package does not offer the feature
- 2 – Yes, the package offers the feature but with severe limitations
- 3 – Yes, the package offers the feature with moderate limitations
- 4 – Yes, the package offers the feature with minor limitations
- 5 – Yes, the package offers the feature without limitations

Please make any additional comments in the space provided on the checklist. If there is not enough room for your comments, please use the reverse side of the checklist or attach a separate sheet of paper with the comments. Make clear reference to the function and feature you are commenting on by using the same numbering system or title used on the checklist.

As you perform your evaluations, pay particular attention to the features marked with an "*" in the left-hand margin. These features are considered critical to the implementation of the system and deserve special attention during benchmarking.

Additional copies of this appendix may be reproduced locally or may be obtained from the Logistics Management Institute, Attention: DL503 Project Leader, 6400 Goldsboro Road, Bethesda, MD 20817-5886. Completed checklists should be mailed to this address also.

TEST PLAN CHECKLIST: REPORTS AND OTHER PRINTED OUTPUT

COMMENTS

SCORE

1 2 3 4 5

FUNCTION/FEATURE

1. Reports

* a. System supports on-line report preparation and generation:

- on-demand
- preprogrammed

b. System supports batch report preparation and generation:

- on-demand
- preprogrammed

c. System produces activity reports (preprogrammed):

- activity summary
- services used
- financial report
- holds placed
- user-file status report
- audit trail summary
- other _____

TEST PLAN CHECKLIST: REPORTS AND OTHER PRINTED OUTPUT (CONTINUED)

<u>FUNCTION/FEATURE</u>		<u>SCORE</u>					<u>COMMENTS</u>
		1	2	3	4	5	
* d.	System produces activity reports (on-demand):						
	• patron activity						
	• items retrieved						
	• items not found (null response to search)						
	• charges journal						
	• private files (status, age, etc.)						
	• other _____						
	System produces exception reports on:						
	• lengthy retrieval output						
	• audit trail exceptions						
	• other _____						
e.							

TEST PLAN CHECKLIST: REPORTS AND OTHER PRINTED OUTPUT (CONTINUED)

COMMENTS

FUNCTION/FEATURE

SCORE

1 2 3 4 5

f. System produces activity data reports on:

- searches (by type) _____
- patron activity report _____
- retrieval activity report _____
- holds list _____
- private file limits expiration _____
- saved search formulation time _____
- limits expired _____
- patron use statistics by _____
- patron type and function _____
- terminal statistics by time _____
- records _____

g. System produces data-base statistics on:

- number of patron records _____
- record length (mean, standard deviation, extremes) _____
- number of access points per data record, by file type _____
- number of index entries by type _____
- number of bibliographic, item, patron, or other _____
- records per index entry by entry type (mean, standard deviation, extremes) _____
- data base activity volumes _____
- data transfers from LAM to DTIC and vice versa _____

*

*

TEST PLAN CHECKLIST: REPORTS AND OTHER PRINTED OUTPUT (CONTINUED)

COMMENTS

FUNCTION/FEATURE

SCORE

1 2 3 4 5

h. System produces performance data on:

- active terminals per time period
- response time (mean, maximum, minimum) for each type of basic function (e.g., charge, discharge)
- data base accesses
- other _____

2. Report Generator

a. System provides a wide range of choices of report formatting options:

- tabular as well as text presentation
- column justification
- column widths
- number of lines per page
- number of significant digits
- paragraph indentation
- page headers and footers
- footnotes
- underscoring
- overstriking

TEST PLAN CHECKLIST: REPORTS AND OTHER PRINTED OUTPUT (CONTINUED)

COMMENTS

FUNCTION/FEATURE

SCORE

1 2 3 4 5

* b. System has sorting capability
(at least three nested levels)

* c. System report generator allows for
specification of the data content
of a report, including:

- choice of titles
- choice of column headings
- choice of data elements
- choice of row labels
- content of headers and footers
- automatic or forced pagination

d. System provides a wide variety of
data manipulation capabilities for
system statistical activity reports:

- choice of mathematical and
statistical operations
 - maxima
 - minima
- hyphenation
- margin justification

TEST PLAN CHECKLIST: REPORTS AND OTHER PRINTED OUTPUT (CONTINUED)

COMMENTS

FUNCTION/FEATURE

SCORE

1 2 3 4 5

e. System supports flexible output modes:

- graphics output (high and low resolution)
- printed output
- video output
- machine-readable output (e.g., magnetic tape for compripter)

* f. System gives user the option of saving report generation specifications for future use

g. System enables user to save report for future use (microfiche)

3. Support Facilities

* a. System permits user to save search expressions

* b. System permits user to retrieve and execute saved search expressions

* c. System permits saving of report generation specifications

* d. System permits retrieval and execution of report generation specifications

TEST PLAN CHECKLIST: REPORTS AND OTHER PRINTED OUTPUT (CONTINUED)

<u>FUNCTION/FEATURE</u>		<u>SCORE</u>					<u>COMMENTS</u>
		1	2	3	4	5	
4. Receipts							
a. System supports production of receipts and other brief printed output:							
* • at workstation printer							
• at shared printer							
- sums							
- differences							
- means							
• in batch mode							
b. System records production of receipts							
c. System controls receipt production by function:							
* • on-demand receipts							
• routine production							
• no receipts							
d. System permits operator to change receipt production control on an as-needed basis							

TEST PLAN CHECKLIST: REPORTS AND OTHER PRINTED OUTPUT (CONTINUED)

COMMENTS

FUNCTION/FEATURE

SCORE

1 2 3 4 5

* e. Receipts are identified as to type:

- type (e.g., data base use, private file use)
- library
- date and time
- patron identification number
- security classification
- log number

5. Printed Output

a. System supports printing at workstations of:

- bibliographies
- user/system dialogs
- indexes
- abstracts (from DTIC)
- tables (of data)
- special reports
- various data displays for off-line use, checking and/or verification
- notices, on demand
- hold slips
- receipts (charges) for classified documents
- transit notices (picking slips)
- other

APPENDIX E

TEST PLAN CHECKLIST: SECURITY AND ACCESS CONTROL

This appendix contains the test plan checklist for "Security and Access Control" features of the prototype system. Check only one score per feature. Indicate your score by placing a mark in the column corresponding to the score you feel most accurately describes the feature. Use the following scoring scale and corresponding criteria:

- 1 – No, the package does not offer the feature
- 2 – Yes, the package offers the feature but with severe limitations
- 3 – Yes, the package offers the feature with moderate limitations
- 4 – Yes, the package offers the feature with minor limitations
- 5 – Yes, the package offers the feature without limitations

Please make any additional comments in the space provided on the checklist. If there is not enough room for your comments, please use the reverse side of the checklist or attach a separate sheet of paper with the comments. Make clear reference to the function and feature you are commenting on by using the same numbering system or title used on the checklist.

As you perform your evaluations, pay particular attention to the features marked with an "*" in the left-hand margin. These features are considered critical to the implementation of the system and deserve special attention during benchmarking.

Additional copies of this appendix may be reproduced locally or may be obtained from the Logistics Management Institute, Attention: DL503 Project Leader, 6400 Goldsboro Road, Bethesda, MD 20817-5886. Completed checklists should be mailed to this address also.

TEST PLAN CHECKLIST: SECURITY AND ACCESS CONTROL

COMMENTS

SCORE

FUNCTION/FEATURE

1 2 3 4 5

1. Audit Trail

- * a. System maintains audit trail for all transactions that affect integrity of the data base
- * b. System maintains audit trail for all transactions that relate to access to data base
- * c. System maintains audit trail for all software maintenance
- * d. System maintains audit trail for all financial transactions (e.g., acquisition, budgeting, and ordering)
- * e. System supports on-line, read-only access to audit trail data given suitable access control level
- * f. Audit trail maintained in machine-readable form
- * g. Audit trail not alterable

TEST PLAN CHECKLIST: SECURITY AND ACCESS CONTROL (CONTINUED)

<u>FUNCTION/FEATURE</u>		<u>SCORE</u>					<u>COMMENTS</u>
		1	2	3	4	5	
h.	System tracks:						
	• use of internal data base						
	• use of external data base						
	• use of search and retrieval features						
	• use of output facilities						
i.	• routing						
	• data entry and update						
	System provides audit trail records that identify:						
	• person effecting transaction						
	• function/feature performed or attempted						
j.	• date and time of access attempt						
	• transaction data						
	• terminal used						
	• telecommunication line used						
	• library						
j.	• library unit						
	• data base or program accessed						
	System supports production of a variety of reports based on audit trail data						

TEST PLAN CHECKLIST: SECURITY AND ACCESS CONTROL (CONTINUED)

<u>FUNCTION/FEATURE</u>		<u>SCORE</u>					<u>COMMENTS</u>
		1	2	3	4	5	
3.	Access Control						
*	a. System prevents unauthorized access to any system function, feature, or data						
*	b. System prevents unauthorized changes or deletions of data						
*	c. System prevents unauthorized downloading or transfer of data						
*	d. System differentiates between levels of users						
	e. System distinguishes system operators from staff users						

TEST PLAN CHECKLIST: SECURITY AND ACCESS CONTROL (CONTINUED)

COMMENTS

SCORE

1 2 3 4 5

FUNCTION/FEATURE

f. System achieves access control by:

- system-assigned user identification
- system-assigned password
- user-assigned password
- combination of system-assigned identification number and user-assigned password
- function-level identification number or password
- terminal level control
 - by group
 - by terminal
 - by time of day
- task/activity level
- transaction level

g. System does not display access codes

h. System ensures data base integrity

i. System maintains audit trail of all access attempts (successful and unsuccessful)

APPENDIX F

TEST PLAN CHECKLIST: RELIABILITY AND MAINTAINABILITY

This appendix contains the test plan checklist covering "Reliability and Maintainability" aspects of the prototype system. Check only one score per feature. Indicate your score by placing a mark in the column corresponding to the score you feel most accurately describes the feature. Use the following scoring scale and corresponding criteria:

- 1 – No, the package does not offer the feature
- 2 – Yes, the package offers the feature but with severe limitations
- 3 – Yes, the package offers the feature with moderate limitations
- 4 – Yes, the package offers the feature with minor limitations
- 5 – Yes, the package offers the feature without limitations

Please make any additional comments in the space provided on the checklist. If there is not enough room for your comments, please use the reverse side of the checklist or attach a separate sheet of paper with the comments. Make clear reference to the function and feature you are commenting on by using the same numbering system or title used on the checklist.

As you perform your evaluations, pay particular attention to the features marked with an "*" in the left-hand margin. These features are considered critical to the implementation of the system and deserve special attention during benchmarking.

Additional copies of this appendix may be reproduced locally or may be obtained from the Logistics Management Institute, Attention: DL503 Project Leader, 6400 Goldsboro Road, Bethesda, MD 20817-5886. Completed checklists should be mailed to this address also.

TEST PLAN CHECKLIST: RELIABILITY AND MAINTAINABILITY

<u>FUNCTION/FEATURE</u>		<u>SCORE</u>					<u>COMMENTS</u>
		1	2	3	4	5	
1.	Resilience Under Load						
a.	System capable of controlling volume of incoming traffic by:						
	• applying backpressure on terminal users						
	• priority of messages						
	• deactivating communication ports						
b.	System performance degrades slowly with increased load						
c.	System recovers quickly as load diminishes						
d.	Crash recovery is no more difficult during periods of peak loading than at other times						
2.	System Reliability						
a.	System available 95 percent of scheduled time						
*	b. System available 97 percent of scheduled time						
	c. System available 99 percent of scheduled time						

TEST PLAN CHECKLIST: RELIABILITY AND MAINTAINABILITY (CONTINUED)

COMMENTS

FUNCTION/FEATURE

SCORE

1 2 3 4 5

* d. System vendor provides contractual assurance of up-time

e. Weakest component/link:

- processing (transactions)
- data base management system
- telecommunications
- peripherals
- insulation from power losses
- insulation from central system failure
- back-up/recovery
- vendor/maintenance
- documentation
- availability of source code

Rather than apply the normal scoring to these features, simply rank order the components from weakest (score-1) to strongest (score-5).

The same score may be applied to more than one component.

3. System Capacity

* a. System can be conveniently sized for a given installation

- data base capacity
- number of terminals
- memory size
- number of communication ports
- processor capacity (transactions per second)

TEST PLAN CHECKLIST: RELIABILITY AND MAINTAINABILITY (CONTINUED)

COMMENTS

SCORE

1 2 3 4 5

FUNCTION/FEATURE

b. System can be shared by two or more functional units:

- with common policies
- with distinct policies

c. System can be readily expanded to accommodate:

- increased record size
- increased data base size
- increased transaction load
- increased number of terminals
- additional peripherals (e.g., printers)
- increased telecommunications traffic
- new data elements

4. Maintenance

* a. System provides for easy data-base maintenance

* b. System allows maintenance of index records

TEST PLAN CHECKLIST: RELIABILITY AND MAINTAINABILITY (CONTINUED)

COMMENTS

SCORE

1 2 3 4 5

FUNCTION/FEATURE

c. System provides for data file maintenance:

- at the record level
- at the field level
- at the data element level
- at the character level
- on-line
- batch mode

d. System vendor provides software maintenance:

- via on-line remote terminal
- onsite

e. System vendor provides software enhancements on regular basis

f. System vendor provides continuing improvements and enhancements

g. Software enhancements easily installed

h. System vendor provides consistent, scheduled, routine hardware maintenance

i. System vendor performs emergency maintenance service promptly

APPENDIX G

TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION

This appendix contains the test plan checklist for assessing the "Ease of Use and Modification" features of the prototype system. Check only one score per feature. Indicate your score by placing a mark in the column corresponding to the score you feel most accurately describes the feature. Use the following scoring scale and corresponding criteria:

- 1 – No, the package does not offer the feature
- 2 – Yes, the package offers the feature but with severe limitations
- 3 – Yes, the package offers the feature with moderate limitations
- 4 – Yes, the package offers the feature with minor limitations
- 5 – Yes, the package offers the feature without limitations

Please make any additional comments in the space provided on the checklist. If there is not enough room for your comments, please use the reverse side of the checklist or attach a separate sheet of paper with the comments. Make clear reference to the function and feature you are commenting on by using the same numbering system or title used on the checklist.

As you perform your evaluations, pay particular attention to the features marked with an "*" in the left-hand margin. These features are considered critical to the implementation of the system and deserve special attention during benchmarking.

Additional copies of this appendix may be reproduced locally or may be obtained from the Logistics Management Institute, Attention: DL503 Project Leader, 6400 Goldsboro Road, Bethesda, MD 20817-5886. Completed checklists should be mailed to this address also.

TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION

<u>FUNCTION/FEATURE</u>		<u>SCORE</u>					<u>COMMENTS</u>
		1	2	3	4	5	
I. Help							
a.	System supports on-line assistance for users	—	—	—	—	—	
b.	System permits user to set level of "help" desired	—	—	—	—	—	
c.	System provides informative messages in response to correctly executed transactions (may include audible tone)	—	—	—	—	—	
d.	System provides comprehensive set of easily understood error messages when an error is made	—	—	—	—	—	
e.	System provides comprehensive set of instructional messages to facilitate its use	—	—	—	—	—	
f.	Instructional messages accessible at point of need, without interruption of work in progress	—	—	—	—	—	
g.	Instructional messages or tracts on commands, requests, functions, errors, etc., available through use of "help" or similar command	—	—	—	—	—	

TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION (CONTINUED)

FUNCTION/FEATURE

SCORE

COMMENTS

1 2 3 4 5

2. Documentation

a. System provides quick reference guide

b. System provides user (functional) documentation for library staff

c. System documentation well indexed

d. System documentation includes ample illustrations and samples

e. System provides documentation on:

- system (application)
- application environment
- data base
- data element dictionary
- error messages and meanings

f. System provides operator documentation for:

- system installation
- system start-up
- data base creation
- data base back-up
- system shut-down
- batch operation
- recovery/restart

TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION (CONTINUED)

<u>FUNCTION/FEATURE</u>		<u>SCORE</u>					<u>COMMENTS</u>
		1	2	3	4	5	
* g.	System provides troubleshooting documentation	—	—	—	—	—	
h.	System provides technical documentation on:						
	• overview	—	—	—	—	—	
	• operating system	—	—	—	—	—	
	• programming language	—	—	—	—	—	
	• telecommunication	—	—	—	—	—	
	• support software	—	—	—	—	—	
	• back-up, recovery, and data verification software	—	—	—	—	—	
* i.	Documentation kept current by system vendor	—	—	—	—	—	

TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION (CONTINUED)

COMMENTS

FUNCTION/FEATURE

SCORE

1 2 3 4 5

3. Defaults

a. System supports default:

- value for function selected (e.g., reference) _____
- file to access (e.g., on-line catalog) _____
- access control level _____
- (e.g., search only) display format _____
- values for various data elements in data entry, update, and conversion _____
- number of overrides permitted per staff member per unit of time _____
- limits on number of items retrieved at one time _____
- limits on number of saved search expressions _____
- other _____

b. System permits data carry-over from record to record for repetitive data entry _____

c. Default values accessible on-line for inspection and modification by staff _____

TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION (CONTINUED)

COMMENTS

FUNCTION/FEATURE

SCORE

1 2 3 4 5

4. Overrides

a. System supports override of automatic features:

- automatic blocks
- automatic routing (between locations)
- material-type restrictions
- patron-class restrictions
- other _____

b. System permits overrides of various delinquencies

c. System supports overrides of hold queue placement

d. System supports override of defaults or system table values

e. System controls overrides by level-of-access control via audit trail

f. System monitors and reports all override activity

5. Date and Time

a. System requires manual entry of date and time daily

TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION (CONTINUED)

COMMENTS

SCORE

FUNCTION/FEATURE

1 2 3 4 5

- * b. System maintains correct date and time continuously
 - * c. System supports perpetual calendar
 - d. System accommodates:
 - library's hour of opening
 - holidays
 - proper control of date- and time-related functions
6. General
- a. System is basically command-driven:
 - user must know commands to be used in each particular situation
 - user prompted for command as circumstances dictate
 - b. System is largely menu-driven:
 - menus displayed automatically as needed
 - menus must be requested by user
 - system prompts user action in particular cases

TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION (CONTINUED)

COMMENTS

FUNCTION/FEATURE

SCORE

	1	2	3	4	5
* c. Interaction with system requires log-on	—	—	—	—	—
* d. Interaction with system requires user identification (session initiation) and password	—	—	—	—	—
e. Log-on is simple and unambiguous	—	—	—	—	—
f. System log-off is straightforward	—	—	—	—	—
g. Sessions terminated by patron or by system (time-out)	—	—	—	—	—
h. System automatically logs off terminal user when default time period has elapsed with no user activity	—	—	—	—	—
i. System requires user to identify needed function only when entry or modification of data is intended	—	—	—	—	—
j. Moving from function to function is:					
• controlled by function keys on terminal	—	—	—	—	—
• controlled by function codes displayed on terminal screen	—	—	—	—	—
• controlled by user keyboard input	—	—	—	—	—

TEST PLAN CHECKLIST: EASE OF USE AND MODIFICATION (CONTINUED)

<u>FUNCTION/FEATURE</u>	<u>SCORE</u>					<u>COMMENTS</u>
	1	2	3	4	5	
k. User/system dialog is well-defined, logical, easy-to-use	_____	_____	_____	_____	_____	
* l. System collects statistics on all facets of system operation and use to support report production and library management	_____	_____	_____	_____	_____	

APPENDIX H

TEST PLAN CHECKLIST: HARDWARE AND SOFTWARE FEATURES

This appendix contains the test plan checklist for evaluating the "Hardware and Software" features offered by the prototype system. Check only one score per feature. Indicate your score by placing a mark in the column corresponding to the score you feel most accurately describes the feature. Use the following scoring scale and corresponding criteria:

- 1 – No, the package does not offer the feature
- 2 – Yes, the package offers the feature but with severe limitations
- 3 – Yes, the package offers the feature with moderate limitations
- 4 – Yes, the package offers the feature with minor limitations
- 5 – Yes, the package offers the feature without limitations

Please make any additional comments in the space provided on the checklist. If there is not enough room for your comments, please use the reverse side of the checklist or attach a separate sheet of paper with the comments. Make clear reference to the function and feature you are commenting on by using the same numbering system or title used on the checklist.

As you perform your evaluations, pay particular attention to the features marked with an "*" in the left-hand margin. These features are considered critical to the implementation of the system and deserve special attention during benchmarking.

Additional copies of this appendix may be reproduced locally or may be obtained from the Logistics Management Institute, Attention: DL503 Project Leader, 6400 Goldsboro Road, Bethesda, MD 20817-5886. Completed checklists should be mailed to this address also.

TEST PLAN CHECKLIST: HARDWARE AND SOFTWARE FEATURES

FUNCTION/FEATURE	SCORE					COMMENTS
	1	2	3	4	5	
1. Software Portability						
* a. Software easily accommodates varied library policies and practices (catalog configuration)						
* b. Software usable on different computers:						
• different models manufactured by the same vendor						
• systems manufactured by different vendors						
c. Software upward-compatible on different models of same computer						
* d. System accommodates multiple data bases						
* e. Software accommodates various data file sizes:						
• fewer than 100,000 characters						
• 100,000 to 5 million characters						
• 5 million to 50 million characters						
• 50 million to 500 million characters						
• more than 500 million characters						

TEST PLAN CHECKLIST: HARDWARE AND SOFTWARE FEATURES (CONTINUED)

<u>FUNCTION/FEATURE</u>		<u>SCORE</u>					<u>COMMENTS</u>
		1	2	3	4	5	
2.	System Characteristics						
	a. System supports multiple users (simultaneously)	—	—	—	—	—	
	b. System supports intelligent terminals	—	—	—	—	—	
*	c. System supports workstation printers	—	—	—	—	—	
3.	Work Tracking						
*	a. System logs users' transactions for each session	—	—	—	—	—	
*	b. System identifies session by input of user identification number	—	—	—	—	—	

END
FILMED

5-86

DTIC