U.S. Marine Corps

TELECOMMUNICATIONS SUPPORT PLAN

DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
WASHINGTON. D.C. 20380

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1 MAR 1987

From: Commandant of the Marine Corps

Subj: INFORMATION RESOURCES MANAGEMENT (IRM) TELECOMMUNICATIONS
        SUPPORT PLAN

Ref: (a) MCO 1510.37
        (b) MCO P5231.1
        (c) MCO 5271.1
        (d) MCO P5600.31

Encl: (1) IRM-5239-05

1. PURPOSE. To provide guidance and instructions on the
development of Telecommunications Support Plans as required by
references (a) and (b).

2. AUTHORITY. This publication is published under the auspices
of reference (c).

3. APPLICABILITY. The guidance contained in this publication is
applicable to all contractors and Marine Corps personnel
responsible for the preparation of a Telecommunications Support Plan.
This standard is applicable to the Marine Corps Reserve.

4. DISTRIBUTION. This technical publication will be distributed
as indicated. Appropriate activities will receive updated indi-
vidual activity Table of Allowances for Publications. Requests
for changes in allowance should be submitted in accordance with
reference (d).

5. SCOPE

    a. Compliance. Compliance with the provisions of this
publication is required unless a specific waiver is authorized.

    b. Waivers. Waivers to the provisions of this publication
will be authorized only by CMC (CC) on a case by case basis.

6. RECOMMENDATIONS. Recommendations concerning the contents of
this technical publication should be forwarded to CMC (CCI) via
the appropriate chain of command. All recommended changes will be
reviewed upon receipt and implemented if appropriate.

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7. <u>SPONSOR</u>. The sponsor of the technical publication is CMC
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R. R. PORTER
Director, Command, Control, Communications
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UNITED STATES MARINE CORPS

Information Resources Management (IRM) Standards and Guidelines Progr

Telecommunications Support Plan
IRM-5239-05

1 MAR 1987

RECORD OF CHANGES

Log completed, change action as indicated.

Change Number	Date of Change	Date Received	Date Entered	Signature of Person Entering Change

TELECOMMUNICATIONS SUPPORT PLAN
IRM-5239-05

PUBLICATION TABLE OF CONTENTS

LIST OF FIGURES

Chapter Table of Contents

Chapter 1

GENERAL

1.1. OBJECTIVE. The objective of this standard is to provide a structure for the development of a Telecommunications Support Plan (TSP) that defines the teleprocessing requirements for a system. This standard will ensure that current and future system telecommunications needs are evaluated and the impact of any modifications assessed. This should include Automated Data Processing Equipment (ADPE), Local Area Networks (LAN's), and any other requirements of the Marine Corps Data Network (MCDN) or Defense Data Network (DDN). This will ensure that any other teleprocessing needs which may arise are also addressed.

1.2. SCOPE

1.2.1. Current System Use. The Telecommunications Support Plan (TSP) should provide a detailed description of the current system use of the MCDN with regard to teleprocessing requirements that include, at a minimum, teleprocessing and telecommunications traffic volume, communications interface points and methods, communications system utilization plans, and system specific communications hardware, software, facility or service requirements. These requirements described in the TSP will apply to all locations where the system is supported; in-house and contractor, and both garrison and deployed.

1.2.2. Impacted Subjects. This standard should identify subjects within the system that may be impacted by tele-communications changes. Subsequent information provided with respect to the changes will be used by the data processing and user communities to assess impact and provide procedures for appropriate action.

1.2.3. Correct Information. Requirements necessary for the collection of the correct information will include at a minimum:

    a. Telecommunications Needs - Such as Local Area Network (LAN).

    b. Justification - Such as hardware and software requests.

    c. Impact - Such as adding equipment to an existing line.

    d. Recommendations - Such as updating existing software.

    e. Technical Considerations - Such as value added support.

1.3. APPROACH. The Telecommunications Support Plan should include a definition of need, discussion of technical consid-erations, and justification for the addition, modification, or deletion of telecommunications hardware or software for the use of the MCDN. After the technical considerations are determined, an impact study will be done to determine what effect the increase or decrease in communication traffic volume will have on the total project effort. As part of the impact study, the ADPE Support Plan must be used to evaluate all hardware and software data

processing resources. Environmental aspects must also be considered if additional equipment is required. Security requirements will also be addressed for system access to the MCDN.

1.3.1. Additions and Modifications. Telecommunication additions or modifications should list the required equipment including all features as well as the number of each device type. Additional resources may have to be added because of the impact on the total ADPE or teleprocessing environment. Justification for telecommunication changes should include the identification of all systems that cause the telecommunication change and/or the user systems that will be affected by the requested change.

1.3.2. Technical Considerations and Operational Feasibility. Technical considerations and operational feasibility should be reviewed by the Project Manager who should provide recommendtions and guidance. The technical considerations and operational feasibility should then be analyzed and applied against the ADPE Support Plan to determine the impact to the total project data processing environment.

1.3.3. Approval. Based on the above, recommendations should be made for approval of some, or all, of the original system telecommunication requests. The approval should identify all additional hardware and software components, all components that require changes, and any deletions from the teleprocessing environment.

1.3.4. Implementation. In order for the recommendations to be implemented, the requestor should consider such categories as naming standards, network hardware and software audits, capacity issues, maintenance schedules, and system enhancements. Additional considerations, detailed design modifications, security requirements, configuration updates, testing schedule concepts, and other design plans and hardware/software updates. Examples within each of these categories which should be reviewed during the development of the TSP are as follows:

    a. Naming Standards.

        (1) Local Area Network (LAN) components

        (2) Host computers

        (3) Communications controllers

        (4) Line numbers

        (5) Controllers

        (6) Terminals/Printers (local, remote, dial-up, dynamically assigned)

        (7) Job Entry System (JES) systems

     (8)   Remote Job Entry (RJE)

     (9)   Virtual Terminal Access Method (VTAM) nodes

     (10) Cross Domain Resource Managers

b. Network—Hardware and Software Audits

     (1)   Serial number tracking

     (2)   Adjacent devices

     (3)   Software by executing component

     (4)   Periodic physical audit

     (5)   Keyed to change management

     (6)   Keyed to maintenance schedule

c. Capacity Issues

     (1)   Number of transactions per device

     (2)   Response requirements

     (3)   Isolation of batched transmission from interactive transmission

     (4)   Reporting of utilization percentages

     (5)   Backup network/components

     (6)   Contingency network plans

     (7)   Frequency of transmission

     (8)   Peak hours identification

     (9)   Line speed

d. Maintenance Schedules

     (1)   Preventative maintenance by component

     (2)   Sparing policy

     (3)   Corrective maintenance requirements

     (4)   Software maintenance window

     (5)   Backoff plan for bad maintenance

     (6)   Backup for emergency maintenance when component fails

e. <u>System Enhancements</u>.

    (1) To stay at current release level

    (2) To gain new functionality

    (3) Schedule of releases

    (4) Change request procedure

    (5) Periodic assessment of available enhancements

f. <u>Detail Design Modifications</u>

    (1) Definition of scope

    (2) Request procedure

g. <u>Security Requirements</u>

    (1) To gain network access

    (2) To gain access to software package

    (3) Internal to a package

    (4) Access limited by source device

    (5) Access limited by user identification

    (6) Physical security requirements

    (7) Encryption requirements

    (8) Security Officer approval of network access

    (9) Notification procedure for security breach

h. <u>Configuration Updates</u>

    (1) Time window for least user impact

    (2) Update verification procedure

    (3) Backoff plan

    (4) Backup plan

    (5) Request mechanism

    (6) Change tracking procedures

    (7) Schedule for updates

(8) Software updates to go with hardware addition or vice versa

i. Testing Schedule Concepts.

(1) For patching of communications lines

(2) Pre-release testing of hardware and software

(3) Acceptance testing

(4) System testing

(5) Simulated load testing

(6) User signoff

j. Other Design Plans and Hardware/Software Updates.

(1) Help desk concept

(2) Problem logging

(3) Performance reporting

(4) Availability reporting

Chapter Table of Contents

Chapter 2

CONTENT AND FORMAT

Chapter 2

CONTENT AND FORMAT

2.1. <u>DOCUMENTATION STANDARDS</u>. The Telecommunications Support Plan should be developed in accordance with the following paragraphs. All sections and paragraphs which are described should be included in this plan. If a particular section is not applicable for a development effort, the title of the section should be included, followed by a statement with supporting justification that the section is not applicable.

2.1.1. <u>Deliverable</u>. The deliverable that should be produced through the use of this Standard is a single component, the Telecommunications Support Plan. In developing the Plan, the author should use the required table of contents described in Appendix C, and develop the text according to the descriptions in Appendix D.

2.1.2. <u>Evaluation Criteria</u>. The following paragraphs describe the criteria with which a TSP should be measured for completeness and accuracy:

    a. All sections and paragraphs contained in Appendix C, "Table of Contents", should be included as presented.

    b. Any section or paragraph deemed not applicable to the plan should appear with a justification statement.

    c. The scope documented in Paragraph 1.1 of Appendix D, "Scope", should be consistent with the activities of the Telecommunications Support Plan.

    d. The telecommunications requirements solution described in Section 2 of Appendix D, should conform to the generally accepted methodology of this document.

    e. The summary factors contained in Section 4 of Appendix D, should be in accordance with Project Management procedures.

2.2. <u>DOCUMENTATION DEPENDENCIES</u>. The documentation governed by this standard may also rely on the content of other project deliverables and/or standards. Figure 2-01, "Precedence Relationship", shows those project deliverables and standards which impact the Telecommunications Support Plan deliverables.

2.2.1. <u>Preceding Documents</u>. The boxes that precede the Telecommunications Support Plan as shown by a connected line with an arrow, are those project deliverables that must be completed before the Telecommunications Support Plan. The preceding documents for any one development effort are:

    a.   Data Base Plan
    b.   Detailed Design Specification Deliverables

2.2.2. <u>Consultation Documents</u>. The boxes and bars that are in line vertically with the Telecommunications Support Plan show the concurrent documents that may be consulted at that time. The boxes are other project deliverables governed by standards, and the bars are particular conventions described by standards. The deliverables and standards used for consultation are:

    a.   Data Base Conversion Plan Deliverables
    b.   Test Plan Deliverables
    c.   ADPE Support Plan Deliverables
    d.   Project Deliverable Style Manual (IRM-5230-02)
    e.   Inspection and Acceptance (IRM-5231-17)
    f.   Data Dictionary (IRM-5235-01)
    g.   Library Management System (IRM-5233-06)
    h.   Users Manual (IRM-5231-07)
    i.   Programming (IRM-5234-01)
    j.   Prototyping (IRM-5231-18)
    k.   Man-Machine Dialogue (IRM-5234-01)
    l.   Naming Conventions (IRM-5234-04)
    m.   Network Procedures Manual (IRM-5239-01)

2.2.3. <u>Change Requirements</u>. Since the SDM is an integrated methodology, there exists a relationship between documents. During the development of the Telecommunications Support Plan new issues may arise that will require changes to preceding documents. These changes must be documented and approved in accordance with the quality assurance and configuration management procedures. Externally imposed milestones that are unrealistic to accomplish should not be used as an excuse to defer or eliminate the documentation requirements.

			SYSTEM REQTS. REVIEW ◊	PRELIM. DESIGN REVIEW ◊	CRITICAL DESIGN REVIEW ◊					ACCEPTANCE REVIEW ◊	SYSTEM EFFECTIVENESS REVIEW ◊
MISSION ANALYSIS/ PROJECT INITIATION	CONCEPT DEVELOPMENT	colspan="3"	DEFINITION AND DESIGN	colspan="4"	SYSTEM DEVELOPMENT		DEVELOPMENT AND OPERATIONS	
		GENERAL		DETAILED DESIGN	CODE	DEVELOPMENT AND INTEGRATION	TEST	EVAL.		
		DEF.	DESIGN							

○ MENS ○ SDP I ○ SDP II ○ SDP III ○ SDP IV

SPECIFICATIONS

RS → EA → FRD → GDS → DDS

PLANS

DDS → DBP → DBC
DBP → TP
→ ADP
→ TSP

CONVENTIONS

NPM
TNS
SM
IA
DD
LMS

■ PRIMARY DEVELOPMENT
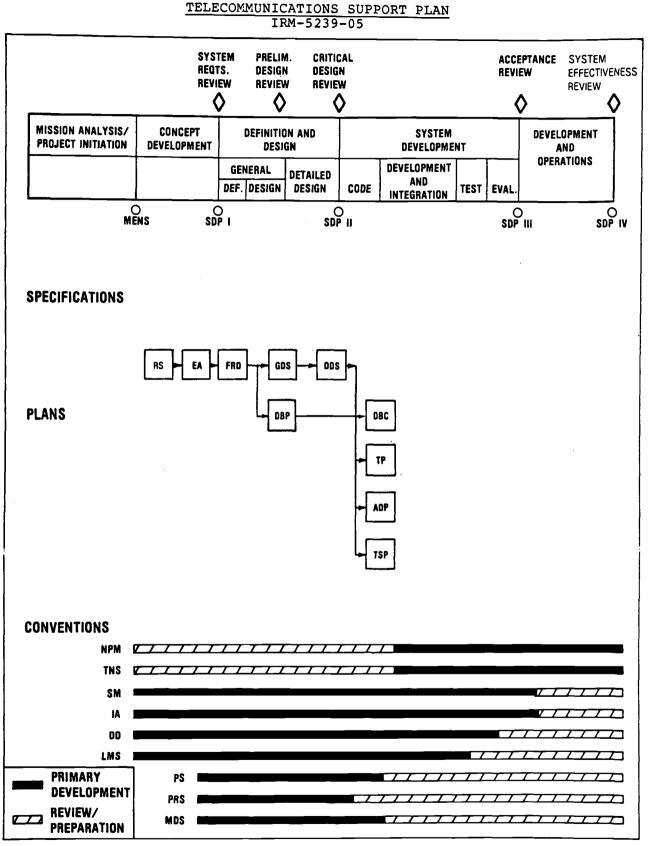▨ REVIEW/ PREPARATION

PS
PRS
MDS

FIGURE 2-01
Precedence Relationship

Appendix A

GLOSSARY

ADP: ADP is an acronym for "ADPE Support Plan"

DBC: DBC is an acronym for "Data Base Conversion Plan"

DBP: DBP is an acronym for "Data Base Plan"

DD: DD   is an acronym for "Data Dictionary"

DDS: DDS is an acronym for "Detailed Design Specification"

EA: EA   is an acronym for "Economic Analysis"

FRD: FRD is an acronym for "Functional Requirements Definition"

GDS: GDS is an acronym for "General Design Specification"

IA: IA   is an acronym for "Inspection and Acceptance Standard"

LMS: LMS is an acronym for "Library Management System"

MDS: MDS is an acronym for "Man-Machine Dialogue Standard"

MENS: MENS is an acronym for "Mission Element Need Statement"

NPM: NPM is an acronym for "Network Procedures Manual"

PRS: PRS is an acronym for "Prototyping Standard"

PS: PS   is an acronym for "Programming Standard"

RS: RS   is an acronym for "Requirements Statement"

SDP: SDP is an acronym for "System Decision Paper"

SM: SM   is an acronym for "Style Manual"

TNS: TNS is an acronym for "Telecommunications Network Naming
Standard

TP: TP   is an acronym for "Test Plan"

TRP: TRP is an acronym for "Training Support Plan"

TSP: TSP is an acronym for "Telecommunications Support Plan"

Appendix B

REFERENCES

1. MCO P5231.1   Life Cycle Management for
                                  Information Systems (LCM-IS)

2. MCO P5230.14   MCDN Management and Control
                                  Plan

Appendix C

TABLE OF CONTENTS

Telecommunications Support Plan

Appendix D

CONTENT DESCRIPTION

SECTION 1 INTRODUCTION

This section should address the objectives of the TSP as they
pertain to the use of the MCDN. It should also contain a
background summary description of the present system
telecommunications environment. This should, at a minimum,
describe the purpose of the system's use of the MCDN and the
impact on the mission of the Marine Corps.

1.1 SCOPE

This paragraph should provide system specific network requirements
which will address at a minimum:

    a. Detailed garrison needs for the Central Design and
Programming Activities (CDPA's) and the Regional Automated Service
Centers (RASC's) such as standardization of communications
procedures

    b. Detailed deployed needs for the Deployable Force Automated
Service Center (DFASC) such as type of communication facility

    c. Technical considerations for deployed use such as
ruggedized equipment

    d. Enhancements/upgrades for existing software such as a
later version

    e. Provisions for replacement or procedures for the use of
new equipment such as that required to implement a Local Area
Network

    f. References for coordination with other project standards
such as the ADPE Support Plan Standard

In all cases where telecommunications support to an Information
System (IS) will be provided by a common-user communication system
(such as MCDN), the interface points of the IS should be
identified and the interface described. It should also describe
how the IS is supported by the common-user system and to what
extent additional capacity, facilities, or service are required.
This should include any Local Area Network requirements or design
details of any new communications facilities which will be
external to a common-user system and which will uniquely service
the particular IS under development.

1.2 CONSTRAINTS

This paragraph will contain a description of the environment imposed on the development and implementation of the system which should include at a minimum:

    a. Interface with the MCDN

    b. Basic deployed ADPE such as ruggedized minicomputers

    c. Upgrade of garrisoned mainframe ADPE to a new configuration and an expected time frame by specific CDPA

    d. Expected arrival and impact of X.25 protocol

    e. Installation of Personal Computers (PCs) at garrison or deployed locations

    f. List of software configurations and compatibility with the PC's

    g. Terminal implementation for both garrison and deployed

    h. Methodology for use of the MCDN in a tactical environment

1.3 LIMITATIONS

This paragraph should describe any limiting factors on the document itself such as stating what the document will not include.

1.4 RESPONSIBILITIES

This paragraph should identify the Functional Manager, System Sponsor, System Users, and the Project Manager. It should also include the responsibilities of each.

1.5 TERMS AND ABBREVIATIONS

This paragraph should contain unique system or contractor-specific terms and abbreviations and references to where they can be found.

SECTION 2 BACKGROUND AND APPROACH

This section should provide a review of the system's telecommunications requirements and describe the approach to meeting those requirements. This section should also contain a basis for the system description.

2.1 REQUIREMENTS SOLUTION

This paragraph should define the path to the solution of the telecommunications deficiencies and recommend a feasible solution such as establishing a Local Area Network.

2.2 CURRENT TELECOMMUNICATIONS DEFICIENCIES

This paragraph should describe the existing telecommunications deficiencies. It should address the specific concerns of the functional user of the system.

SECTION 3 TELECOMMUNICATIONS REQUIREMENTS

This section should address system telecommunications requirements and contain at a minimum the methodology, planning factors, component requirements, support concepts, and system summary.

3.1 METHODOLOGY

This paragraph should describe the approach for meeting the telecommunications requirements. It should also define topics of concern such as assumptions, constraints, elements for tele-communications requirements determination, and communication components as applicable to the project. It should describe the basic telecommunications traffic concepts that are pertinent to the structuring of the MCDN. Specific related factors such as traffic arrangements, modem capacities, MCDN capacities, polling, Local Area Network requirements, and applicable tariffs will be included.

3.2 PLANNING FACTORS

This paragraph should address planning factors which will impact the telecommunication requirements of the system. These factors should be used to determine Local Area Network needs or data transfer requirements such as terminal data transfer rates, common user systems, required grade of service, unit strength impacts and categories, special CDPA and RASC activities (such as bulk data transfers), and calculation theories used in information transfer requirements.

3.3 COMPONENT REQUIREMENTS

This paragraph should identify the telecommunications requirements and address the data transfer requirements of each unit utilizing the system.

3.4 SUPPORT CONCEPTS

This paragraph should describe the system's telecommunications support for garrison and deployed use of the MCDN including concepts, means, limitations, and future plans.

3.5 SUMMARY

This paragraph should summarize the transmission requirements for units utilizing the system. The description should include information transfer requirements in and out of each common user entry point. It should also include information pertaining to

common and unique communications systems that apply to the
system's telecommunications requirements.

SECTION 4 CONCLUSION

This section should include a summary statement to the body of
this document. A statement of the perceived technical and
operational feasibility of the system's use of the MCDN solution
should justify this document. This is a necessary inclusion of
any Telecommunications Support Plan and should be considered in
the validation of the telecommunications support requirements.

4.1 TECHNICAL FEASIBILITY

This paragraph should contain a concise technical feasibility
statement of the telecommunications system described in this
document.

4.2 OPERATIONAL FEASIBILITY

This paragraph should contain a concise statement of the
operational feasibility of the telecommunications system contained
in this document. It should also contain the results of the
analysis and should justify the recommendations.

4.3 RECOMMENDATION

In addition to recommending configuration modifications, this
paragraph should also address the value-added functions for the
system's use of the MCDN such as Local Area Network, and should
offer suggestions as to further courses of action.

4.4 COSTS

This paragraph should give a summary of the costs of the system
telecommunications recommendations.

COMMENTS/REVISIONS

Technical publications under the Information Resources Management
(IRM) Standards and Guidelines Program (MCO 5271.1) are reviewed
annually. Your comments and/or recommendations are strongly
encouraged.

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Unit:_____(optional)

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