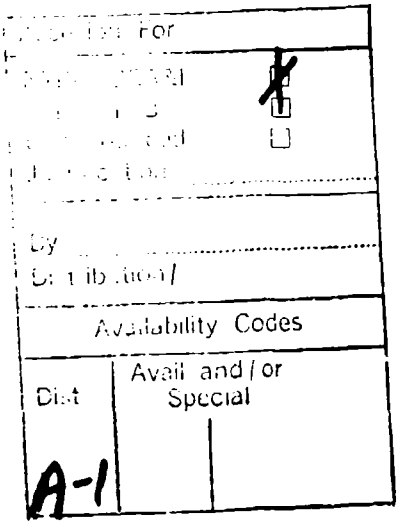
INTELLIGENCE DISSEMINATION WITHIN THE MAGTF USING EXISTING ASSETS



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Thesis: Intelligence dissemination can be enhanced by developing an understanding of the intelligence process through education and training, and by managing our existing dissemination assets more efficiently through Table of Organization changes and communications standardization. This paper analyzes intelligence dissemination through lessons learned and new technological developments.

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Thesis Statement: Intelligence dissemination can be enhanced by developing an understanding of the intelligence process through education and training, and by managing our existing dissemination assets more efficiently through Table of Organization changes and communications standardization.

I. Introduction

II. Background

III. Education

A. Non-intelligence personnel

B. Intelligence personnel

IV. Table of Organization

V. Communications Architecture

A. TRI-TAC

B. LAN/WAN

VI. Concluding Recommendations

VII. Bibliography

INTELLIGENCE DISSEMINATION WITHIN THE MAGTF USING EXISTING ASSETS

Timely and accurate dissemination of intelligence is vital to the battlefield commander. He commands and controls his forces based on information he receives about his enemy. Unfortunately, the Marine Corps intelligence apparatus, as highlighted in studies and after-action reports from Desert Shield/Storm, needs improvement. The inability to provide timely intelligence to battlefield commanders could have seriously hampered their mission if the Gulf War had been a protracted conflict. To avoid potential disaster in future operations, the intelligence dissemination problem should be addressed now to facilitate appropriate changes. Intelligence dissemination can be enhanced by cultivating an understanding of the intelligence process through education and training, and by managing our existing assets more efficiently through Table of Organization changes and communications standardization.

Commanders at all levels must recognize that intelligence dissemination is influenced by several factors:

(1) Operational requirements

(2) Time available

(3) User location

(4) Intelligence production capabilities

(5) Intelligence product form

(6) Dissemination means available

The commander's picture of the battlefield hinges on his intelligence requirements, his proximity to the enemy, and the intensity of the battlefield.(25:6-1) On today's fast, lethal, and non-linear battlefield, the time available for making critical decisions is sharply decreased. Hence, time is the key variable in making critical decisions, and in disseminating intelligence. The intelligence producer works against time and against the axiom which states "intelligence which does not reach the commander in a timely fashion is wasted effort."(16) The Marine Corps command, control, and communications system is seldom able to satisfy all operational and intelligence requirements concurrently.(29:4-1) Therefore, intelligence efforts should prioritize production and maximize time.

Operational requirements are dynamic. As a result, intelligence requirements can also be dynamic. Commanders should realize that no single intelligence product is all inclusive when developing the battlefield picture. Information comes through radios (analog and digital), networked automated information systems (computers), and local photographs, graphics, and overlays. A courier plan with vehicles (motorcycles, light vehicles, aircraft) and

personnel also plays an integral part. Two often overlooked but very important factors in intelligence dissemination are the physical capabilities and limitations of available equipment. Radios do not always work, computer hardware and software do not always interface, and imagery display is not always a glossy photograph. Different systems have different capabilities. The commander and the intelligence producer must recognize tnese differences and understand how they affect their missions.

BACKGROUND

Intelligence dissemination during Operation Desert Storm was highlighted by commanders as a key shortcoming. This is no new problem for the Marine Corps. The intelligence community has received poor critiques in past exercises and contingencies. Lack of constructive criticism between commanders and intelligence officers has resulted in little progress in this area. Our interviews, after-action reports, and consolidated reports from major exercises (including Desert Shield/Storm) revealed inadequacies throughout the system. Two primary areas of disconnect are between the commander and his intelligence officer, and between the intelligence officer and the rest of the system.

The commander will only be thoroughly satisfied if he knows everything about his enemy (his thoughts, his strengths and weaknesses, and his future plans). Realistically, this total knowledge is unattainable. Therefore, a vacuum will exist between the commander's expectations and our intelligence capabilities. In warfare, this vacuum is overcome by the commander's skill. His decisions, derived from boldness, knowledge, skill, and luck, allow him to defeat the enemy. In less stressful situations and with less experience, commanders who do not realize the limitations of our system will ask for all possible information about the enemy. In all fairness, the commander does this to eliminate uncertainty and reduce risk. As Major R.M. Lake stated in his Desert Shield/Storm after-action report:

> ...you must realize that the closer you are to an operation, the greater the uncertainty for your commander. The commander may respond to this uncertainty by demanding more and more raw information and intelligence. This may be due to a belief or hope he will be able to find the missing piece of information necessary to reduce or eliminate the uncertainty. The action of looking is also a way to do something and perhaps thereby assuring himself that he has indeed done everything that can be done to divine the enemy's intentions and prepare himself and his command for battle. [sic] (15:5)

The demand for excessive information ties up the dissemination system, bogs down the communication links,

and results in lack of focus on critical information. Requesting precise information that exceeds his true need further hampers the system. The commander must know how to request only information critical to his success.

The intelligence officer should help the commander identify and articulate requirements, then act upon those requirements to prioritize collection efforts. The intelligence officer is crucial to the commander's confidence in, or contempt for, the entire intelligence network. If he lacks skill or knowledge, he becomes an inhibitor rather than a facilitator. In his memorandum dated 9 Mar 1991, BGen Van Riper states:

> The weakest area I observed was intelligence. Shortcomings existed at all levels, though the most significant were at the higher echelons. I had sensed many of the problems are endemic and stem from the way we select, train, and educate our intelligence personnel. We fail to establish an operational mind-set in too many of the officers.(33:4)

Knowing where to get support for his commander and how to interface with the network at all levels are key elements. If we are not willing to invest in adequate and in-depth training for our intelligence officers, we cannot complain about the support we receive.

Overall, the atmosphere which exists between the producer and consumer of intelligence products is

unhealthy. We have regressed to a state of finger pointing. In his review of Desert Storm activities, General Van Riper stated:

> Making a poor situation worse is the "green door" mentality of too many of our "O2" field grade officers. The entire MEF Intelligence Section was placed inside of a SCIF area. There was no creditable face-to-face contact with the COC and FSCC personnel on a continuing basis. Many of these officers display an annoying elitism. More than one intelligence officer when asked why actual imagery was not provided vice "readouts" to commanders and key staff questioned the ability of others to use such products. [sic] (33:4)

In an interview with Colonel C. Gallina, USMC (Ret.), on the subject of commanders: "Commanders must be able to articulate their requirements, focus their Essential Elements of Information (EEIs), and resist the temptation to ask for information accuracy they don't need."(11) In the Final Report Mission Area Analysis of Mission Area 12, a number of important problems facing the Marine Air Ground Task Force (MAGTF) intelligence community were voiced. They are as noted in Table 1. Of these, we feel the first six and #8 are most important to intelligence dissemination. For the most part, these deficiencies fall into two general areas: training and management of dissemination systems.

INTELLIGENCE DEFICIENCIES AND OPPORTUNITY

DEFICIENCIES

1. The MAGTFs organic capability to produce tailored, fused, all-source intelligence does not satisfy operational requirements.

2. The deployed MAGTF lacks adequate capability to receive tailored, near-real time intelligence, imagery intelligence (IMINT), and human intelligence (HUMINT) from national, theater, Joint and Service sources.

3. MAGTF training exercises do not realistically measure or stress intelligence capabilities.

4. The MAGTF lacks adequate capability to disseminate combat information and intelligence to widely dispersed elements.

5. The MAGTF intelligence systems, fielded and proposed, do not effectively support operational requirements.

6. The MAGTF lacks adequate support in billet structure and manning levels of the intelligence occupational field.

7. The MAGTF lacks adequate organic capability to collect combat information.

8. The MAGTF lacks expeditionary intelligence systems.

9. The MAGTF lacks adequate capability to collect and disseminate information from organic and external HUMINT sources.

10. The MAGTF lacks adequate signals intelligence (SIGINT) assets capable of fully exploiting the electromagnetic environment.

Table 1

EDUCATION

The more we train and educate our personnel, the more efficient they will become. The Marine Corps should create an intelligence education program that trains all MAGTF personnel. The program should focus on pertinent and timely intelligence dissemination. A multi-tiered approach, incorporating a variety of instructional platforms, would be most beneficial. Mobile training teams (MTTs), seminars, Marine Corps and other formal military schools, planning exercises, and evaluated field-training events are useful possibilities. The program should focus on educating and training two specific groups: producers of intelligence and users of intelligence.

Non-Intelligence Personnel

The first step in this education program is to establish a course that provides the MAGTF staff with an intelligence system overview. This orientation course should focus on increasing the intelligence awareness of these personnel and should include training in the following areas: intelligence capabilities and limitations, communications and data processing equipment, information requests, battlefield intelligence dissemination, and the commander's role in the intelligence cycle. The appropriate agency to coordinate this course is the Navy-

Marine Corps Intelligence Training Center (NMITC). Since the objective of this orientation course is to reach as many Marines as possible, it should be taught by MTTs.

Education for these non-intelligence staff personnel should not end with the intelligence orientation course. Various courses, normally attended by intelligence personnel, would provide greatly needed insight. The courses should be taught by MTTs and could include an Intelligence Preparation of the Battlefield (IPB) course, an analysis and production course, an information security course that emphasizes communication and computer security, a communications and data processing course, and an intelligence dissemination course. These courses would enhance the staff members' understandings of the intelligence process and aid intelligence flow on the battlefield.

One-on-one exchanges between intelligence personnel and operators should reinforce learning. Marine Expeditionary Force (MEF) level planning seminars, held away from the office and daily routine, would provide an excellent forum. These seminars should include all personnel having an impact on the intelligence cycle. At a minimum commanders, G-2/S-2, and G-3/S-3 personnel down to the battalion level should attend. Intelligence personnel

and operators could work through the deliberate and rapid planning cycles, establish the intelligence and information flows among different staff levels, and ultimately better understand each other's missions. As intelligence officers during Desert Shield/Storm reported to the Intelligence Battlefield Assessment Team, "... many operators do not understand the capabilities and limitations of intelligence systems and appear not to understand how the intelligence process functions as a part of staff planning."(20:10) This same report goes on to comment, "Commanders that were involved in the intelligence planning process seemed to have a greater appreciation of intelligence capabilities and made satisfactory use of intelligence even when that support was limited."(20:10) Establishing a positive dialogue between intelligence personnel and operators would undoubtedly contribute to improved intelligence dissemination.

Intelligence Personnel

This education program should be even more intense for intelligence personnel. The experiences of Desert Shield/ Storm indicate that intelligence personnel were not adequately prepared to conduct their mission. Though part of this problem was due to the Marine Corps' intelligence billet structure and shortfalls in personnel strength, the lack of education among intelligence personnel

significantly exacerbated the situation. The education program should begin as soon as intelligence personnel enter the Marine Corps and continue throughout their careers. Marines should receive formal schooling at entry, intermediate, and advanced levels. Between these stages, education should be enhanced by correspondence courses and seminars and reinforced by realistic field training.

The NMITC provides entry-level intelligence training for enlisted personnel and officers. Additionally, the NMITC has an intermediate and advanced course for enlisted personnel. NMITC courses should incorporate comments and recommendations from Desert Shield/Storm after-action reports. Highlighted areas include intelligence preparation of the battlefield, intelligence dissemination, intelligence analysis, intelligence requirements identification, and intelligence communications need-lines. Currently, the NMITC is revamping their curriculum to help solve these problems. A panel of representatives, knowledgeable in intelligence, has been assigned to review all subject matter taught at the NMITC. The results of their findings will impact future classes. NMITC personnel envision a majority of the present classes being rewritten.(12)

Major improvements are being undertaken to provide continued training for intelligence officers. The professional military education (PME) program, progressive in nature, concentrates on indoctrinating intelligence officers at the captain level. The intelligence PME program focuses on existing training programs instead of creating new ones. Seventy-five percent of all eligible Marine Corps intelligence officers will attend the Army's advanced intelligence school at Fort Huachuca. The remaining twenty-five percent will take the Army's equivalent correspondence course. Additionally, the PME program states that '02' majors will attend either the post graduate school at Defense Intelligence Agency, the Command and Staff Course (C&SC), or the Navy's C&SC at Newport. Eventually, this program should include mid and senior-level enlisted personnel and senior-level officers.(6)

Between formal schools, Marine Corps intelligence personnel should be required to take correspondence courses to stay abreast of changes in intelligence and communications systems. Headquarters Marine Corps, Command, Control, Communications, Computers, and Intelligence Interoperability Branch (C4I2) should review all available intelligence correspondence courses from other agencies. If the courses are worthwhile, enrollment

of Marine intelligence personnel should be mandatory. Funding should also be set aside to allow intelligence personnel to attend intelligence related seminars offered by the other military services and Department of Defense agencies. Furthermore, the Marine Corps should ensure that intelligence personnel are assigned to joint staff or liaison billets. The more exposure these personnel have to external agencies, the better they will understand how to disseminate timely and accurate intelligence.

Realistic training must reinforce knowledge acquired from schools, correspondence courses, and seminars. Traditionally, Marine Corps training scenarios allow operational objectives to drive intelligence, when in wartime, intelligence drives operations.(4:12) As a result, intelligence personnel are not trained as they will fight. We need to revise our exercises. Scenarios should introduce unknowns and dangerous consequences and parallel the unit's responsibilities in real-world operations. This revision will provide a realistic threat, familiarize personnel with dynamic situations, and create usable products for future plans. Finally, scenarios should exercise the deliberate and rapid planning cycles, so intelligence personnel can thoroughly understand with whom they need to interact to accomplish their missions.

TABLE OF ORGANIZATION

Although training is essential, it is only part of the overall solution. An appropriate Table of Organization (T/O) should also be established. The intelligence cycle includes direction, collection, analysis, production and dissemination. The first four steps in this cycle are addressed in the T/O for the Surveillance, Reconnaissance, Intelligence Group (SRIG); however, the last step is missing. There is no dissemination section in the SRIG T/O, nor are personnel identified elsewhere in T/Os, to accomplish the mission of intelligence dissemination. This lack makes the Marine Corps intelligence cycle incomplete. The experiences of Desert Shield/Storm indicate a lack of timely intelligence distribution within the Marine Corps. This shortcoming can be overcome by creating a section with dedicated personnel assigned to perform intelligence dissemination.

The present Marine All-Source Fusion Center (MAFC) configuration, which divides dissemination responsibility among several sections, dilutes the importance of centralized distribution. The SRIG Intelligence Dissemination Officer should be knowledgeable in the interoperability of communications and data systems and their effect on the distribution of intelligence. An

intelligence officer graduate of the Command and Control Systems Course would be an excellent choice for this billet. This officer, in concert with the G-6, would help plan the communications structure to support all MAGTF intelligence dissemination need-lines. He would make liaison with internal and external entities that impact on the MAGTF intelligence dissemination process (i.e., MAGTF commander and his staff, supporting agencies, higher headquarters, and subordinate commanders) and help identify intelligence connectivity requirements.

COMMUNICATIONS ARCHITECTURE FOR INTELLIGENCE DISSEMINATION

Now that we have looked at training and the Table of Organization, we must finally consider the communications architecture. Any discussion of intelligence dissemination within the MAGTF eventually boils down to the transmission medium. The days of single channel radio and the yellow canary are quickly passing. Advanced technologies such as Secondary Imagery Dissemination Systems (SIDS), digital facsimiles, and tactical use of Wide Area Networks will greatly enhance intelligence dissemination but will require a digital transmission system.(21)

TRI-TAC

Many of the after action reports from Desert Shield/Storm concluded that the size of the pipeline within the Marine Expeditionary Force MEF hurt intelligence dissemination.(16) At the outset of the conflict, the Marine Corps was undergoing delivery of new suites of communications equipment. The Joint Tactical Communications (TRI-TAC) Program, begun in 1971 to ensure joint interoperability of Department of Defense communications systems, is currently placing this equipment in service with the final deliveries planned for fiscal year 1994.(24:2) Equipment in the TRI-TAC program include Digital Terminal Equipment, Switching Equipment, Control Equipment, Transmission Equipment and Communication Security (COMSEC) Equipment.

The Ground Mobile Forces (GMF) portion of TRI-TAC includes the AN/TSC-85A and the AN/TSC-93A.(24:5-14) These Super High Frequency (SHF) satellite transceivers will provide long haul communications capability for the MEF and major subordinate command (MSC) levels. This equipment will enable the MEF to receive out-of-theater information. Although satellite channel capacity and reliability offer great potential, these qualities make satellite availability to the Marine Corps difficult to come by because of our comparatively small size. Even if the

Marine Corps is able to secure its own channel on a Defense Satellite Communications System satellite (DSCS), it risks the possibility of preemption. This possibility makes installation of a redundant communications path imperative.

The AN/TRC-170, a family of transportable digital troposcatter radio packages, is being fielded through the TRI-TAC program to replace the AN/GRC-201.(24:24) The TRC-170 will act as a backup or replace the GMF equipment in providing a digital backbone between the MEF and its MSCs. The AN/MRC-142, a Digital Wide-band Transmission System (DWTS), will replace the AN/MRC-135A down to the regimental level.

Enough TRI-TAC equipment will be fielded to push digital trunking down to the battalion level. The digital backbone provided by the TRI-TAC equipment will provide the pipeline. The proposed digital backbone structure to support intelligence dissemination is provided in Figure 1. (24:F-10)

In a personal interview Major Dietz, of the C4I2 Division at Headquarters Marine Corps on 910122, stated: "What you see is what you get. The Marine Corps has programmed for the TRI-TAC gear that will carry us through the next twenty or thirty years."(9) With the pipeline in

place for the foreseeable future, we must concentrate on finding the most efficient use of the path.

LAN/WAN

One of the more efficient methods for using space on the transmission path is using server-to-server links, connecting Local Area Networks (LANs) to make a Wide Area Network (WAN). This path is available to any user with LAN access. File transfer virtually eliminates the possibility of miscopying messages. The large amounts of intelligence information we disseminate make a system with little chance for error highly desirable.

FMFRP 3-28 "TRI-MEF Standard Operating Procedures (SOPs) for Field Intelligence" identifies only one General Service traffic voice net and one Special Compartmented Information (SCI) voice net between the MAGTF Headquarters and its MSCs. There is an additional link which is SCI data/TTY. A though the SOP provides a brief discussion of LANs and WANs, it does not provide guidance for their implementation.(31:8-6)

Several computer-to-computer links have been tested with varying levels of success. II MEF's "Operation Linebacker" showed the feasibility of directly connecting the MAFC with an infantry battalion using point-to-point

computer connections. In the test, a detachment from the MAFC was located with the battalion to attempt a direct link to the MAFC. The attempt was successful.(10:14).

While this connection proved an effective communications link, it is not a practical solution considering the number of units needing direct connection. Operation Desert Shield/Storm illustrated the feasibility of tactical LANs and WANs. Now is the time to standardize these configurations throughout the Marine Corps and include their implementation in standard operating procedures. Additionally, through an electronic Bulletin Board Service (BBS), the MAFC could maintain an "Intelligence Bulletin Board" with intelligence generic to all units (i.e. weather, enemy order of battle, etc.). Any unit could access required information at its convenience.

A fully automated system which will facilitate rapid receipt and integration of intelligence information partially debuted in Desert Shield/Storm. This system, currently being fielded by the Marine Corps Research Development and Acquisition Command (MCRDAC), is the Intelligence Analysis System. Its system components will consist of data storage devices, workstations, and printers existing on a LAN/WAN. Standard Automated Data Processing hardware and software will be utilized whenever possible.

The size and capacity of the system will be commensurate with the command level. This system may be the Marine Corps' ultimate answer to a standardized intelligence dissemination system.

CONCLUSION

Intelligence dissemination problems stem from two major sources: (1) education of personnel, and (2) management of dissemination assets. The problems in these areas have been recurring themes throughout past exercises and most recently Desert Shield/Storm. We have proposed an ambitious training program, a T/O change, and a standardized communications architecture in response to these problems. Now is the time to incorporate new training programs and standardized architectures. These actions, coupled with current developments (ie. Marine Tactical Command and Control System, Intelligence Analysis System, Secondary Imagery Dissemination System), will carry the Marine Corps intelligence dissemination process into the twenty-first century.

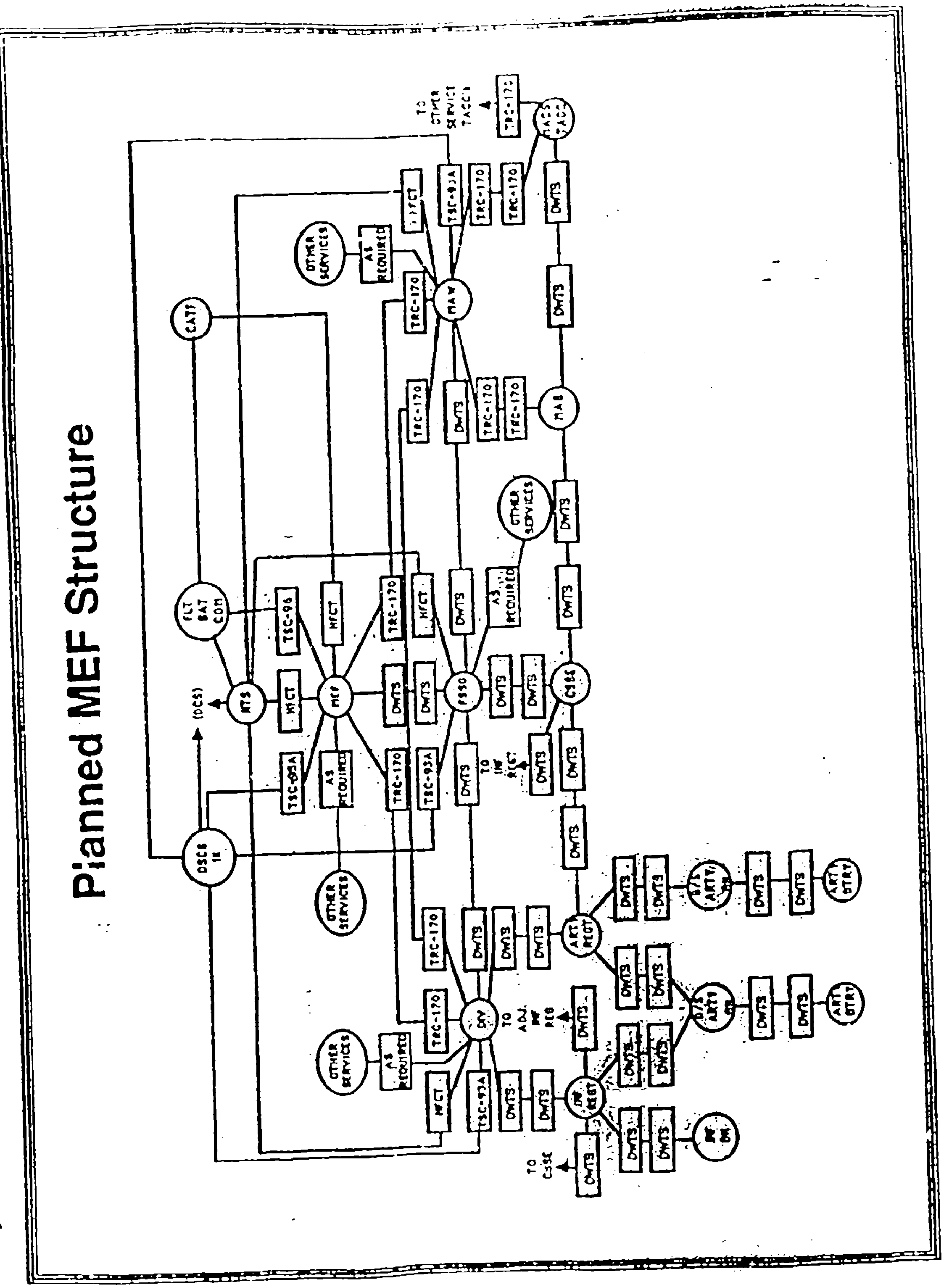
Planned MEF Structure
DSCS III
(DCS)
RTS
FLT BAT COM
CATF
MEF
FSSO
CSSE
MAW
MAG
DIV
ART REGT
INF REGT
INF BN
ART BTRY
TSC-93A
TSC-96
TRC-170
MFCT
DWTS
AS REQUIRED
OTHER SERVICES
TO OTHER SERVICE TACCs
TO INF REGT
TO ADJ INF REG
TO CSSE

Figure 1

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Intelligence dissemination during Operation Desert Storm was highlighted by commanders as a key shortcoming. This is no new problem for the Marine Corps. The intelligence community has received poor critiques in past exercises and contingencies. Lack of constructive criticism between commanders and intelligence officers has resulted in little progress in this area. Our interviews, after-action reports, and consolidated reports from major exercises (including Desert Shield/Storm) revealed inadequacies throughout the system. Two primary areas of disconnect are between the commander and his intelligence officer, and between the intelligence officer and the rest of the system.

The commander will only be thoroughly satisfied if he knows everything about his enemy (his thoughts, his strengths and weaknesses, and his future plans). Realistically, this total knowledge is unattainable. Therefore, a vacuum will exist between the commander's expectations and our intelligence capabilities. In warfare, this vacuum is overcome by the commander's skill. decisions, derived from boldness, knowledge, skill, and ck, allow him to defeat the enemy. In less stressful situations and with less experience, commanders who do not realize the limitations of our system will ask for all possible information about the enemy. In all fairness, the commander does this to eliminate uncertainty and reduce risk. As Major R.M. Lake stated in his Desert Shield/Storm after-action report:

> ...you must realize that the closer you are to an operation, the greater the uncertainty for your commander. The commander may respond to this uncertainty by demanding more and more raw information and intelligence. This may be due to a belief or hope he will be able to find the missing piece of information necessary to reduce or eliminate the uncertainty. The action of looking is also a way to do something and perhaps thereby assuring himself that he has indeed done everything that can be done to divine the enemy's intentions and prepare himself and his command for battle. [sic] (15:5)

The demand for excessive information ties up the dissemination system, bogs down the communication links,

and results in lack of focus on critical information. Requesting precise information that exceeds his true need further hampers the system. The commander must know how to request only information critical to his success.

The intelligence officer should help the commander identify and articulate requirements, then act upon those requirements to prioritize collection efforts. The intelligence officer is crucial to the commander's confidence in, or contempt for, the entire intelligence network. If he lacks skill or knowledge, he becomes an inhibitor rather than a facilitator. In his memorandum dated 9 Mar 1991, BGen Van Riper states:

> The weakest area I observed was intelligence. Shortcomings existed at all levels, though the most significant were at the higher echelons. I had sensed many of the problems are endemic and stem from the way we select, train, and educate our intelligence personnel. We fail to establish an operational mind-set in too many of the officers.(33:4)

Knowing where to get support for his commander and how to interface with the network at all levels are key elements. If we are not willing to invest in adequate and in-depth training for our intelligence officers, we cannot complain about the support we receive.

Overall, the atmosphere which exists between the producer and consumer of intelligence products is

unhealthy. We have regressed to a state of finger pointing. In his review of Desert Storm activities, General Van Riper stated:

> Making a poor situation worse is the "green door" mentality of too many of our "O2" field grade officers. The entire MEF Intelligence Section was placed inside of a SCIF area. There was no creditable face-to-face contact with the COC and FSCC personnel on a continuing basis. Many of these officers display an annoying elitism. More than one intelligence officer when asked why actual imagery was not provided vice "readouts" to commanders and key staff questioned the ability of others to use such products. [sic] (33:4)

In an interview with Colonel C. Gallina, USMC (Ret.), on the subject of commanders: "Commanders must be able to articulate their requirements, focus their Essential Elements of Information (EEIs), and resist the temptation to ask for information accuracy they don't need."(11) In the Final Report Mission Area Analysis of Mission Area 12, a number of important problems facing the Marine Air Ground Task Force (MAGTF) intelligence community were voiced. They are as noted in Table 1. Of these, we feel the first six and #8 are most important to intelligence dissemination. For the most part, these deficiencies fall into two general areas: training and management of dissemination systems.

INTELLIGENCE DEFICIENCIES AND OPPORTUNITY

DEFICIENCIES

1. The MAGTFs organic capability to produce tailored, fused, all-source intelligence does not satisfy operational requirements.

2. The deployed MAGTF lacks adequate capability to receive tailored, near-real time intelligence, imagery intelligence (IMINT), and human intelligence (HUMINT) from national, theater, Joint and Service sources.

3. MAGTF training exercises do not realistically measure or stress intelligence capabilities.

4. The MAGTF lacks adequate capability to disseminate combat information and intelligence to widely dispersed elements.

5. The MAGTF intelligence systems, fielded and proposed, do not effectively support operational requirements.

6. The MAGTF lacks adequate support in billet structure and manning levels of the intelligence occupational field.

7. The MAGTF lacks adequate organic capability to collect combat information.

8. The MAGTF lacks expeditionary intelligence systems.

9. The MAGTF lacks adequate capability to collect and disseminate information from organic and external HUMINT sources.

10. The MAGTF lacks adequate signals intelligence (SIGINT) assets capable of fully exploiting the electromagnetic environment.

Table 1

EDUCATION

The more we train and educate our personnel, the more efficient they will become. The Marine Corps should create an intelligence education program that trains all MAGTF personnel. The program should focus on pertinent and timely intelligence dissemination. A multi-tiered approach, incorporating a variety of instructional platforms, would be most beneficial. Mobile training teams (MTTs), seminars, Marine Corps and other formal military schools, planning exercises, and evaluated field-training events are useful possibilities. The program should focus on educating and training two specific groups: producers of intelligence and users of intelligence.

Non-Intelligence Personnel

The first step in this education program is to establish a course that provides the MAGTF staff with an intelligence system overview. This orientation course should focus on increasing the intelligence awareness of these personnel and should include training in the following areas: intelligence capabilities and limitations, communications and data processing equipment, information requests, battlefield intelligence dissemination, and the commander's role in the intelligence cycle. The appropriate agency to coordinate this course is the Navy-

Marine Corps Intelligence Training Center (NMITC). Since the objective of this orientation course is to reach as many Marines as possible, it should be taught by MTTs.

Education for these non-intelligence staff personnel should not end with the intelligence orientation course. Various courses, normally attended by intelligence personnel, would provide greatly needed insight. The courses should be taught by MTTs and could include an Intelligence Preparation of the Battlefield (IPB) course, an analysis and production course, an information security course that emphasizes communication and computer security, a communications and data processing course, and an intelligence dissemination course. These courses would enhance the staff members' understandings of the intelligence process and aid intelligence flow on the battlefield.

One-on-one exchanges between intelligence personnel and operators should reinforce learning. Marine Expeditionary Force (MEF) level planning seminars, held away from the office and daily routine, would provide an excellent forum. These seminars should include all personnel having an impact on the intelligence cycle. At a minimum commanders, G-2/S-2, and G-3/S-3 personnel down to the battalion level should attend. Intelligence personnel

and operators could work through the deliberate and rapid planning cycles, establish the intelligence and information flows among different staff levels, and ultimately better understand each other's missions. As intelligence officers during Desert Shield/Storm reported to the Intelligence Battlefield Assessment Team, "... many operators do not understand the capabilities and limitations of intelligence systems and appear not to understand how the intelligence process functions as a part of staff planning."(20:10) This same report goes on to comment, "Commanders that were involved in the intelligence planning process seemed to have a greater appreciation of intelligence capabilities and made satisfactory use of intelligence even when that support was limited."(20:10) Establishing a positive dialogue between intelligence personnel and operators would undoubtedly contribute to improved intelligence dissemination.

Intelligence Personnel

This education program should be even more intense for intelligence personnel. The experiences of Desert Shield/ Storm indicate that intelligence personnel were not adequately prepared to conduct their mission. Though part of this problem was due to the Marine Corps' intelligence billet structure and shortfalls in personnel strength, the lack of education among intelligence personnel

significantly exacerbated the situation. The education program should begin as soon as intelligence personnel enter the Marine Corps and continue throughout their careers. Marines should receive formal schooling at entry, intermediate, and advanced levels. Between these stages, education should be enhanced by correspondence courses and seminars and reinforced by realistic field training.

The NMITC provides entry-level intelligence training for enlisted personnel and officers. Additionally, the NMITC has an intermediate and advanced course for enlisted personnel. NMITC courses should incorporate comments and recommendations from Desert Shield/Storm after-action reports. Highlighted areas include intelligence preparation of the battlefield, intelligence dissemination, intelligence analysis, intelligence requirements identification, and intelligence communications need-lines. Currently, the NMITC is revamping their curriculum to help solve these problems. A panel of representatives, knowledgeable in intelligence, has been assigned to review all subject matter taught at the NMITC. The results of their findings will impact future classes. NMITC personnel envision a majority of the present classes being rewritten.(12)

Major improvements are being undertaken to provide continued training for intelligence officers. The professional military education (PME) program, progressive in nature, concentrates on indoctrinating intelligence officers at the captain level. The intelligence PME program focuses on existing training programs instead of creating new ones. Seventy-five percent of all eligible Marine Corps intelligence officers will attend the Army's advanced intelligence school at Fort Huachuca. The remaining twenty-five percent will take the Army's equivalent correspondence course. Additionally, the PME program states that 'O2' majors will attend either the post graduate school at Defense Intelligence Agency, the Command and Staff Course (C&SC), or the Navy's C&SC at Newport. Eventually, this program should include mid and senior-level enlisted personnel and senior-level officers.(6)

Between formal schools, Marine Corps intelligence personnel should be required to take correspondence courses to stay abreast of changes in intelligence and communications systems. Headquarters Marine Corps, Command, Control, Communications, Computers, and Intelligence Interoperability Branch (C4I2) should review all available intelligence correspondence courses from other agencies. If the courses are worthwhile, enrollment

of Marine intelligence personnel should be mandatory. Funding should also be set aside to allow intelligence personnel to attend intelligence related seminars offered by the other military services and Department of Defense agencies. Furthermore, the Marine Corps should ensure that intelligence personnel are assigned to joint staff or liaison billets. The more exposure these personnel have to external agencies, the better they will understand how to disseminate timely and accurate intelligence.

Realistic training must reinforce knowledge acquired from schools, correspondence courses, and seminars. Traditionally, Marine Corps training scenarios allow operational objectives to drive intelligence, when in wartime, intelligence drives operations.(4:12) As a result, intelligence personnel are not trained as they will fight. We need to revise our exercises. Scenarios should introduce unknowns and dangerous consequences and parallel the unit's responsibilities in real-world operations. This revision will provide a realistic threat, familiarize personnel with dynamic situations, and create usable products for future plans. Finally, scenarios should exercise the deliberate and rapid planning cycles, so intelligence personnel can thoroughly understand with whom they need to interact to accomplish their missions.

TABLE OF ORGANIZATION

Although training is essential, it is only part of the overall solution. An appropriate Table of Organization (T/O) should also be established. The intelligence cycle includes direction, collection, analysis, production and dissemination. The first four steps in this cycle are addressed in the T/O for the Surveillance, Reconnaissance, Intelligence Group (SRIG); however, the last step is missing. There is no dissemination section in the SRIG T/O, nor are personnel identified elsewhere in T/Os, to accomplish the mission of intelligence dissemination. This lack makes the Marine Corps intelligence cycle incomplete. The experiences of Desert Shield/Storm indicate a lack of timely intelligence distribution within the Marine Corps. This shortcoming can be overcome by creating a section with dedicated personnel assigned to perform intelligence dissemination.

The present Marine All-Source Fusion Center (MAFC) configuration, which divides dissemination responsibility among several sections, dilutes the importance of centralized distribution. The SRIG Intelligence Dissemination Officer should be knowledgeable in the interoperability of communications and data systems and their effect on the distribution of intelligence. An

intelligence officer graduate of the Command and Control Systems Course would be an excellent choice for this billet. This officer, in concert with the G-6, would help plan the communications structure to support all MAGTF intelligence dissemination need-lines. He would make liaison with internal and external entities that impact on the MAGTF intelligence dissemination process (i.e., MAGTF commander and his staff, supporting agencies, higher headquarters, and subordinate commanders) and help identify intelligence connectivity requirements.

COMMUNICATIONS ARCHITECTURE FOR INTELLIGENCE DISSEMINATION

Now that we have looked at training and the Table of Organization, we must finally consider the communications architecture. Any discussion of intelligence dissemination within the MAGTF eventually boils down to the transmission medium. The days of single channel radio and the yellow canary are quickly passing. Advanced technologies such as Secondary Imagery Dissemination Systems (SIDS), digital facsimiles, and tactical use of Wide Area Networks will greatly enhance intelligence dissemination but will require a digital transmission system.(21)

TRI-TAC

Many of the after action reports from Desert Shield/Storm concluded that the size of the pipeline within the Marine Expeditionary Force MEF hurt intelligence dissemination.(16) At the outset of the conflict, the Marine Corps was undergoing delivery of new suites of communications equipment. The Joint Tactical Communications (TRI-TAC) Program, begun in 1971 to ensure joint interoperability of Department of Defense communications systems, is currently placing this equipment in service with the final deliveries planned for fiscal year 1994.(24:2) Equipment in the TRI-TAC program include Digital Terminal Equipment, Switching Equipment, Control Equipment, Transmission Equipment and Communication Security (COMSEC) Equipment.

The Ground Mobile Forces (GMF) portion of TRI-TAC includes the AN/TSC-85A and the AN/TSC-93A.(24:5-14) These Super High Frequency (SHF) satellite transceivers will provide long haul communications capability for the MEF and major subordinate command (MSC) levels. This equipment will enable the MEF to receive out-of-theater information. Although satellite channel capacity and reliability offer great potential, these qualities make satellite availability to the Marine Corps difficult to come by because of our comparatively small size. Even if the

Marine Corps is able to secure its own channel on a Defense Satellite Communications System satellite (DSCS), it risks the possibility of preemption. This possibility makes installation of a redundant communications path imperative.

The AN/TRC-170, a family of transportable digital troposcatter radio packages, is being fielded through the TRI-TAC program to replace the AN/GRC-201.(24:24) The TRC-170 will act as a backup or replace the GMF equipment in providing a digital backbone between the MEF and its MSCs. The AN/MRC-142, a Digital Wide-band Transmission System (DWTS), will replace the AN/MRC-135A down to the regimental level.

Enough TRI-TAC equipment will be fielded to push digital trunking down to the battalion level. The digital backbone provided by the TRI-TAC equipment will provide the pipeline. The proposed digital backbone structure to support intelligence dissemination is provided in Figure 1. (24:F-10)

In a personal interview Major Dietz, of the C4I2 Division at Headquarters Marine Corps on 910122, stated: "What you see is what you get. The Marine Corps has programmed for the TRI-TAC gear that will carry us through the next twenty or thirty years."(9) With the pipeline in

place for the foreseeable future, we must concentrate on finding the most efficient use of the path.

LAN/WAN

One of the more efficient methods for using space on the transmission path is using server-to-server links, connecting Local Area Networks (LANs) to make a Wide Area Network (WAN). This path is available to any user with LAN access. File transfer virtually eliminates the possibility of miscopying messages. The large amounts of intelligence information we disseminate make a system with little chance for error highly desirable.

FMFRP 3-28 "TRI-MEF Standard Operating Procedures (SOPs) for Field Intelligence" identifies only one General Service traffic voice net and one Special Compartmented Information (SCI) voice net between the MAGTF Headquarters and its MSCs. There is an additional link which is SCI data/TTY. Although the SOP provides a brief discussion of LANs and WANs, it does not provide guidance for their implementation.(31:8-6)

Several computer-to-computer links have been tested with varying levels of success. II MEF's "Operation Linebacker" showed the feasibility of directly connecting the MAFC with an infantry battalion using point-to-point

computer connections. In the test, a detachment from the MAFC was located with the battalion to attempt a direct link to the MAFC. The attempt was successful.(10:14)

While this connection proved an effective communications link, it is not a practical solution considering the number of units needing direct connection. Operation Desert Shield/Storm illustrated the feasibility of tactical LANs and WANs. Now is the time to standardize these configurations throughout the Marine Corps and include their implementation in standard operating procedures. Additionally, through an electronic Bulletin Board Service (BBS), the MAFC could maintain an "Intelligence Bulletin Board" with intelligence generic to all units (i.e. weather, enemy order of battle, etc.). Any unit could access required information at its convenience.

A fully automated system which will facilitate rapid receipt and integration of intelligence information partially debuted in Desert Shield/Storm. This system, currently being fielded by the Marine Corps Research Development and Acquisition Command (MCRDAC), is the Intelligence Analysis System. Its system components will consist of data storage devices, workstations, and printers existing on a LAN/WAN. Standard Automated Data Processing hardware and software will be utilized whenever possible.

The size and capacity of the system will be commensurate with the command level. This system may be the Marine Corps' ultimate answer to a standardized intelligence dissemination system.

CONCLUSION

Intelligence dissemination problems stem from two major sources: (1) education of personnel, and (2) management of dissemination assets. The problems in these areas have been recurring themes throughout past exercises and most recently Desert Shield/Storm. We have proposed an ambitious training program, a T/O change, and a standardized communications architecture in response to these problems. Now is the time to incorporate new training programs and standardized architectures. These actions, coupled with current developments (ie. Marine Tactical Command and Control System, Intelligence Analysis System, Secondary Imagery Dissemination System), will carry the Marine Corps intelligence dissemination process into the twenty-first century.

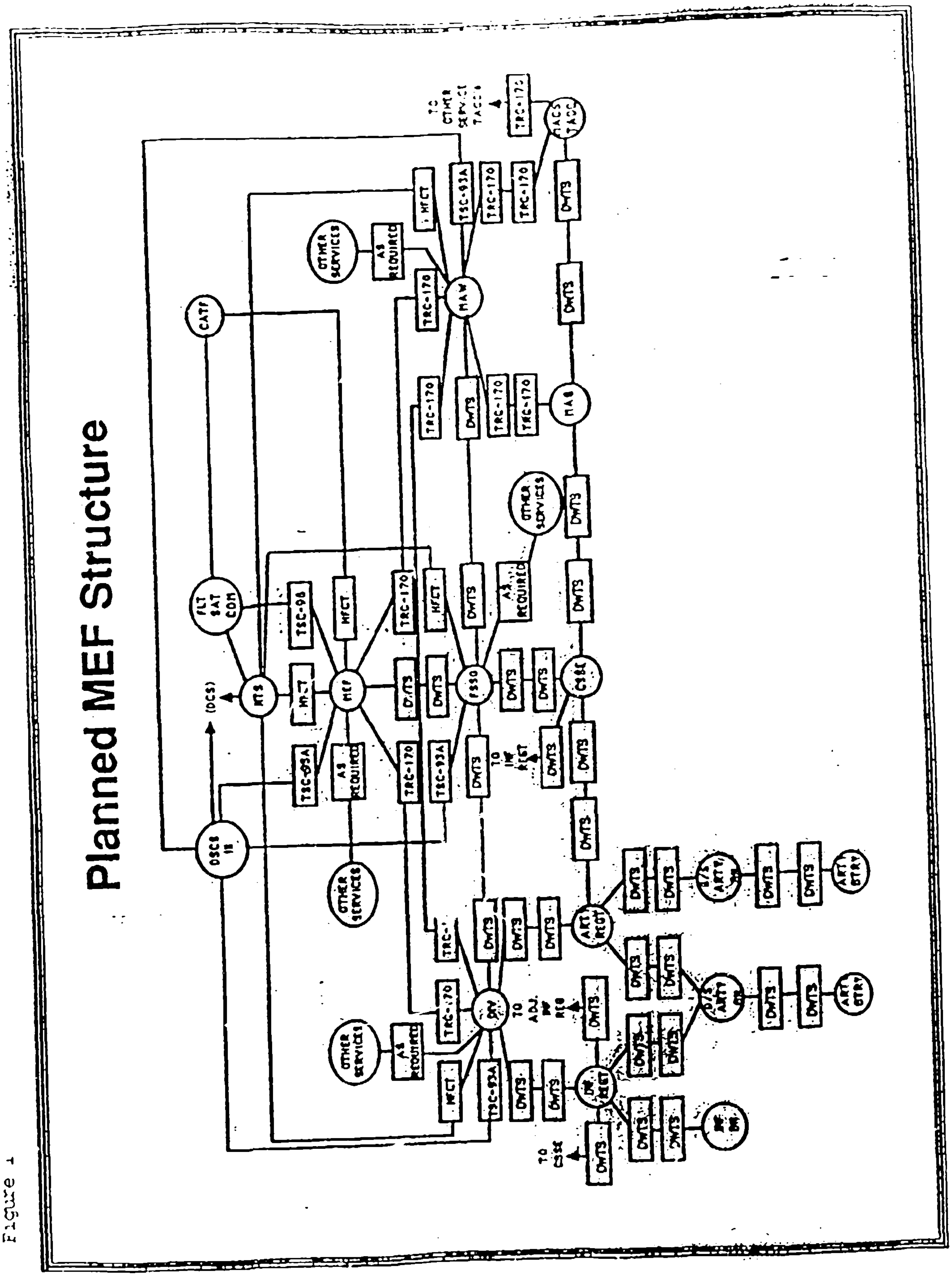
Planned MEF Structure
DSCS III
(DCS)
RTS
FLT SAT COM
CATF
MEF
FSSO
MAW
MAG
CSSE
DIV
ART REGT
INF REGT
TACC TAOC
TO OTHER SERVICE TACCS
OTHER SERVICES
AS REQUIRED
TSC-93A
TSC-98
TRC-170
HFCT
DWTS
TO INF REGT
TO ADJ. INF REG
TO CSSE
ART BTRY

Figure 1

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