

Internets and Intranets in Support of MAGTF Operations



MAGTF Staff Training Program
(MSTP)

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MSTP Pamphlet 6-4

Internets and Intranets in Support of MAGTF Operations

This pamphlet supports the academic curricula of the Marine Air Ground
Task Force Staff Training Program (MSTP).

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FOREWORD

1. **PURPOSE.** MSTP Pamphlet 6-4, *Internets and Intranets in Support of MAGTF Operations*, provides the staff planner the techniques and procedures for developing effective internets and intranets in support of the Marine air-ground task force (MAGTF). Specifically, it will identify—

- The success factors required for developing an internet/intranet.
- How to plan internets/intranets.
- The tools available to develop internets/intranets.
- The skills required and where they are present in the MAGTF.
- How internets/intranets support the Marine Corps Planning Process.

2. **SCOPE.** This pamphlet discusses collaborative information exchange at the MAGTF staff level; however, the tools and their capabilities identified in this pamphlet are directly applicable to staffs at all levels. To prevent this document from being obsolete at each new software release or change in hardware, it is not a technical manual for the various tools used in developing internets/intranets. For technical information about the implementation of internets/intranets, there are excellent users manuals, commercial books and formal schools covering individual components.

3. **SUPERSESION.** None.

4. **CHANGES.** Recommendations for improvements to this pamphlet are encouraged from commands as well as from individuals. The attached User Suggestion Form can be reproduced and forwarded to:

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Training and Education Command
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5. CERTIFICATION. Reviewed and approved this date.

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Director
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Throughout this pamphlet, masculine nouns and pronouns are used for the sake of simplicity. Except where otherwise noted, these nouns and pronouns apply to either sex.

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Part I

Internets and Intranets

Internets and intranets provide information necessary for the MAGTF to plan and execute operations. They are collaborative planning tools that can shorten decision cycles and assist decisionmaking through tailoring and delivery of quality information. Properly designed internets and intranets support MAGTF operations by—

- Providing information the commander can use to build a single view of the battlespace.
- Supporting parallel planning using the Marine Corps Planning Process (MCPPE).
- Acting as a combat multiplier during execution by reducing decision cycles.

Internet and intranet systems include shared file systems, Microsoft Exchange public folders, hypertext markup language (HTML), or web pages and other information exchange tools. An effective internet/intranet must be—

- Authoritative.
- Easily maintained by organic MAGTF personnel.
- Deployable to support MAGTF operations.
- Useful to the commander while allowing easy information retrieval.

The key elements of effective internets and intranets are—

- A robust network infrastructure that supports collaborative applications.
- A standard set of software tools for collaborative information exchange.
- Clearly articulated user needs.
- Marines with the skills to develop and implement collaborative solutions using Marine Corps standard tools.

The first two items are present in today's MAGTFs. The last two items are the focus of ongoing development and training by the Marine Corps. With clearly stated needs and proper training, the MAGTF can develop effective internets/intranets to meet the collaborative needs of the commander and his staff.

1001. Definitions

An internet/intranet is “*a collaborative planning system using networked applications in support of a unit's information needs*”. The collaborative planning system extends beyond the unit, consisting of both internal and external elements called *intranet* and *internet* respectively. The boundary between an internet and intranet is not always clear and is somewhat arbitrary. For this pamphlet, they are described as—

- **Intranet.** The intranet is the *internal* view of the unit's collaborative planning system. Webmasters have complete control over who accesses the system and what protocols and versions of client software are used. Usually intranets contain sensitive, specialized information not available to users outside its boundary. Because intranets are closed systems, they may rely on proprietary programs such as Microsoft Outlook and Microsoft Exchange.
- **Internet.** The internet is the *external* view of the unit's collaborative planning system. It contains that information the commander *chooses to reveal* outside of the unit. With an internet, the system administrators have little control over protocols, client side software, or origin of accesses. Although the internet is normally a subset of the intranet, the group of users is normally much larger. Users of the internet may be higher, lower, or adjacent headquarters, or persons completely unknown to the unit. Since system administrators have little control over who accesses the unit's internet, it must be built on open standards. For example, all internet views must be accessible via hypertext transfer protocol (HTTP) instead of Microsoft Outlook (HTTP is a universal standard; Microsoft Outlook is not).

Security is also of great importance in differentiating between internets and intranets. Access to an intranet, or portions thereof may be restricted to given machines, networks or users who possess valid accounts. This

granting or denial of access may be accomplished by internet protocol (IP) address of the machine, domain names or by account/password authentication. On the other hand, internets allow the dissemination of information to a wide, but largely anonymous group of users. This invites security compromises.

When a distinction must be made, this document uses either internet or intranet, as applicable. Many times development considerations are the same for both internets and intranets. In that case, the term *internets/intranets* is used.

1002. Capabilities

Internets/intranets give users capabilities that in the past have not been easily obtained. Well-designed and implemented internets/intranets allow users to share information during all phases of the planning and execution process. Key capabilities are discussed in the following subparagraphs.

a. Document Sharing

Document sharing allows users to post documents, such as Excel spreadsheets, Word documents, graphics or text files, making them available to other users. This may be accomplished via shared network drives, e-mail, Exchange public folders or websites. This allows simultaneous, multiple access to documents and information.

b. Collaborative Authoring

Collaborative authoring allows several authors to work together to produce a single document, such as an operations order. Sharing of documents with revisions made in edit mode, and the use of electronic binders are examples of collaborative authoring.

c. Messaging

The most common form of messaging is e-mail. Messaging also encompasses on-line chats, video conferencing, Automatic Digital Network (AUTODIN), newsgroups and web-based postings.

d. Secure Access

Internets/intranets must have the capability to restrict access to authorized users, where appropriate. Security is multi-layered. It can be implemented at the network layer, user layer, application layer, and finally at the document level. This security may be implemented by a combination of account/password pairs, IP addresses, data encryption and secure networking. Thorough security implementation requires special skills and is beyond the scope of this pamphlet, it is addressed in policy papers published by the Marine Corps' Chief Information Officer.

e. Data Mining

Data mining is a relatively new term that refers to a methodology for extracting information from large databases. In essence, internets/intranets are knowledge bases. An indexing and search engine, such as Microsoft Index Server must be used to catalog the information contained in the site and allow users to locate and retrieve—mine—the information. Data mining gives executive level decision-makers a much greater depth of information.

f. Discussion Forums

Discussion forums, such as newsgroups, exchange discussions and web-based forums facilitate on-going dialogs. Unlike e-mail, forums are not targeted to specific recipients. Discussion forums may be moderated or unrestricted. Users may choose to participate or just monitor the forums.

g. Database Replication

Sometimes databases must be replicated in many places throughout the internets/intranet to provide the best response times. Therefore, there has to be a process that allows information to pass from one database to another so everyone in the internet/intranet has the most up-to-date information. An example is replication of Exchange Public Folders between sites.

1003. Success Factors

To be successful, an internet/intranet must support the needs of the unit's planning and execution process. This system must be simple, expandable, and easily maintained. Fewer complex sub-systems mean easier information retrieval, quicker setup, and faster response to a commander's needs. The

following success factors combine to provide the right information to the commander at the right time.

a. Support Planning and Execution

During planning, products are derived from the inputs and outputs at each stage of the MCPP. During execution, web contents are derived from the reports matrix and other documents identified by the unit's information manager.

b. Authoritative

A unit's website must have accurate, reliable and relevant information. A website with incorrect or extraneous information is worse than no site. The information manager must ensure that the unit's website is current and up-to-date.

c. Facilitate Information Retrieval

Facilitating information retrieval can be as simple as implementation of a simple, straightforward interface. Content and organization are the success factors, not complex navigation schemes or ornate graphics. In fact, busy and inconsistent interfaces frustrate users and become barriers to effectively using internet/intranet products. The development of a standard interface does not require advanced skills. It may be as simple as the creation and adoption of a Microsoft FrontPage theme and standards for website development throughout the command.

Information is only useful if a user can find it when needed. Users must be able to find information on an internet/intranet. Internets/intranets facilitate the dissemination of voluminous amounts of information. This can be dangerous if "information overload" is the end result. The use of search engines to index all documents contained on a site allows users to find targeted information from the internet/intranet.

d. Centralized Planning/Decentralized Execution

Creating an internet/intranet should resemble the way Marines conduct warfighting. To ensure the site meets the information needs of the commander and has a consistent interface, the website must be centrally planned. However, to ensure the information is updated in a timely fashion

and meets the additional needs of lower echelons, the internets/intranets must be implemented and updated at the lowest level possible. Functional sections must be empowered to create and maintain their own content.

e. Portable

The internet/intranet framework must have the ability to be moved between servers and duplicated between operations. When the MAGTF deploys to conduct operations, its intranet has to move with it. The use of common Marine Corps standard software and hardware ensures interoperability among servers that are functionally maintained by the various MAGTF elements. This software must also be operable in joint operations, facilitating collaboration between the services.

f. Expandable and Maintainable

To support the MAGTF, an internet/intranet must have a notional framework which can be applied across a wide variety of scenarios. This is achieved through the creation of a baseline internet/intranet which meets the generic needs of the command with sufficient capacity for expansion. This includes the capability to rapidly expand the system with personnel organic to the unit.

To be sustainable in wartime and contingency operations, units must be able to maintain the system with the assigned assets and personnel. This is primarily a matter of training available personnel and should not require additional money or manpower.

1004. Assumptions

The superior combat force in the 21st century will be characterized by its ability to collect, confirm, fuse, process and disseminate data into knowledge that supports the commander's decisionmaking. One key assumption is that the Marine Corps will continue to put forth the effort of maintaining and improving the technical skills required for the maintenance of the SECRET Internet Protocol Router Network (SIPRNET) and the Unclassified but Sensitive Internet Protocol Router Network (NIPRNET). Additionally, it is assumed that staffs will not need a technical background to set requirements and use internets/intranets.

Part II

Planning and Developing an Internet/Intranet

Marine Corps Warfighting Publication (MCWP) 6-23, *Information Management*, defines information management (IM) as “*ensuring quality information is provided to those who need it in a form they quickly understand.*” Internets/intranets provide the means for rapidly exchanging this “quality information.” For this information exchange to be effective, internets/intranets must be planned and designed in advance of operations to meet the commander’s information requirements. Planning an internet/intranet includes determining who is responsible for developing the collaborative products, what tools are available, and how they will be employed.

2001. Responsibility

MCWP 6-23 states the IM officer must “*work closely with information exchange technology personnel to facilitate efficient dissemination of quality information throughout the MAGTF.*” Internet/intranet developers and system administrators must design and maintain systems that exchange information throughout the MAGTF. The roles and responsibilities are discussed in depth in part IV of this pamphlet.

2002. Planning Tools

Two tools are invaluable for planning an internet/intranet; clearly articulated user needs and the unit’s IM plan. Taken together, they identify the essential pieces of information required to develop an internet/intranet to meet information requirements necessary for decisionmaking.

Since the IM plan identifies critical information, its source and recipients, it is the basis for the design of an effective internet/intranet. It identifies the

ideal information needs of the command which internet/intranet developers and system administrators must implement using available internet/intranet technology. The reports matrix, commander’s critical information requirements (CCIRs), and daily battle rhythms found in the IM plan are critical elements in designing and planning internets/intranets.

a. Reports Matrix

The reports matrix identifies all required reports both internal and external to the unit. The matrix contains information such as report source, frequency, and recipients which can be used to design and implement an internet/intranet. Table 2-1 contains a range of information that can be found in a reports matrix. Table 2-2 is an example of a report matrix.

Category	Information Derived
Product	Name of Report
Origin	Who will produce and maintain the content
Recipients	Who will receive the report (distribution)
Dissemination	Primary, backup and tertiary methods
Format	Type of product, format and media
Interval	How often the product will be updated
Persistence	Are superceded products still relevant
Critical Value	Point that must trigger an event

Table 2-1. Information contained in a report matrix.

Report Title	From	Submit As Of	Arrive NLT	Transmit Type	Precedence	To	Info
PERSTAT	MSCs	1500	2100	E-mail/ Home Page	Routine	MEF G-1	
MSC INTSUM	MSCs	0000/ 1200	1400/ 0200	JDISS	Routine	MEF G-2	MSC
SITREP	MSCs	0000	0200	AUTODIN Home Page	Priority	MEF COC	MSC
SAM Report	Wing	As Req'd	As Req'd	E-mail	Priority	MEF COC Air Cell	MSC
Daily Tgting Guidance Msg	MEF G-3 (Force Fires)	1200	1300	Home Page	Priority	MSC	MEF LNOs
LOG SITREP	MSCs	0600–0600	1000	Home Page	Routine	MEF G-4	
Comm Status Summary Report	MSCs	0000	0200	E-mail	Routine	MEF G-6	

Table 2-2. Sample reports matrix.

From the report matrix, a web editor can determine which documents his section must maintain on the intranet, where they come from, whether they

are for general or restricted distribution, the report format and whether or not previous report editions should be retained (persistence).

b. Commander’s Critical Information Requirements

CCIRs are essential to the success of a mission. As CCIRs are identified, they should be prominently placed on the website. The CCIRs will contain hyperlinks to underlying priority information requirements, friendly force information requirements, and essential elements of friendly information.

c. Daily Battle Rhythm

Many of a command’s routine information requirements are predictable. Establishing a daily battle rhythm allows the staff to place information at its anticipated points of need by identifying daily briefings, meetings, and report requirements. This speeds information flow and reduces the demands on communications systems. The higher headquarter’s battle rhythm may influence the MAGTF’s battle rhythm. Information is exchanged and transmitted on internets/ intranets for the commander and staff to use in the events and activities of the daily battle rhythm. See table 2-3 for a sample battle rhythm.

TIME	EVENT	LOCATION	PARTICIPANTS
0000	COC Shift Change	COC	COC Watch
0100	SITREP Update to component / CINC	COC	COC Fires
0200	Reactive Attk Guidance Matrix published	COC	COC Fires
0500	Morning update slides due to SWO	COC	Battlestaff
0600	ATO Execution	COC	
0730	Morning update slides to component	COC	COPSO
0800	CG Morning Update	OSC	Battlestaff
0800	Target Guidance Working Group	FFCC	
0900	Plans Update Brief	FOPS	CG, FOPSO, G-3
1000	MSC SITREP information due	COC	MSCs
1145	COC Shift Change Brief	COC	COC Watch
1200	COC Shift Change	COC	COC Watch
1200	MEF SITREP published	COC	G-3
1200	G-2 INTSUM published	COC	
1300	Evening Update slides due to SWO	COC	Battlestaff
1530	Evening Update slides to component	COC	COPSO
1600	CG Evening Update	OSC	Battlestaff
1700	SITREP Update to component / CINC	COC	SWO
TBD	VTC	OSC	TBD
1800	ATO published		
2000	Targeting Board	OSC	TBD
2345	COC Shift Change Brief	COC	COC Watch
0000	COC Shift Change	COC	COC Watch

Table 2-3. Sample daily battle rhythm.

On the unit's internet, each entry in the daily battle rhythm would be linked to underlying supporting data such as read-aheads, summaries and other related documents.

Part III

Internet/Intranet Tools

In recent years, the Marine Corps and the Department of Defense have adapted and fielded an extensive standard set of tools useful for internet/intranet development. Identification of these tools and their capabilities is essential to choosing the correct tool for the job at hand. Each of the tools identified in this chapter are present in today's MAGTF.

3001. Microsoft Windows NT

Windows NT is the standard network operation system for the Marine Corps data network. It provides the file services, security, and network operating system. Windows NT can be considered the backbone for the implementation of internets/intranets. It is the common operating system for both individual workstations and servers; therefore, integration of products designed for an NT environment is seamless within the intranet.

3002. Microsoft Internet Information Server

Internet Information Server (IIS) is the web and file transfer protocol (FTP) server for the Marine Corps. The IIS forms the basis for all web pages. Its capabilities include—

- **Anonymous or Authenticated FTP.** These are the standard protocols for exchanging files between machines. Anonymous FTP means a user identification and password is not required. Authenticated FTP requires user identifications and passwords to access an FTP site. This prevents sensitive data from being accessible by users who do not have a need to know.
- **Anonymous or Authenticated Web Access.** IIS is the repository of web pages, files, and other documents published to a website. When someone requests a document via a uniform resource

locator or web address (i.e., <http://www.usmc.mil/somedoc.htm>) the IIS searches its file system and returns the document. The server supports static HTML files or active server pages. The server also supports connections to data sources such as Access, Oracle or Sequel (SQL) server.

3003. Microsoft FrontPage

FrontPage is the standard web authoring and website maintenance software for the Marine Corps. It allows rapid development of web pages using a “what you see is what you get” interface. Via security permissions, FrontPage websites allow the delegation of web authoring and maintenance responsibilities. This allows *users* to create and maintain entire websites.

3004. Microsoft Office 2000

Office 2000 is a web-enabled suite of office automation software. It includes the capability to save documents as HTML and/or publish documents directly to a web server. This is an ideal tool for allowing beginners and advanced users to update their own web content.

3005. Microsoft Exchange

Exchange is the Department of Defense standard messaging agent. Through its public folders, Exchange provides robust and customized data stores that play important roles in a unit’s internet/intranet. Exchange databases are normally accessed via customized forms. Once created, these databases are accessible throughout the unit and externally via Outlook Web Access. Documents may be routed real-time through Exchange instead of using a paper route sheet or other time-consuming means. Exchange public folders may also be replicated between sites.

3006. Microsoft SQL Server and Access

SQL and Access are relational databases. Relational databases are used to link information from multiple databases. Access is geared towards the end

user, whereas SQL server is a fully capable database management system for complex applications. These databases provide a large reservoir of data that can be sorted, queried and accessed according to a commander's need. SQL server and Access databases may be accessed via web pages.

3007. Microsoft Index Server

Index Server can help users more quickly find information. It provides indexing and Boolean searching (this method allows for narrower searches) for both websites and Exchange public folders. Once enabled, Index Server examines every document contained within the internet/intranet and enters it into a searchable database. Files indexed include; Word, Excel, PowerPoint, HTML and if a free plug-in is installed, Adobe Acrobat files. Once a user enters a search into index server, a link is provided to each source document meeting the search criteria.

3008. Microsoft Site Server

Site Server provides tools to record and analyze website usage and index Exchange Public folders. It will show who is accessing the website, periods of heavy use, and most frequently accessed portions. This information will help the staff planner learn what information is useful and what information is not. This helps provide tailored information responsive to the commander's needs. Site Server can also provide management tools to the staff to ensure subordinate units have access to or receive documents that require staffing. Effective use of Site Server can help speed the planning process for the MAGTF.

3009. Microsoft Outlook Web Access

Outlook Web Access (OWA) allows users to access Exchange information via a web interface. OWA can also be used to provide authenticated or anonymous HTML access to public folders. Exchange account holders may use OWA to check their e-mail, contacts calendar and public folders. OWA also supports the use of customized Exchange forms. To be used with OWA, customized forms must be processed through the HTML Form Converter.

3010. Team Folders and Digital Dashboards

Team folders and digital dashboards are a series of Exchange public folders that are accessed via HTML documents viewed within Microsoft Outlook. HTML files allow the webmaster (or other developer) to standardize formats and guide the users to resources whether located in exchange public folders, the unit’s intranet, or the internet. Digital dashboards allow better knowledge management by consolidating personal, team, organizational, and external information and providing “single-click” access to analytical and collaborative tools—all in a single, familiar desktop view.

Tool	Definition
MS Windows NT	Provides the networking infrastructure and security of internets/intranets
MS IIS	Web and FTP server for Windows NT
MS Visual Interdev	Web authoring tool for developers
MS FrontPage	Web authoring tool for end users
MS Office 2000	Web enabled suite of office applications
MS Exchange	Messaging and collaborative system server
MS SQL Server/Access	PC Based Database systems
MS Index Server	Provides full text search of all documents
MS Site Server	Provides indexing of Exchange Public folders and site usage statistics
ODBC Drivers	Drivers to allow access to data sources such as MS SQL server and MS Access
MS Outlook Web Access	An HTML application provided by Microsoft to provide internet access to Exchange data
Team Folders	A set of MS Outlook team folders each with an associated web page
Digital Dashboard	A set of content-rich web pages tightly coupled with MS Outlook. Together the pages provide the staff with information from a variety of sources through the Outlook interface.

Table 3-1. Internet/intranet tools and their capabilities.

Part IV

Required Skills for Internet/Intranet Development

Internets/intranets tie together information from diverse data sources into a common presentation. To ensure they are meeting the needs of the commander and staff, developers must understand MAGTF operations. Developers must also possess a deep understanding of a broad number of technologies, from networking to security to software and database development as well. Although internet/intranet development is a complex undertaking, all of the required skills are present in the MAGTF.

The table below lists the skills required for web development and where they may be found within the MAGTF.

Skill	Responsible Section
Develop IM Plan	IM managers
Develop Communication Plan	G6
Develop IP Infrastructure Plan	G6
IOM Comm System	Comm Bn/Sqdn/Co/Plt
IOM Network (IP & NT) Infrastructure	Comm Bn/Sqdn/Co/Plt
IOM Web Server, Index Server, Site Server	Comm Bn/Sqdn/Co/Plt
Develop Web and Exchange Applications	Webmaster/Programmers
Develop Website Structure	Webmaster
Develop Web	Webmaster
Maintain Sub-web	Web Editors/End Users
Maintain Web Content	Web Editors/End Users

Table 4-1. Required skills.

4001. Information Manager

The information manager, through the IM plan, identifies the essential information to be contained in a unit's internet/intranet. He also assists section web editors in identifying content for their web.

4002. Webmaster

As the technical expert, a unit's webmaster has overall responsibility for the website. The webmaster will set up the security of the site, provide training for the unit's web editors, provide a common look and feel and provide services common across the website such as search, navigation, etc.

4003. Web Editors

These are end users trained and designated to identify and maintain the web content for their section. Their primary tools are Microsoft FrontPage and various Microsoft Office 2000 applications.

Part V

Internets/Intranets in Support of the Marine Corps Planning Process

The MCPP supports the Marine Corps warfighting philosophy of maneuver warfare. Since planning is an essential and significant part of command and control, the MCPP recognizes the commander's central role as the decision maker. It helps organize the thought process of a commander and his staff throughout the planning and execution. The MCPP applies to command and staff actions at all echelons of command. Commanders at higher echelons, with their larger staffs, longer planning horizons, and access to more information, tend to use a more formal and detailed approach to the MCPP. Commanders at lower echelons may modify the process to meet their situation (staff resources, shorter planning horizons, and information available). Commanders and staffs need information in a form they can quickly and easily understand to assist them in planning and making decisions. Internets/intranets are a valuable tool for providing this information and supporting the MCPP.

The MCPP provides the commander and his staff a means to organize their planning activities and transmit the plan to subordinate commanders. Through this process, all levels of command can begin their planning effort with a common understanding of the mission and commander's intent. Interactions among the various planning steps allow a concurrent, coordinated effort that maintains flexibility, makes efficient use of time available, and facilitates continuous sharing of critical and relevant information.

The MCPP establishes procedures for analyzing a mission, developing and wargaming courses of action (COAs) against the threat, comparing friendly COAs against the commander's criteria and each other, selecting a COA, and preparing an operation order for execution. The MCPP organizes the planning process into six manageable, logical steps. See Figure 5-1. A detailed description of the MCPP is in MCWP 5-1, *Marine Corps Planning Process*.

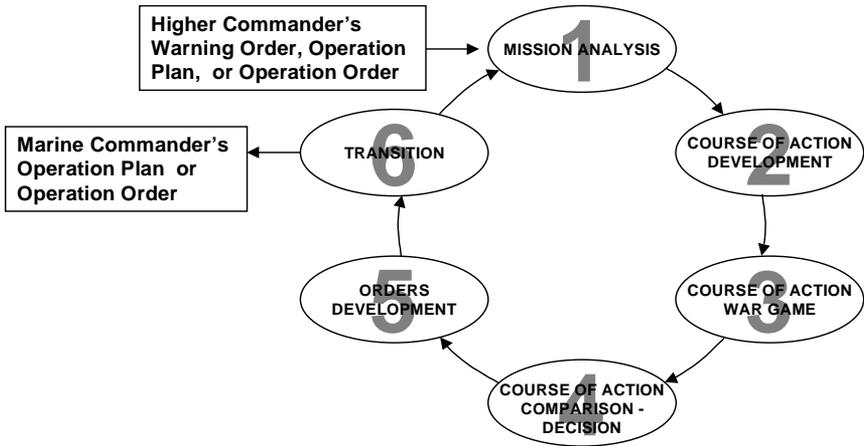


Figure 5-1. The Marine Corps Planning Process.

The following information provides a summary of each of the six steps in the MCPP. An example of internet/intranet tools and an explanation of how those tools can be used to support each step of the planning process follow each summary.

5001. Mission Analysis

The purpose of mission analysis is to review and analyze orders, guidance, intent, and other information provided by higher headquarters and to produce a unit mission statement. This step forms the foundation for the remainder of the planning process.

Figure 5-2 illustrates the input, the process, and the output for mission analysis. Since the MCPP supports concurrent planning at all levels, thought must be given to ensure simultaneous access to products throughout the cycle. The tools used to produce outputs must assist sharing and collaboration. For example, an acetate overlay may be adequate for use within one headquarters, but it cannot be readily transmitted to remote sites, whereas a Command and Control Personal Computer (C2PC) overlay or other electronic representation may be readily shared.

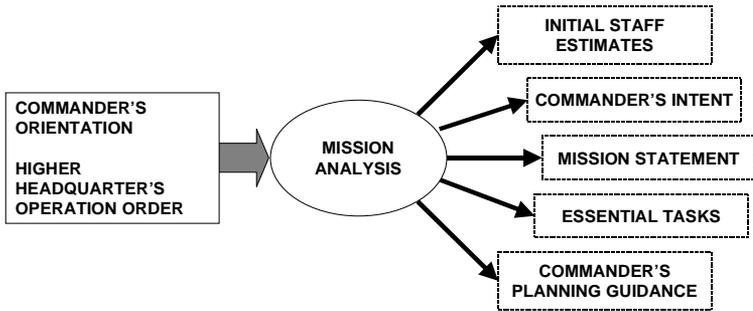


Figure 5-2. Mission analysis.

Once the commander has developed his initial guidance it is briefed to the staff and posted to the intranet so it may be accessed and referred to by the staff. Likewise, the higher headquarters warning order and/or operation order can be retrieved from the higher headquarters authoritative website.

During mission analysis, the staff makes extensive use of the NIPRNET and SIPRNET to gather information. Digital charts and maps are downloaded from the National Imagery and Mapping Agency's SIPRNET website. C2PC overlays are developed and transmitted between staff workstations. The webmaster creates a section on the unit's SIPRNET website and exchange public folders for the operation. The operation's internet/intranet is the official authoritative site for information related to the operation. To retain information reliability, a single individual in each staff section involved in the planning process may be designated to update appropriate portions of the site. It is imperative this person be familiar with and involved in the planning process. At a minimum, the site will contain an operation calendar, places for all products used and/or produced by the planning process, a place for on-line discussions and a directory of all key personnel.

As they are approved by the commander, the following products may be posted on the unit's website for dissemination:

- Mission statement.
- Commander's intent.
- Commander's planning guidance.
- Intelligence preparation of the battlespace (IPB) products.

- C2PC overlays.
- Other background information.

To provide maximum user flexibility over a variety of network conditions, products should be posted in as many formats as possible. For example, an operation order developed in Microsoft Word should be posted in Word format for local users, zipped format for remote users who have Word, and HTML for those who want to view on line. Other formats, such as .pdf (Portable Document Format) and ASCII (American Standard Code for Information Interchange) are possible. The key is to offer flexibility for those using the site.

5002. Course of Action Development

The mission statement, commander’s intent, and commander’s planning guidance are used to develop COAs that are suitable, feasible, acceptable, distinguishable, and complete with respect to current and anticipated situation, the mission, and tasking/intent from the higher headquarters commander. See Figure 5-3.

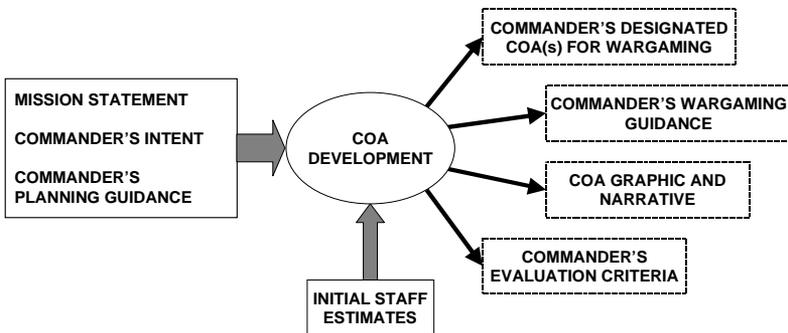


Figure 5-3. Course of action development.

During COA development, staffs continue to use e-mail, discussion forums and public folders to share information and plan. Once the planning for this stage is complete, products are moved from the unit’s intranet to the internet. COAs are posted in both visual and narrative form to the unit’s internet. There may be either PowerPoint briefs with speaker notes included or a combination of C2PC overlays with a separate text narrative.

Regardless of form, in addition to posting on the internet, these products should be pushed to critical recipients via e-mail, courier, or C2PC transmission. As an alternative, the items can be posted to the website, units notified of their location and then verification received when the units downloaded the products. The method is not the important factor; the critical point is that all parties understand the method chosen

5003. Course of Action War Game

This step involves a detailed assessment of each COA as it pertains to the threat and the battlespace. See Figure 5-4. Each friendly COA is wargamed against selected threat COAs. COA wargaming assists the planners in identifying relative strengths and weaknesses, associated risks, and asset shortfalls for each friendly COA. Additionally, COA wargaming identifies branches and potential sequels that may require additional planning. Short of actually executing the COA, wargaming provides the most reliable basis for understanding and improving each COA.

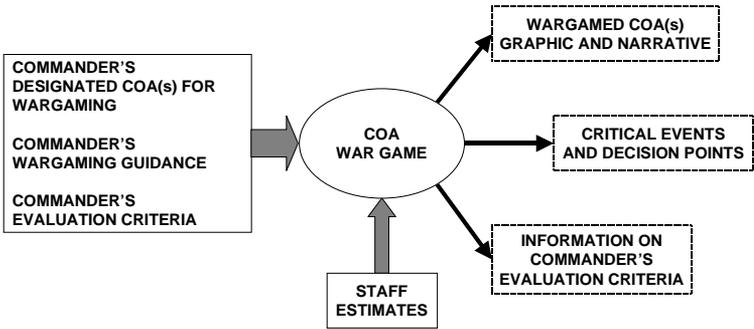


Figure 5-4. Course of action war game.

COA wargaming allows the staff and subordinate commanders to gain a common understanding of friendly—and possible threat—COAs. This common understanding allows them to determine the advantages and disadvantages of each COA and forms the basis for the commander's COA comparison and decision. COAs designated by the commander to war game are easily retrieved using effective internet/intranet procedures that use a standard naming and location convention to record text and visual display mapping products/overlays for each COA developed. During COA

wargaming, the staff can use collaborative planning tools to record and share the results of each COA.

Once completed and approved, products should be made available to higher, lower and adjacent units by posting on the unit’s internet. Microsoft Word tables or Excel spreadsheets are ideal for presenting matrixes.

5004. Course of Action Comparison and Decision

The commander’s friendly COAs are first compared against established criteria, then against each other. Based on this comparison, the commander selects the COA that he deems will best accomplish the mission. Figure 5-5 identifies the input, process, and output for COA comparison and decision.

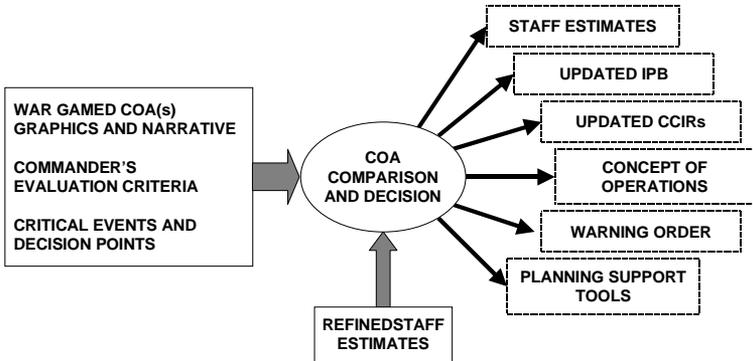


Figure 5-5. Course of action comparison and decision.

COA comparison and decision requires wargamed COAs with graphic and narrative, list of critical events and decision points, and information on the commander’s evaluation criteria. Other outputs useful in this step may include; wargamed products (COA war game worksheet, synchronization matrix, event templates, planning support tools), war game results (initial task organization, identification of assets required and shortfalls, and updated CCIRs), staff estimates, and subordinate commander’s estimates of supportability. COA comparison and decision at lower echelons of command may simply be an informal exchange of information between the commander and his staff on the results of the war game. At higher levels of command, this step is normally a formal sequence of activities that involves

COA evaluation, COA comparison, commander's decision, preparation of the concept of operation, and issuance of the warning order.

5005. Orders Development

Orders are developed to direct the action of the unit. During orders development, the staff takes the commander's COA decision, mission statement, commander's intent and guidance, and develops orders to direct the actions of the unit. Orders serve as the principal means by which the commander expresses his decision, commander's intent, and guidance. Figure 5-6 identifies input, process and output to support orders development.

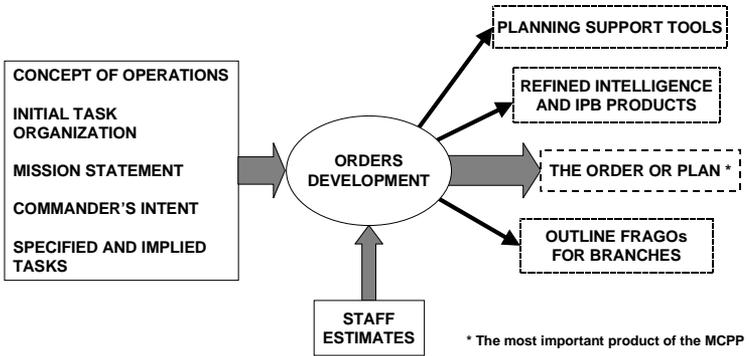


Figure 5-6. Orders development.

The initial task organization, mission statement, commander's intent, concept of operations, and specified and implied tasks, along with the information developed throughout the planning process, form the input for orders development. Other input can be recorded and shared using internet/intranet procedures and capabilities, which may include; updated intelligence and IPB products, planning support tools, updated CCIR, staff estimates, synchronization matrix, commander's identification of branches for further planning, warning order, existing plans, and standing operating procedures/orders.

As the operations order is assembled and developed, it may be maintained on-line via Word and Web Folders. It is imperative that the operation order

contains a footer with a version number. As changes are made to the document, the version number must be changed.

5006. Transition

Transition provides a successful shift from planning to execution. It enhances the situational awareness of those who will execute the order, maintains the intent of the concept of operations, promotes unity of effort, and generates tempo. It is a continuous process that requires a free flow of information between commanders and staffs by all available means. Internets/intranets help to ensure critical and relevant information is being shared. Transition may be conducted by using on-line discussions, newsgroups, and e-mail. Since higher, lower and adjacent headquarters have access to the products produced at each step of the process via the unit's internet, they should be familiar with the plan. Figure 5-7 describes input, process, and output to support transition.

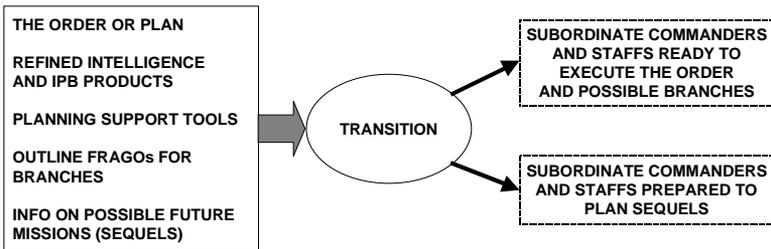


Figure 5-7. Transition.

Once the unit begins executing the order, the staff can refer to the website used to support the planning process at anytime. It can be an invaluable reference for those tasked to execute the plan to ensure they comply with the spirit and intent of the plan.

Appendix A

Technologies

Tool	Definition
Networking	<ul style="list-style-type: none">• TCP/IP and related protocols• Windows NT• Network Security• Communication System Capabilities• MS IIS
Applications	<ul style="list-style-type: none">• MS Frontpage• MS Visual Interdev• SQL Server/MS Access• MS Exchange• MS Outlook• MS Word• MS Excel• MS Powerpoint• MS Site Server• MS Index Server
Development Tools and Languages	<ul style="list-style-type: none">• Javascript• Visual Basic• Active Server Pages• HTML• Dynamic HTML• CSS• Outlook Forms• ActiveX Controls• COM components• NNTP• SMTP

Table A-1. Technologies.

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Appendix B

Glossary

Section I Acronyms

Note: Acronyms change over time in response to new operational concepts, capabilities, doctrinal changes and other similar developments. The following publications are the sole authoritative sources for official military acronyms:

1. Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms*.
 2. MCRP 5-12C, *Marine Corps Supplement to the Department of Defense Dictionary of Military and Associated Terms*.
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ASCII	American Standard Code for Information Interchange
AUTODIN	Automatic Digital Network
C2PC	Command and Control Personal Computer
CCIR	commander's critical information requirement
COA	course of action
FTP	file transfer protocol
HTML	hypertext markup language
HTTP	hypertext transfer protocol
IIS	Internet Information Server
IM	information management
IP	internet protocol
IPB	intelligence preparation of the battlespace

MAGTF	Marine air-ground task force
MCPD	Marine Corps Planning Process
MCWP	Marine Corps warfighting publication
MSTP	MAGTF Staff Training Program
NIPRNET	Unclassified but Sensitive Internet Protocol Router Network
OWA	Outlook Web Access
.pdf	Portable Document Format
SIPRNET	SECRET Internet Protocol Router Network
SQL	Sequel

Section II Definitions

Note: Definitions of military terms change over time in response to new operational concepts, capabilities, doctrinal changes and other similar developments. The following publications are the sole authoritative sources for official military definitions of military terms:

1. Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms*.

2. MCRP 5-12C, *Marine Corps Supplement to the Department of Defense Dictionary of Military and Associated Terms*.

B

Boolean search—A search using one or more of the Boolean operators AND, OR, and NOT.

C

collaborative application—A program that enables groups to work together in virtual teams to collect, organize, distribute, and track vital information across the MAGTF.

commander's critical information requirements—A comprehensive list of information requirements identified by the commander as being critical in facilitating timely information management and the decision making process that affect successful mission accomplishment. The two key subcomponents are critical friendly force information and priority intelligence requirements. Also called **CCIR**. (Joint Pub 1-02)

D

database—1.A large collection of data organized for rapid search and retrieval. 2.A program that manages data, and can be used to store, retrieve, and sort information. Some database programs are Lotus Approach, Microsoft Access, Filemaker, and dBASE.

data mining—A class of database applications that look for hidden patterns in a group of data. Data mining discovers previously unknown relationships among the data.

decision support matrix—An aid used by the commander and staff to make battlefield decisions. It is a staff product of the war-gaming process which lists the decision point, location of the decision point, the criteria to be evaluated at the point of the decision, the action or options to occur at the decision point, and the unit or element that is to act and has responsibility to observe and report the information affecting the criteria for the decision. (MCRP 5-12A)

Digital Dashboard A dynamic web page that runs within the Outlook Today feature of Microsoft Outlook 2000. The Digital Dashboard delivers critical, tailored information directly to a knowledge worker's desktop by integrating personal, team, corporate, and external data in a single familiar environment.

domain—A group of computers and devices on a network that are administered as a unit with common rules and procedures. Within the Internet, domains are defined by the internet protocol (IP) address. All devices sharing a common part of the IP address are said to be in the same domain.

F

FrontPage Server Extensions A set of programs on a Web server that support authoring and administering Microsoft FrontPage® Websites.

H

hypertext markup language—The language used to create world wide web pages, with hyperlinks and markup for text formatting (different heading styles, bold, italic, numbered lists, insertion of images, etc.).

hypertext transfer protocol—The protocol most often used to transfer information from world wide web servers to browsers, which is why web addresses begin with `http://`. Also called hypertext transport protocol.

I

information management—The processes by which information is obtained, manipulated, directed, and controlled. IM includes all processes involved in the creation, collection and control, dissemination, storage and retrieval, protection, and destruction of information. (MCPR 6-23A.)

internet— A set of dissimilar computer networks joined together by means of routers that handle data transfer from the sending network to the protocols used by the receiving networks. These networks and gateways use the TCP/IP suite of protocols. The Internet (with a capital I) is the world's largest internet.

intranet—A local area network within the confines of organizational boundaries. An intranet may or may not be connected to the Internet, but which has some similar functions.

O

Outlook 2000—A mail client and personal information manager with groupware functions. It includes an e-mail client, forms design, calendaring, contact and task management (to-do lists), shared folders, and freeform notes. It also provides a journaling capability for tracking events. Outlook 2000 can be used as the client end to Exchange Server.

Outlook View Control—An add-in that enables you to add Outlook® 2000 client functionality to a web page. For example, you can add an Outlook® 2000 view to an exchange public folder or user's mailbox.

Outlook Web Access—Provides secure access to e-mail, personal calendar, group scheduling, and collaborative applications on Exchange Server by using only a web browser.

P

public folder A folder held outside of the mailboxes of all of the messaging users on a message store. A public folder can be used as a bulletin board or online forum. Public folders are located on an Exchange Server and allow you to collect, organize, and share information with others on your team or across your organization.

R

relational database—A database in the form of tables which have rows and columns to show the relationships between items, and in which information can be cross-referenced between two or more tables to generate a third table. A query language is used to search for data. If data is changed in one table, it will be changed in all related tables.

S

staff estimates—Assessments of courses of action by the various staff elements of a command that serve as the foundation of the commander's estimate. (Joint Pub 1-02)

synchronization matrix—A format for the staff to record the results of wargaming and synchronize the course of action (COA) across time, space, and purpose in relation to the enemy's most likely COA. The staff can readily translate a synchronization matrix into a graphic decision-making product such as a decision support matrix. Each battlefield operating system can develop its own synchronization matrix for more detail on specific tasks. (MCRP 5-12A)

W

webmaster—The person who administers a website. The webmaster is often also the designer of some or all of the site's pages.

web pages—Web pages are documents on the Internet or an intranet. A Web page consists of an HTML file, with associated files for graphics, scripts, and controls, in a particular directory on a particular computer.

website—A server computer that makes documents available on the world wide web. Any Microsoft Windows machine may be a web server. Websites are accessed by Uniform Resource Locators (i.e., <http://www.mstp.quantico.usmc.mil>).