

MARINE CORPS SYSTEMS COMMAND



C4I

INTEROPERABILITY AND INTEGRATION MANAGEMENT PLAN

(C4I I&IMP)

19 April 2004

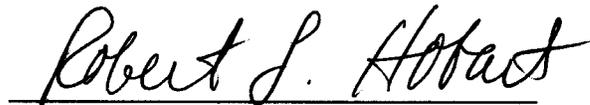
**Marine Corps Systems Command
Command, Control, Communications, Computers, and Intelligence
Interoperability and Integration Management Plan
(MARCORSYSCOM C4I I&IMP)**

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19 April 2004



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1. INTRODUCTION.

1.1 Purpose

The purpose of the Command, Control, Communications, Computers, and Intelligence (C4I) Interoperability and Integration Management Plan (C4I I&IMP) is to describe the procedures, processes, responsibilities and authorities of the various organizations within Marine Corps Systems Command (MARCORSYSCOM) with respect to the cooperative design, development, testing, and fielding of Information Technology (IT) and National Security Systems (NSS).

1.2 Scope

This document is intended to govern the interoperability and integration (I&I) of all IT and NSS as identified in the Department of Defense (DoD) Directive 4630.5 reference (a) under the acquisition management of MARCORSYSCOM. It specifically includes systems fielded to both the operating forces and the supporting establishment under the research, development, acquisition, fielding, and lifecycle management of MARCORSYSCOM. It also provides guidance for systems under the acquisition oversight of other agencies that are supported from MARCORSYSCOM.

1.3 Goals

The strategic goal of the C4I I&IMP is to field a war-winning C4I information handling system which meets the current and emerging needs of Marine Corps warfighters while presenting the lowest feasible logistics burden in the battlespace. Objectives to achieving this goal are:

- Define the organizational relationships among the various MARCORSYSCOM agencies engaged in acquisition of C4I systems.
- Describe the methods for collaborative decision-making on C4I I&I issues.
- Define the details of the interrelationships between separate acquisition programs and enterprise-level oversight.

1.4 Cancellations.

This document replaces the following publications, orders, and policy statements:

- Management portions of the Marine Tactical System (MTS) Tactical Interface Design Plan (TIDP); other portions of the MTS TIDP have been cancelled by publication of the Enterprise Integrated Product (EIP) Configuration Management Plan (ECMP), reference (b).
- Systems Engineering and Integration (SE&I) Division Standard Operating Procedures, dated March 2001.
- MARCORSYSCOM Order 5230.3 Marine Air-Ground Task Force (MAGTF) C4I Surveillance & Reconnaissance (C4ISR) Integrated Package (MIP) Process dated 27 April 2001.
- Handbook for C4I I&I Target Board Process dated 17 May 2002.

2. ORGANIZATIONAL RELATIONSHIPS.

2.1 Overview.

The organization of MARCORSYSCOM is depicted in figure 2-1. Command relationships are usually shown in circular form in order to emphasize the collaboration and teamwork which is the hallmark of the Command. See reference (c) for further details.

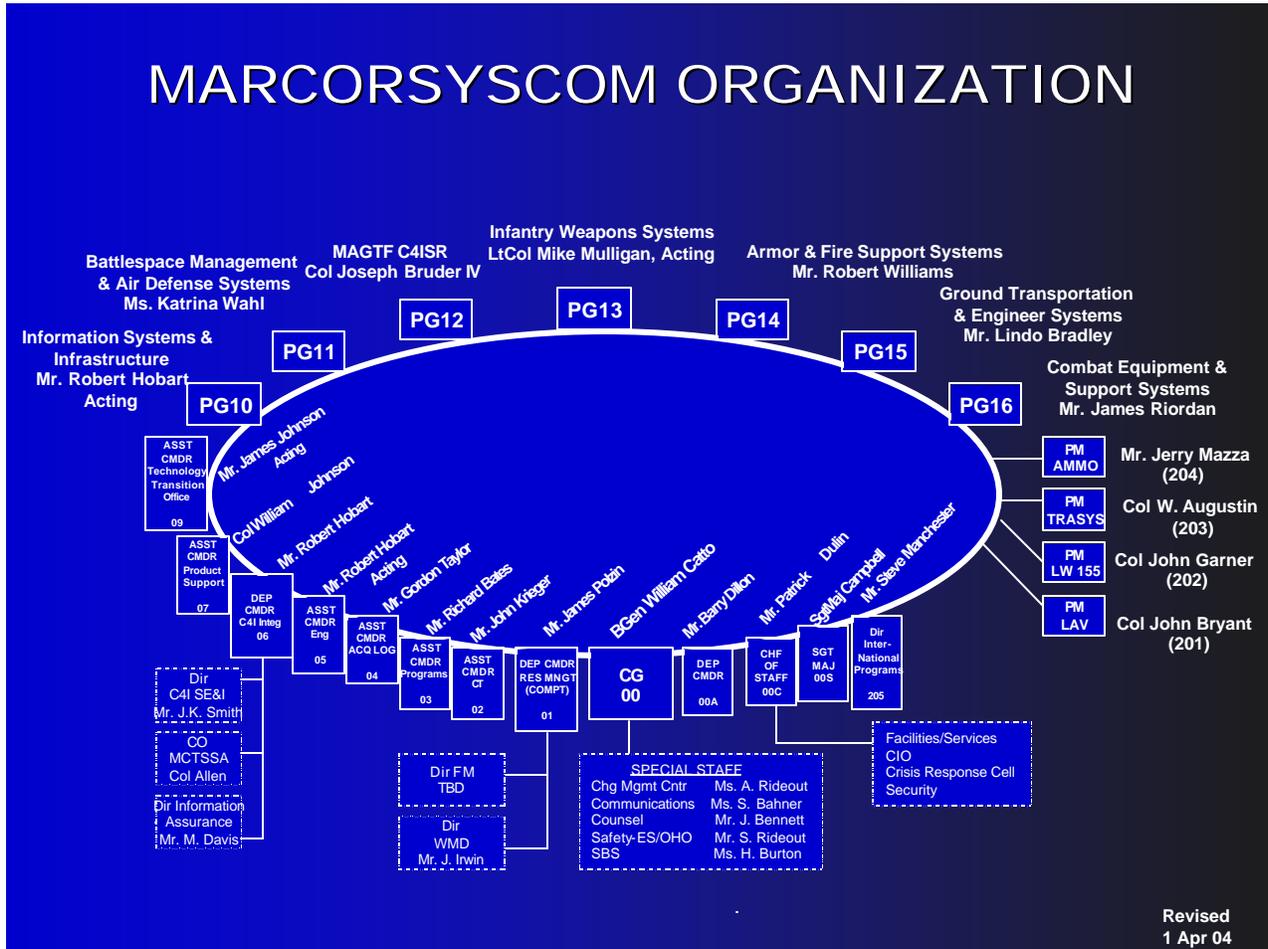


Figure 2-1: MARCORSYSCOM Organization

2.2 Deputy Commander C4I Integration (DC C4I/I).

2.2.1 Duties. Assigned duties of the DC C4I/I are:

- Bring together the appropriate product group Strategic Business Team leaders for integration decision-making;
- Lead the C4I/I Support Team;
- Support the transformation of the Marine Corps Tactical Systems Support Activity (MCTSSA) into a Systems Integration Environment;

- Manage the C4I/I Support Team to accomplish configuration management of the EIP, to provide analytical support to the C4I/I Support Team, and to execute EIP tasking;
- Represent the Command and the Commander on external C4I I&I working groups;
- Extend interoperability and integration responsibilities to the entire United States Marine Corps (USMC) IT Enterprise;
- Act as the System and Technical View Architect for the USMC Enterprise IT Architecture (EITA), and lead the resolution of any conflicts with the Operational View Architecture.

2.2.2 Staff Supervision. The DC C4I/I develops C4I I&I policy and exercises staff supervision over C4I I&I execution. Staff supervision is defined as:

“The process of advising other staff officers and individuals subordinate to the commander of the commander’s plans and policies, interpreting those plans and policies, assisting such subordinates in carrying them out, determining the extent to which they are being followed, and advising the commander thereof.” (Joint Publication 1-02 ‘DoD Dictionary of Military and Associated Terms’ (reference (d)).

2.2.3 C4I/I Support Group. The DC C4I/I leads the C4I/I Support Group (SG06) within the Command. SG06 consists of the C4I Systems Engineering and Integration (C4I SE&I) Division (SG061), the Information Assurance (IA) Division (SG062) and the Marine Corps Tactical Systems Support Activity (MCTSSA) (SG063). Additional teams under the C4I/I Support Group are the Technology Transfer Team, and the Operations Team.

2.2.3.1 C4I SE&I Division. The C4I SE&I Division supports command-level oversight for the Commanding General MARCORSYSCOM of C4ISR system engineering and integration, and leads the team of C4ISR system engineering professionals in the instantiation and maintenance of the Marine Corps Enterprise IT Architecture.

2.2.3.2 MCTSSA. MCTSSA supports the C4I/I systems engineering process by establishing a Systems Integration Environment (SIE) to support analysis of C4ISR systems interoperability and integration. MCTSSA also supports joint interoperability certification by the Joint Interoperability Test Command (JITC) for acquisition programs. Additionally, MCTSSA operates as a Joint Distributed Engineering Plant (JDEP) participant, and provides assistance to the operating forces to remedy interoperability and integration problems encountered with fielded C4ISR systems. Lastly, MCTSSA provides direct software engineering support to acquisition product teams when requested.

2.2.3.3 Information Assurance (IA). The IA Division supports the C4I/I systems engineering process by leading an information assurance (IA) program for MARCORSYSCOM which includes the certification and accreditation of all tactical and strategic C4ISR AISs, C4ISR Information Security support, and

Program Objective Memorandum (POM) support of Communications Security hardware and software to the Marine Corps.

2.2.3.4 Technology Transfer Team. The Technology Transfer Team supports the C4I/I systems engineering process through the identification and integration of evolving technologies that provide improved capability to existing and planned USMC C4ISR systems, and provides input to the various Military Capability Package (MCP) initiatives and Future Naval Capabilities (FNC) initiatives regarding the technical maturity and risk of transition to an acquisition program.

2.2.3.5 Operations Team. The Operations Team supports the C4I/I systems engineering process through its business model, inclusive of administrative and personnel management, coordination of Command taskers, and other activities related to the efficiency of the C4I/I Infrastructure. Additionally, the Operations Team supports staff activity coordination.

2.3 Product Group Directors (PGD) and Unassigned Program Management Offices.

2.3.1 PGDs. PGDs are responsible to the Commanding General, MARCORSYSCOM for the execution of their assigned acquisition programs according to existing regulations and policies from competent authority. Each PGD maintains a Strategic Business Team (SBT), which includes a group-level systems engineer.

2.3.2 Unassigned Program Managers (PM). Unassigned PMs perform the same functions as the PGDs, usually for a smaller number of programs. Some unassigned PMs maintain a systems engineering capability on the program manager's support staff, in lieu of a full strategic business team (SBT).

2.3.3 Product Teams within MARCORSYSCOM. All product teams within MARCORSYSCOM include a systems engineering capability within the product team.

2.3.4 Responsibilities. The PGDs and unassigned PMs within MARCORSYSCOM participate in policy development and the resolution of C4I I&I issues through their collaboration on the C4I/I Board. Systems engineers within the SBTs and the unassigned PM offices support the execution of C4I I&I policies through their interactions with the product team leaders and system engineers; they also assist in identifying and resolving I&I issues through their membership in the Enterprise Interoperability Working Group (EIWG). System engineers assigned to product teams carry out the C4I I&I policies within their assigned teams and assist in identifying and resolving I&I issues through their participation in the standing working groups of the EIWG and the Target Board Working Groups.

2.4 External Program Management Offices Supported by MARCORSYSCOM.

There are several program management offices outside of MARCORSYSCOM that are supported to various degrees by MARCORSYSCOM agencies. The largest of these is the Direct Report Program Manager for Advanced Amphibious Assault (DRPM AAA). Usually, these offices work in a collaborative way with the DC C4I/I. Though C4I I&I policies developed within MARCORSYSCOM are not necessarily mandatory for their programs, they are often mandatory for many of the systems that are integrated into their system.

2.5 Milestone Decision Authority.

Milestone Decision Authority (MDA) is derived from the DoD 5000 series documents, references (e) and (f). Nothing in this C4I I&IMP is intended to supercede the Milestone Decision Authority. However, the Director C4I SE&I Division will submit an independent evaluation of a system's performance against its interoperability and integration goals during program milestone reviews and as part of the EIP Assessment Reports, and submit it as part of the Milestone Decision Process evaluation.

3. ENTERPRISE INTEGRATED PRODUCT

3.1 Purpose.

The EIP is the name given to the collection of all of the systems that are under the staff supervision of the DC C4I/I. It is a theoretical management construct, only. It helps to define the specific programs where DC C4I/I exercises staff supervision. It incorporates warfighting systems, business management systems, and the IT and communications portions of weapons systems. It does not require changes to the current MDA's or PGDs' supervision of programs; nor does it require changes to the current methods for controlling resources within the Command.

3.2 Definition.

The EIP is defined as all systems under the direct cognizance of the Commanding General MARCORSYSCOM or drawing resource support from MARCORSYSCOM which:

- Meet the Clinger-Cohen criteria; that is systems which connect in any way with DOD data networks, either tactical or non-tactical;
- Connect to other C4ISR networks, such as Joint Tactical Information Distribution System (JTIDS), Tactical Data/Digital Information Link (TADIL) J, Link 16, voice circuits and networks, and the Integrated Broadcast Service (IBS);
- Have future potential to connect to the networks above;
- Include the C4ISR component of platforms where the systems above are installed during normal operations;
- Provide support to the systems above that use digital communications, such as training systems, special and general-purpose test equipment.

In addition, some systems are included in the EIP for monitoring purposes, even if they are under acquisition authority in other system commands, as long as they are routinely used by the Marine Corps.

3.3 Command and Control (C2) Functional Areas.

The programs and systems within EIP are divided into sixteen C2 functional areas for analysis. Figure 3.1 depicts the relationship of these functional areas to the decision-maker.

3.3.1 Warfighting Functional Areas (6).

These include:

- Systems for the control of maneuver and direct fires,
- Systems for the control of intelligence,
- Systems for the control of indirect fires,
- Systems for the control of logistics,
- Systems for the control of force protection,
- Systems for the control of air operations.

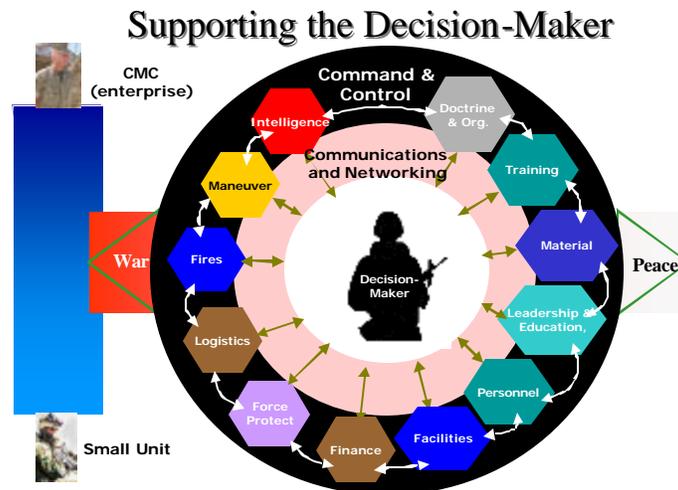


Figure 3-1: Relationship of Functional Areas to Decision-Maker

3.3.2 Business Management Areas (8).

These include:

- Systems used to support or manage the development of doctrine,
- Systems used to administer, support or manage the development of Marine Corps organizations,
- Systems used to support or manage training,
- Systems used to support or manage material development, including acquisition, research and development, and scientific exploration,
- Systems used to support or manage leadership and education,
- Systems used to support or manage personnel administration,
- Systems used to support, operate, or manage Marine Corps facilities,
- Systems used to conduct financial operations.

3.3.3 Communications and Networking.

Systems used for communications and networking, either tactical or administrative, and common IT components form a single C2 functional area.

3.3.4 The C2 Functional Area.

The C2 functional area includes systems that provide oversight into the other functional areas taken as a group, systems that support commanders' direct decision-making, and systems that support dissemination of the decision-maker's orders but are not included in any other functional area.

4. DECISION-MAKING WITHIN THE ENTERPRISE INTEGRATED PRODUCT

4.1 Requirement.

Control of C4I I&I within MARCORSYSCOM is a staff supervision function; it is necessary to collaborate within the Command on issues affecting C4I I&I. The need exists to respond to C4I I&I issues emerging from internal factors, such as cross-product-group planning and execution, C4I I&I policy development, and EIP configuration control. Also, the need exists to collaborate within the Command on responses to external factors such as:

- Joint Battle Management C2 (JBMC2)
- Global Information Grid (GIG)
- Common Operating Environment (COE) and GIG Enterprise Services (GES)
- Army Future Combat System (FCS)
- Navy Seapower 21 and FORCENet
- Air Force Constellation Architecture
- Joint Family of Integrated Operational Pictures
- Issues from the Marine Corps Operating Forces
- Issues with interoperability between systems developed by MARCORSYSCOM and those developed by other systems commands.

In addition to collaboration within the Command, other affected Marine Corps stakeholder organizations must be consulted when making decisions or policies, which affect MARCORSYSCOM products. Some of these include: Headquarters Marine Corps (HQMC), Marine Corps Combat Development Command (MCCDC), Marine Corps operating forces and the reserve component, Marine Corps base commands, Marine Corps Enterprise Network operators, and the systems commands of the other Services. Detailed processes will be described in Appendix H.

4.2 Decision-Making Structure.

The decision-making structure for this C4I I&IMP is depicted in figure 4-1. It consists as a three-tiered decision tree, including the C4I Integration Board, the EIWG, and standing and temporary working groups. Issues are assigned to standing and temporary working groups with detailed subject-matter knowledge in order to develop recommended decisions; these decisions are reviewed at the EIWG by senior systems engineers within the Command and representatives of the appropriate stakeholder organizations; the recommendations are then forwarded to the C4I Integration management board for final approval.

C4I I&I Governance Strategy Collaboration and Decision-Making

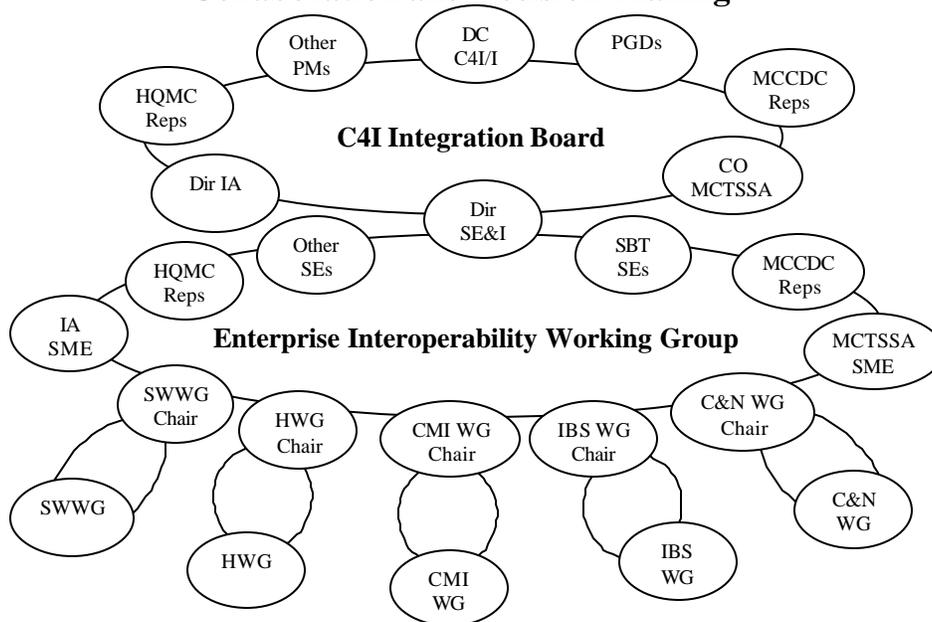


Figure 4-1: C4I I&I Decision Making Structure

4.3 C4I/I Board.

The C4I/I Board meets monthly. This board is led by the DC C4I/I. Membership consists of:

- Deputy Commander, C4I Integration
- Directors of all MARCORSSYSCOM product groups,
- Commanding Officer MCTSSA,
- Program Managers of MARCORSSYSCOM programs not assigned to a product group,
- Division heads of the C4I/I Support Group,
- Representatives from HQMC (C4)
- Representatives from MCCDC (C2)

The C4I/I Board is a formal meeting and is open to agenda items from all members. Its purpose is to provide a forum for coordination of efforts and issues across product groups and to coordinate current and future C4I I&I plans. The charter for the C4I/I Board is provided at Appendix D. Depending on the issues to be addressed, the C4I Integration Board may also function as the ECCB or the Target Board.

4.3.1 Enterprise Configuration Control Board (ECCB).

The ECCB is formed from the members of the C4I/I Board. Refer to the ECMP for a list of ECCB members. The ECCB is the principal organization for enterprise-level configuration management of the EIP. The ECCB advises the DC C4I/I on the impacts of Class I engineering changes to systems within the EIP and the DC C4I/I acts as the

final decision authority. See the EIP Configuration Management Plan (ECMP), reference (b), for discussion on Class I engineering change proposals (ECP). Procedures for configuration management of the EIP are contained in the ECMP. The ECCB will be convened when required. Current procedures for EIP configuration management delegate approval authority to the Director C4I SE&I, when there is no disagreement at the EIWG. The Director C4I SE&I provides routine written reports to the members of the ECCB summarizing changes to the configuration of the EIP which have been approved or rejected. In the event that concurrence cannot be achieved at the EIWG, then the issue will be raised to the C4I/I Board.

4.3.2 EIP Target Board (Target Board).

The Target Board is formed from the members of the C4I/I Board. Refer to Appendix E for a list of Target Board members. The Target Board's purpose is to advise the DC C4I/I on the impacts of technical and non-technical issues that affect the interoperability of MARCORSSYSCOM C4I systems that are beyond the scope of any individual PGD to resolve and that may require significant coordination or investigative effort to resolve. The Target Board may be asked to address interface configuration management issues when a consensus cannot be achieved at lower levels. The Target Board will be issue-oriented and normally meets quarterly in March, June, September, and December. Target Board meetings will be held on the same day as the monthly C4I/I Board meeting for the selected months and either precede or follow that meeting. The Target Board Process is described in Appendix E to this C4I I&IMP.

4.4 Enterprise Interoperability Working Group (EIWG).

The EIWG provides the working-level coordination necessary to prepare and submit C4I I&I recommendations to the C4I Integration Board for decisions. This working group, functioning under the authority of the Director, C4I SE&I Division, consists of the lead system engineers from each product group, subject-matter leaders from MCTSSA, engineering representatives from each unassigned program managers, and appropriate engineering representatives from MCCDC and HQMC. The EIWG makes recommendations to the C4I/I Board regarding proposed changes to interoperability configuration items, C4ISR data elements and Marine Corps positions on Joint/Combined interoperability standards. The EIWG is responsible for conducting configuration management of the Marine Corps C4ISR architecture and Joint/Combined interoperability standards. The EIWG is also responsible for providing routine oversight and coordination of the Standing Working Groups as well as any Target Board Working Groups that might be formed. The charter for the EIWG is contained in Appendix F.

4.5 Standing Working Groups.

The C4I/I Board has approved five Standing Working Groups. They include the Hardware Working Group (HWG), Software Working Group (SWWG), Communications and Network Working Group (C&N WG), Integrated Broadcast Service Working Group (IBS WG), and the Cryptographic Modernization Initiative Working Group (CMI WG). The purpose of these teams is to develop recommendations on courses of action for resolving interoperability and integration issues within their designated specialty areas. The charters for the Standing Working Groups are contained as Annexes to the EIWG charter in Appendix F.

4.6 Target Board Working Groups.

Target Board Working Groups may be chartered as an Integrated Product Team (IPT) as defined in Appendix E. When so chartered, they will operate under the governance of the EIWG until their assignment is completed, at which time the C4I/I Board will disband them.

5. PROGRAM COORDINATING INSTRUCTIONS

5.1 Overview.

The DC C4I/I exercises staff supervision of interoperability and integration within MARCORSYSCOM. These responsibilities are described in Sections 1 and 2. The DC C4I/I leads the C4I/I Support Group (SG06) within the Command. SG06 consists of MCTSSA (SG063), the C4I SE&I Division (SG061), and the IA Division (SG062). Among these three organizations, C4I SE&I Division has the lead for supporting the DC C4I/I in executing his C4I I&I responsibilities. C4I SE&I Division is organized as shown in figure 5-1.

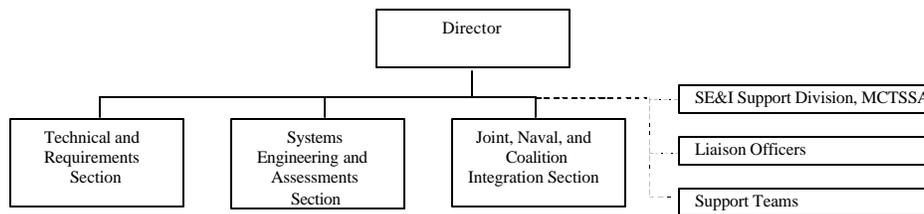


Figure 5-1: C4I SE&I Division Organization

The method chosen to exercise staff supervision involves centralized planning, facilitated by the C4I SE&I Division and involving all execution and stakeholder agencies, de-centralized execution monitored by the EIP System Engineer within C4I SE&I, periodic performance measurement of the EIP federation-of-systems (FedOS¹) under the direction of the EIP Test Director within C4I SE&I, and the capture of the tested EIP configuration by the Configuration Management Team within C4I SE&I. Each of these activities is described below.

5.2 Integrated Architecture Database.

The key support tool for effective staff supervision of C4I I&I is the existence of an authoritative C4I integrated architecture database. This integrated architecture database exists in two parts: the Marine Corps Operational Architecture, under the cognizance of MCCDC, and the MAGTF Systems/Technical Architecture Repository (MSTAR), under the cognizance of MARCORSYSCOM. These have been combined to become the Marine Corps Architecture Support Environment (MCASE). MCASE provides the source data for preparing all architectural views produced by MARCORSYSCOM. The database contains detailed, specific information on command node functions, required operational interfaces and information exchange requirements, and C4ISR systems used to support information exchange requirements. Access to this database is available to all agencies involved in concept development, requirements definition, system design and acquisition, test agencies, training facilities, field activities, and agencies engaged in other life-cycle support of Marine Corps systems.

5.3 Centralized Planning.

The DC C4I/I does not have line authority for programs within the EIP federation of systems; rather, he/she exercises staff supervision for the integration of these systems.

¹ See Appendix A for the definition.

5.3.1 EIP Specifications.

There are no specifications to describe the EIP. Each system within the FedOS maintains its own set of system-level specifications. The DC C4I/I defines the EIP by means of the Marine Corps Integrated Architecture Picture (MCIAP). This is a stylized High-Level Operational Concept Graphic (OV-1), combined with a depiction of the assignment of systems to enterprise nodes, System Interface Description, Nodal Perspective (SV-1). It combines in one depiction an operational view 1 (OV-1) and system view 1 (SV-1) for Marine Corps organizations. This depiction provides decision-making support and a high-level view to assist PMs and Product Teams to understand the interface requirements for their systems. The MCIAP is developed from the combined integrated architecture database (MCASE).

5.3.2 C4I Support Plans (C4ISPs).

The C4ISP is required for every ITS and NSS by Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6212.01B (reference (g)). The DC C4I/I uses the C4ISP as a tool to specify detailed interface requirements to program managers and to manage the execution of interface development for every C4I program within MARCORSYSCOM. The DC C4I/I is the approval authority for C4ISPs at Acquisition Category (ACAT) levels III and IV, and for Abbreviated Acquisition Programs (AAPs) within MARCORSYSCOM. He/she also reviews and recommends approval for C4ISPs for ACAT I, IA and II systems to their respective Milestone Decision Authority (MDA).

The DC C4I/I assigns C4I I&I goals to each system or program by using the architectural views contained in the systems' C4ISP. The architectural views contained in the C4ISPs are derived from the integrated architectural database and provide the next level of detail down from the MCIAP. They are tailored to the operational requirements of the individual system. The Technical Architecture Profile (TV-1) provided in the C4ISPs will specify not only system specification requirements, but also policies internal to the EIP which are necessary to ensure that the system under development conforms to the EIP Master Acquisition Strategy (to be issued), in addition to policies and procedures mandated by external Agencies. The C4ISP also describes the product team leader's plans for including the requirements described in the operational, system, and technical views for the product in the development and testing of the system.

The C4ISP is approved by the DC C4I/I following endorsements by the PM of the system under development, (including concurrence of the PMs of the systems which support and/or have interfaces to the system under development), the appropriate PGD, and the Director C4I SE&I. Once approved, the C4ISP becomes a configuration control item under the EIP, to be managed within the scope of the ECMP (reference (b)), and changes to a system's C4ISP require approval by the DC C4I/I.

Appendix G of this plan contains procedures for preparation, approval, and modification of the C4ISP, including information on how Marine Corps ACAT I, IA, and II programs develop C4ISPs, and how they coordinate their effort with MARCORSYSCOM and procedures to follow in reviewing C4ISPs developed outside of MARCORSYSCOM. The requirement for a C4ISP may be waived in some circumstances, described in Appendix G, Attachment G-2. In this case, each program shall be required to submit the minimum set of architectural views for approval by the DC C4I/I. Once approved, this minimum set stands in lieu of the C4ISP for the program until its next system upgrade.

5.4 De-Centralized Execution.

Because constituent systems of the EIP FedOS are developed and managed independently within the various product groups and program management offices, the DC C4I/I uses a method of decentralized staff supervision of the C4I I&IMP. During this phase of the plan, the EIP System Engineer, in coordination with the respective SBT Lead Engineer, is responsible for reviewing programmatic documentation, system design documentation, system baselines, and system test reports, as necessary, to confirm that the goals set in the C4ISP are being met. The EIP System Engineer is responsible for facilitating the resolution of emerging issues, either by immediate action or by referral to the C4I/I Board.

During this phase, the Director C4I SE&I will, upon request, assign C4I system engineers to product teams in Product Groups Infantry Weapons Systems (PG-13), Advanced Fire Support Systems (PG-14), Ground Transportation and Engineer Systems (PG-15), and Combat Equipment and Support Systems (PG-16), as well as to unassigned program management offices.

5.5 Federation-of-Systems Performance Measurement.

The DC C4I/I needs a quantitative way to measure the performance of interoperability and integration for the EIP FedOS. To achieve this, the EIP Test Director shall conduct an assessment of fielded and near-term systems within the EIP on an annual basis. The results of this testing will be documented in a report to the DC C4I/I and to the Commanding General; copies will be provided to the PGDs. The detailed processes and procedures for conducting EIP assessments and analyses will be described in the EIP Master Test Plan, to be issued. The MCTSSA VII MEF Systems Integration Facility Verification and Validation Plan and Procedures are at Appendix I.

5.6 Configuration Baseline Capture.

The EIP Configuration Management Team in the Technical and Requirements Section, C4I SE&I shall document the configurations of the systems that participate in the annual EIP Performance Measurement assessment.

5.7 Configuration Baselines.

Within the EIP, baselines are designated based upon the equivalency of each EIP execution stage to an analogous acquisition program.

5.7.1 Allocated Baseline.

The MCIAP represents the EIP Allocated Baseline because it allocates separate systems to Marine Corps units and agencies.

5.7.2 Functional Baseline.

The collection of approved C4ISPs and C4ISP waivers with designated architectural products, constitutes the equivalent of a functional baseline for the EIP because it contains the details of the system functions and interfaces between systems.

5.7.3 Product Baseline.

The list of system configurations captured and tested during the EIP performance measurement assessments constitutes the equivalent of a system baseline for the EIP because it represents the actual configuration of the fielded and production systems.

5.7.4 Configuration Status Accounting Report (CSAR).

The EIP baselines are documented in an EIP CSAR, which is produced by the C4I SE&I Configuration Management Team. The CSAR is published quarterly and provides an executive-level summary of the EIP configuration.

6. ROLES AND RESPONSIBILITIES.

The paragraphs below describe the roles and responsibilities for those involved in the management and success of the EIP.

6.1 Deputy Commander C4I Integration.

The Deputy Commander C4I Integration is responsible for:

- Analysis of all engineering requirements in support of all program milestone decision reviews for C4ISR systems and in reviews for programs that solicit C4ISR systems support and integration.
- Chairing the C4I/I Board, ECCB, and Target Board meetings.
- Coordinate the development of C4I Support Plans (C4ISP) for MARCORSSYSCOM systems across all appropriate architecture and development organizations, and providing final approval for the C4ISPs. Acting as the approval authority for C4ISPs of MARCORSSYSCOM AAPs, ACAT III and IV programs, any subsequent changes to approved C4ISPs, and any requests for waivers or delays.

6.2 Director C4I Systems Engineering and Integration.

The Director C4I SE&I supports command-level oversight for MARCORSSYSCOM of C4ISR system engineering and integration within the Command and leads the team of C4ISR system engineering professionals in the instantiation and maintenance of the Marine Corps Enterprise Architecture. This is accomplished by:

- Providing support to the Deputy Commander, C4I Integration (DC C4I/I) and the Assistant Commander, Engineering (ACENG) in the area of C4ISR systems interoperability, integration, commonality, architecture, new technology insertion, and overall C4ISR strategy.
- Developing and maintaining the Marine Corps C4ISR Systems and Technical Architecture, and Enterprise information in a series of MCIAP integrated views.
- Providing macro-level configuration management for systems of the EIP.
- Providing interoperability and integration analysis for C4ISR systems.
- Reviewing and analyzing program documentation of C4ISR systems in support of milestone decisions and providing recommendations to the milestone decision authority.
- Assisting PMs to prepare C4ISPs for DC C4I/I approval.
- Submitting approved and revised C4ISPs to higher headquarters.
- Maintaining the MCASE database and a library of all approved C4ISPs and other C4I system engineering documentation.
- Providing the engineering, interoperability and integration support for Marine Corps C4ISR systems integration aboard naval platforms, and act as the Marine Corps representative to the Navy D-30 program.

6.3 Product Group Directors.

PGDs are responsible for oversight of systems engineering for systems within their directorates and for resolving interoperability issues between systems within their directorates. PGDs are responsible for the identification of interoperability and integration issues between systems in different product groups. PGDs shall ensure that their systems engineering processes follow best practices as identified in IEEE Standard 1220-1998, reference (h), and this plan.

6.4 Program Managers (PMs).

PMs are responsible for oversight of engineering management for systems under their cognizance, and for resolving interoperability issues between systems within their program offices.

6.5 PGDs/PMs.

The PGDs and PMs are collectively responsible for:

- Developing and updating systems engineering management plans (SEMPs) or similar documents, as appropriate, for programs under their cognizance.
- Keeping SEMPs current throughout the life of systems under their cognizance.
- Ensuring their systems engineering efforts are consistent with this C4I I&IMP.
- Participating with C4I SE&I Division in screening the Command Automated Program/Information System (CAPS) to determine a need for C4ISPs and maintaining the program data in the CAPS database.

6.6 Product Team Leaders.

Product Team Leaders are responsible for managing the development, acquisition and fielding of Marine Corps systems. They are responsible for execution of their system's SEMP and adherence to this C4I I&IMP.

6.7 Commanding Officer MCTSSA.

The CO MCTSSA supports the systems engineering process by:

- Establishing a Systems Integration Environment (SIE) to support C4I SE&I analysis of C4ISR systems interoperability and integration, providing sufficient resources to support EIP verification and certification.
- Providing Marine Corps C4ISR systems for joint certification testing and ensure those systems requiring joint interoperability certification are certified prior to approval for full production.
- Providing support as a Joint Distributed Engineering Plant (JDEP) participant.
- Providing assistance to operating forces to remedy interoperability and integration problems encountered with fielded C4ISR systems.

6.8 Director Information Assurance.

The Director Information Assurance (IA) supports the systems engineering process by providing an information assurance program for MARCORSYSCOM to include the certification and accreditation of all tactical and strategic C4ISR AISs, C4ISR Information Security support, and Program Objective Memorandum (POM) support of Communications Security hardware and software to the Marine Corps.

APPENDIX A: ACRONYMS AND TERMINOLOGY

AAO: Authorized Acquisition Objective

AAP: Abbreviated Acquisition Program

AAVS: Amphibious Assault Vehicle Systems

ABL: Allocated Baseline

ACAT: Acquisition Category

ACENG: Assistant Commander, Engineering

ADWS: Air Defense Weapons Systems

AIS: Automated Information System

APM: Assistant Program Manager

Architecture: The structure of components, their relationships, and the principles and guidelines governing their design and evolution over time.

ASD/C3I: Assistant Secretary of Defense, Command, Control, Communications and Intelligence

ASP: Application Security Plan

ATO: Authority to Operate

BMADS: Battlespace Management and Air Defense Systems

BPA: Blanket Purchasing Agreement

BCT: BMADS Coordination Team

C&N: Communications and Networks

C2: Command and Control

C4: Command, Control, Communication, and Computers

C4I I&IMP: C4I Interoperability and Integration Management Plan

C4I: Command, Control, Communication, Computers and Intelligence

C4ISP: C4I Support Plan

C4ISR: Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance

CAPS: Command Automated Program/Information System

CCA: Clinger-Cohen Act

CG: Commanding General

CGS: Common Ground Station

CIO: Chief Information Officer

CISC: Complex Instruction Set Computer
CJCSI: Chairman Joint Command Staff Instruction
CMF: Common Message Format
CMI: Cryptographic Modernization Initiative
CMP: Configuration Management Plan
CNO: Chief of Naval Operations
CNRWG: Combat Net Radio Working Group
CO: Commanding Officer
COA: Coarse of Action
COE: Common Operating Environment
COMSEC: Communications Security
COTS: Commercial Off-the Shelf
CSAR: Configuration Status Accounting Report
CSIS: Combat Support Information Systems
D-30: Deployment minus 30 months
DASN: Deputy Assistant Secretary of the Navy
DC C4I/I: Deputy Commander, C4I Integration
DC/A: Deputy Commandant for Aviation
DCMS: Director of COMSEC Material System
DHS: Department of Homeland Security
DII COE: Defense Information Infrastructure Common Operating Environment
DIR C4I SE&I: Director, C4I Systems Engineering and Integration Division
DIRNSA: Director, National Security Agency
DISA: Defense Information Systems Agency
DMI: Data Management and Interoperability
DoD: Department of Defense
DoN: Department of the Navy
DOTMLPF: Doctrine, Organization, Training, Material, Leadership, Personnel, and Facilities
DRPM AAA: Direct Report Program Manager, Advanced Amphibious Assault
DRPM: Direct Report Program Manager
DT: Developmental Test
ECCB: Enterprise Integrated Product (EIP) Configuration Control Board
ECMP: Enterprise Integrated Product (EIP) Configuration Management Plan

EECP: EIP Engineering Change Proposal

EIP: Enterprise Integrated Product

EITA: Enterprise IT Architecture

EIWG: Enterprise Interoperability Working Group

EKMS: Electronic Key Management System

EW: Electronic Warfare

eXNET: Expeditionary Network

FAR: Federal Acquisition Regulations

FBL: Functional Baseline

FCS: Future Combat Systems

FIT: Functional Integration Team

FNC: Future Naval Capabilities

FedOS: Federation of Systems. A type of System-of-Systems that is managed without central authority and direction. The constituent systems of a FedOS are managed independently and have a purpose of their own. Because there is no central power or authority for direction, the participation of the constituents occurs through collaboration and cooperation to meet the objectives of the federation (reference (i)).

Functional Areas: Include:

a) Operating Forces EIP Functional Areas:

- 1) Command and Control: The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission (reference (d)).
- 2) Maneuver: 1. A movement to place ships, aircraft, or land forces in a position of advantage over the enemy. 2. A tactical exercise carried out at sea, in the air, on the ground, or on a map in imitation of war. 3. The operation of a ship, aircraft, or vehicle, to cause it to perform desired movements. 4. Employment of forces in the battlespace through movement in combination with fires to achieve a position of advantage in respect to the enemy in order to accomplish the mission (reference (d)).
- 3) Intelligence: 1. The product resulting from the collection, processing, integration, analysis, evaluation, and interpretation of available information concerning foreign countries or areas. 2. Information and knowledge about an adversary obtained through observation, investigation, analysis, or understanding (reference (d)).
- 4) Fire Support: Fires that directly support land, maritime, amphibious, and special operation forces to engage enemy forces, combat formations, and facilities in pursuit of tactical and operational objectives (reference (d)).
- 5) Logistics and Sustainment: The science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, those aspects of military operations which deal with: a. design and development, acquisition, storage,

movement, distribution, maintenance, evacuation, and disposition of materiel; b. movement, evacuation, and hospitalization of personnel; c. acquisition or construction, maintenance, operation, and disposition of facilities; and d. acquisition or furnishing of services (reference (d)).

- 6) Force Protection: Actions taken to prevent or mitigate hostile actions against Department of Defense personnel (to include family members), resources, facilities, and critical information. These actions conserve the force's fighting potential so it can be applied at the decisive time and place and incorporate the coordinated and synchronized offensive and defensive measures to enable the effective employment of the Joint force while degrading opportunities for the enemy (reference (d)).

b) Supporting Establishment EIP Functional Areas:

- 1) Doctrine: Fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgment in application (reference (d)).
- 2) Organization: For combat in amphibious operations, task organization of landing force units for combat, involving combinations of command, ground and aviation combat, combat support, and combat service support units for accomplishment of missions ashore. For embarkation in amphibious operations, the organization for embarkation consisting of temporary landing force task organizations established by the commander, landing force and a temporary organization of Navy forces established by the commander, amphibious task force for the purpose of simplifying planning and facilitating the execution of embarkation. For landing in amphibious operations, the specific tactical grouping of the landing force for the assault. In organization of the ground, the development of a defensive position by strengthening the natural defenses of the terrain and by assignment of the occupying troops to specific localities (reference (d)).
- 3) Training Systems, Training Management: The systems and associated management used to impart a knowledge or skill on another system.
- 4) Material Management: The management of all items (including ships, tanks, self-propelled weapons, aircraft, etc., and related spares, repair parts, and support equipment, but excluding real property, installations, and utilities) necessary to equip, operate, maintain, and support military activities without distinction as to its application for administrative or combat purposes (reference (d)).
- 5) Leadership and Education: Functions related to the imparting of knowledge or skills as a learning process
- 6) Personnel: Functions related to the administration of human resources.
- 7) Facilities Management: The management of a real property entity consisting of one or more of the following: a building, a structure, a utility system, pavement, and underlying land (reference (d)).

c) Additional EIP Functional Areas:

- 1) Air Operations Control: The management and direction of air resources involved in the performance of the following operations: airborne, air defense (aircraft and surface-to-

air missiles), airspace control, air strike/interdiction, direct air support, and search and rescue. (JINTACCS IPD (U) (Confidential) March 1984)

- 2) C2 Systems Control: The networks, communications systems, and other systems used for moving information; also the systems used to control communications networks and systems.
- 3) Financial Management. Financial management encompasses the two core processes of resource management and finance operations. Resource management is the execution of the resource management mission that includes providing advice and guidance to the commander, developing command resource requirements, identifying sources of funding, determining cost, acquiring funds, distributing and controlling funds, tracking costs and obligations, cost capturing and reimbursement procedures, and establishing a management control process. Financial operations is the execution of the Joint finance mission to provide financial advice and guidance, support of the procurement process, providing pay support, and providing disbursing support (reference (d)).

FY: Fiscal Year

GCSS-MC: Global Combat Support System-Marine Corps

GES: GIG Enterprise Services

GIG: Global Information Grid

HQMC: Headquarters Marine Corps

HQMC C4: Headquarters Marine Corps, C4/CIO

HWG: Hardware Working Group

I&I: Interoperability and Integration

IA: Information Assurance

IAS: Intelligence Analysis System

IATO: Interim Authority to Operate

IAW: In Accordance With

IBS: Integrated Broadcast Service

IBS-I: IBS Interactive

IBS-LOS: IBS Line-of-Sight

IBS-S: IBS Simplex

ICP: Interface Change Proposal

IDIQ: Indefinite Delivery Indefinite Quantity

IEEE: Institute of Electrical and Electronics Engineers

IER: Information Exchange Requirement

Interoperability: Interoperability is the ability of systems, units or forces to provide data, information, materiel, and services to and accept the same from other systems, units, or forces,

and to use the data, information, materiel, and services so exchanged to enable them to operate effectively together. Interoperability includes both technical exchange of information and the end-to-end operational effectiveness of that exchange of information as required for mission accomplishment.

IOB: Interoperability Branch

IPD: Integrated Product Development

IPR: In-Progress Review

IPT: Integrated Product Team

IRM: Information Resources Management

ISO: International Standards Organization

IT: Information Technology

ITI: Information Technology Infrastructure

ITP: Interoperability Test Panel

ITS: Information Technology System. ITS is defined as any equipment, or interconnected system or subsystem of equipment used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, transmission, or reception of data or information by the executive agency. The term also includes computers, ancillary equipment, software, firmware, and similar procedures, services (including support services), and related resources.

J/N/C: Joint/Naval/Coalition

JBMC2: Joint Battle Management Command and Control

JCIDS: Joint Capabilities Integration and Development System

JCPAT: Joint C4I Program Assessment Tool

JDEP: Joint Distributed Engineering Plant

JFCOM: Joint Forces Command

JINTACCS: Joint Interoperability of Tactical Command and Control Systems

JITC: Joint Interoperability Test Command

JKMIWG: Joint Key Management Infrastructure Working Group

JMSWG: Joint Multi-Tactical Data Link Standards Working Group

JMTCCB: Joint Multi-Tactical Data Link Configuration Control Board

JSCMWG: Joint Service Cryptographic Modernization Working Group

JSTARS: Joint Surveillance Target Attack Radar System

JTA: Joint Technical Architecture

JTADG: Joint Technical Architecture Development Group

JTIDS: Joint Tactical Information Distribution System

JTRS: Joint Tactical Radio System
KMI: Key Management Infrastructure
KPP: Key Performance Parameter
LRIP: Low Rate Initial Production
MAGTF: Marine Air-Ground Task Force
MAIS: Major Automated Information System
MAP: Master Acquisition Plan
MARCORSYSCOM: Marine Corps Systems Command
MARFOREUR: Marine Forces Europe
MARFORLANT: Marine Forces Atlantic
MARFORPAC: Marine Forces Pacific
MARFORRES: Marine Forces Reserves
MATCOM: Material Command
MC: Mission Critical
MCASE: Marine Corps Architecture Support Environment
MCCDC: Marine Corps Combat Development Command
MCDP: Marine Corps Doctrinal Publication
MCEB: Military Communications-Electronics Board
MCEN: Marine Corps Enterprise Network
MCHS: Marine Common Hardware Suite
MCIAP: Marine Corps Integrated Architecture Picture
MCMO: Marine Corps Communications Security Management Office
MCNOSC: Marine Corps Network Operations and Security Command
MCO: Marine Corps Order
MCOTEA: Marine Corps Operational Test and Evaluation Activity
MCP: Military Capabilities Package
MCTCA: Marine Corps Tactical Communications Architecture
MCTCA: Marine Corps Transformational Communications Architecture
MCTSSA: Marine Corps Tactical Systems Support Activity
MCWL: Marine Corps Warfighting Laboratory
MDA: Milestone Decision Authority
MDAPS: Major Defense Acquisition Programs
ME: Mission Essential

MEB: Marine Expeditionary Brigade

MEF: Marine Expeditionary Force

MIP: MAGTF C4ISR Integrated Package

MIRC: MAGTF Interoperability Requirements Concept

MITNOC: Marine Corps Information Technology Network Operations Center

MITNOSC: Marine Corps Information Technology Network Operations and Security Command

MNS: Mission Needs Statement

MS: Milestone

MSARC: Marine Systems Acquisition Review Council

MSTAR: MAGTF Systems/Technical Architecture & Repository

MTS: Marine Tactical System

NAVAIRSYSCOM: Naval Air Systems Command

NAVCOMPT: Navy Comptroller

NBC: Nuclear, Biological, and Chemical

NCES COE: Network-Centric Enterprise Services Common Operating Environment

NMCI: Navy-Marine Corps Infrastructure

NSA: National Security Agency

NSS: National Security System. Any telecommunications or information system operated by the U.S. Government, the function, operation and use of which involves intelligence activities; involves crypto logic activities related to national security; involves command and control of military forces; or involves equipment that is an integral part of a weapon or weapons system.

OASD: Office of the Assistant Secretary of Defense

OASD (NII): OASD (Network Information and Infrastructure)

OC: Operations Center

ONI: Office of Naval Intelligence

ORD: Operational Requirement Document

OSD: Office of the Secretary of Defense

OT&E: Operational Test and Evaluation

OT: Operational Test

OV: Operational View

PBBE: Performance-Based Business Environment

PBL: Product Baseline

PDA: Program Decision Authority

PEO: Program Executive Office
PG: Product Group
PGD: Product Group Director
PKE: Public Key Encryption
PKI: Public Key Infrastructure
PM: Program Manager
PMO: Program Management Office
PO: Project Officer
POA&M: Plan of Action and Milestones
POC: Point of Contact
POM: Program Objective Memorandum
POR: Program of Record
PPBS: Planning, Programming, and Budgeting System
PQDR: Program Quadrennial Review
PTL: Product Team Leader
RDA: Research, Development and Acquisition
RS: Radar Systems
RISC: Reduced Instruction Set Computer
SBT: Strategic Business Team
SE&I: Systems Engineering and Integration
SE&ISD: Systems Engineering and Integration Support Division
SEMP: Systems Engineering Management Plan
SEP: Systems Engineering Process
SG: Support Group
SIE: Systems Integration Environment
SME: Subject Matter Expert
SOS: A set of different systems so connected or related as to produce results unachievable by the individual systems alone (reference (i)).
SPAWAR: Space and Warfare Systems Command
SPD: Solution Planning Directive
SRR: System Requirements Review
SSAA: System Security Authorization Agreement
SV: System View

SWWG: Software Working Group
SYSKOM: Systems Command
T&E: Test and Evaluation
TACC: Tactical Air Command Center
TACSIIP: Tactical Systems Interoperability and Integration Program
TADIL: Tactical Data/Digital Information Link
TAOC: Tactical Air Operations Center
TCAC: Technical Control Analysis Center
TDDS: TRAP Data Dissemination System
TDIMF-G: Tactical Data Intercomputer Message Format – G
TDL: Tactical Data Link
TDP: Tactical Data Processor
TE: Table of Equipment
TECOM: Training and Education Command
TEMP: Test and Evaluation Master Plan
TERPES: Tactical Electronic Reconnaissance Processing and Evaluation System
TGT BD: Target Board
TIBS: Tactical Intelligence Broadcast Service
TIDP: Technical Interface Design Plan
TIGER: Total Information Gateway for Enterprise Resources
TMDE: Test, Measurement and Diagnostic Equipment
TOR: Target Origination Request
TRAP: Tactical Reconnaissance and Related Applications
TRIXS: Tactical Reconnaissance Information Exchange System
TSP: Technical Support Plan
TV: Technical View
UNS: Universal Needs Statement
USMC: United States Marine Corps
USMTF: United States Message Text Format
VMFSG: Variable Message Format Subgroup
WBS: Work Breakdown Structure
WG: Working Group
WIPT: Working-level IPT

APPENDIX B: REFERENCES

- (a) DoD Directive 4630.5, “Interoperability, and Supportability of Information Technology (IT) and National Security Systems (NSS)”; 11 January 2002
- (b) Marine Corps Systems Command, “Enterprise Integrated Product (EIP) Configuration Management Plan (ECMP)”, 23 December 2002
- (c) Marine Corps Systems Command, “Command Design Team Final Deliverable”, 27 March 2001
- (d) Joint Publication 1-02, “DoD Dictionary of Military and Associated Terms”; 12 April 2001, as Amended through 23 March 2004
- (e) DoD Directive 5000.1, “The Defense Acquisition System”; 12 May 2003
- (f) DoD Instruction 5000.2, “Operation of the Defense Acquisition System”, 12 May 2003
- (g) CJCS Instruction 6212.01C, “Interoperability and Supportability of Information Technology and National Security Systems”; 20 November 2003
- (h) Institute of Electrical and Electronics Engineers (IEEE) Standard 1220-1998, “IEEE Standard for Application and Management of the Systems Engineering Process”, 8 December 1998
- (i) Krygiel, Annette J.; Behind the Wizard’s Curtain; DoD C4ISR Cooperative Research Program Publishing; July 1999
- (j) Interim Defense Acquisition Guidebook; 30 October 2002 (non-mandatory reissue of former DoD Regulation 5000.2-R, Mandatory Procedures for Major Defense Acquisition Programs (MDAPS) and Major Automated Information System (MAIS) Acquisition Programs)
- (k) DoD Instruction 4630.8, “Procedures for Interoperability, and Supportability of Information Technology (IT) and National Security Systems (NSS)”; 11 January 2002
- (l) CJCS Instruction 3170.01D, “Joint Capabilities Integration and Development System”; 12 March 2004
- (m) MCO 3093.1C, “Intraoperability and Interoperability of Marine Corps Tactical C4I Systems”; 14 May 1997

APPENDIX C: LIST OF EIP PROGRAMS

The following is a list of the 16 functional areas, used to group and manage systems that are part of the Enterprise Integrated Product (EIP). The EIP systems and programs on the list that follows are as of the 15 April 2004 Configuration Status Accounting Report (CSAR). For the most current listing of this CSAR of EIP systems, please refer to the online CSAR available under MCASE.

- 1) Air Operations Control Functional Area Systems
- 2) C2 Systems Control, Networking, and Communications Functional Area Systems
- 3) Command and Control Functional Area Systems
- 4) Doctrine Functional Area Systems
- 5) Facilities Management Functional Area Systems
- 6) Financial Management Functional Area Systems
- 7) Fires Control Functional Area Systems
- 8) Force Protection Functional Area Systems
- 9) Intelligence Functional Area Systems
- 10) Leadership and Education Functional Area Systems
- 11) Logistics and Sustainment Functional Area Systems
- 12) Maneuver Functional Area Systems
- 13) Material Management Functional Area Systems
- 14) Organization Functional Area Systems
- 15) Personnel Management Functional Area Systems
- 16) Training Functional Area Systems

Project Acronym

Project Title

Air Operations Control Function

3-D Radar	Three Dimensional Long Range Radar (AN/TPS-59(V3))
ADCP	Air Defense Communications Platform
AH-1	Cobra
AV-8B	Harrier
CAC2S	Common Aviation Command And Control System
CH-46	Sea Knight
CH-53	Sea Stallion
CLAWS	Complementary Low Altitude Weapons System
CWAR	Continuous Wave Acquisition Radar
DASCAS	Direct Air Support Central Airborne System
EA-6B	Prowler
F/A-18	Hornet
G/ATOR	Ground/Air Task-Oriented Radar
GCS-2000	Ground Control Station (GCS) For UAV
HELRASR	Highly Expeditionary Long Range Air Surveillance Radar
IDASC	Improved Direct Air Support Central
JRE	JTIDS Range Extension Request
JSF F-35	Joint Strike Fighter
JTIDS Terminal	Joint Tactical Information Distribution System Class 2 Terminal
KC-130	Hercules
LAAD Sustainment	Low Altitude Air Defense Sustainment
LAV-AD	Light Armored Vehicle-Air Defense
MATCALC	Marine Air Traffic Control And Landing System
MRRS	Multi-Role Radar System
MV-22	Osprey
PMS	Pedestal Mounted Stinger Avenger
Predator	Predator/Short Range Antitank Weapon
S/MR Radar	Short/Med Range Radar
TACC	Tactical Air Command Center
TAMPS	Tactical Aircraft Mission Planning System
TAOM	Tactical Air Operations Module
TBMCS	Theater Battle Management Core Systems
TDAR	Tactical Defense Alert Radar
TPS-63	2-D Air Traffic Control Radar Set
UAV	Unmanned Aerial Vehicle, Pioneer
UH-1	Huey

C2 Systems Control, Networking, and Communications Function

ARC-102	HF Radio Set (AN/ARC-102)
ARC-174	HF Radio Set (AN/ARC-174)
ARC-190	HF Radio Set (AN/ARC-190)
ARC-199	HF Radio Set (AN/ARC-199)
ARC-210	Radio Set (VHF/UHF SCR) (AN/ARC-210)

Project Acronym Project Title
C2 Systems Control, Networking, and Communications Function (continued)

ARC-94	HF Radio Set (AN/ARC-94)
ASC-26	Heliborne Communications Group
ASQ-177	Radio Set, Airborne PLRS
AUTODIN	AUTODIN Breakout
CASC	Communications Air Support Central
CGS300	Communication Gateway System 300
CGS-400	Common Ground Station 400
CIS	Communications Interface Systems
CONDOR	Command and control On-the-move Network, Digital Over-the-horizon Relay
D-DACT	Dismounted Data Automated Communications Terminal
DACT	Data Automated Communications Terminal
DAGR	Defense Advanced Global Positioning System Receiver
DCS-2000	Digital Communications System 2000
DDS	Digital Data Set
DMS	Marine Corps Defense Message System
DTC	Digital Technical Control
DWTS PIP	DWTS Product Improvement Program (PIP)
EPLRS	Enhanced Position Location Reporting System
FCC-100	Multiplexer
GBS	Global Broadcast Service
GRC-171	Family of Ground to Air Ultra High Frequency (UHF) Radio
GRC-193B	Radio Set (AN/GRC-193B (V)3)
GRC-201	Radio Set (AN/GRC-201)
GRC-210	Auxiliary Ground Radio Set (PLRS)
GRC-213	Radio Set (AN/GRC-213B)
GRC-231A	Radio Set (AN/GRC-231A (V)2)
HAVEQUICK	Radio Set (AN/GRC-171A (V)4) (HAVE QUICK II)
HFMR	High Frequency (HF) Radio
IA	Information Assurance
IRHS	Infantry Radio Headgear Set
ISR	Intra Squad Radio
JECCS	Joint Enhanced Core Communication System
JET	Joint National Training Center - Marine Corps (JNTC-MC)
JNMS	Joint Network Management System
JTRS	Joint Tactical Radio System
Local Intranet	Local Intranet
LMST	Lightweight Multiband Satellite Terminal
MBMMR	Multiband Multimode Radio (AN/PRC-117F)
MCEN DW	Marine Corps Enterprise Network Data Warehouse
MCHS	Marine Common Hardware Suite
MDL	MAGTF Data Library

Project Acronym	Project Title
C2 Systems Control, Networking, and Communications Function (continued)	
MIDS	Multifunction Information Distribution System
MRC-110	Radio Set (AN/MRC-110A)
MRC-138B	Radio Set (AN/MRC-138B (V))
MRC-140	Radio Set SATCOMM On The Move
MRC-142	Digital Wideband Transmission System/SMAK
MSBL	MAGTF C4I Software Baseline
MSCS	Correlation System, Multiple Source (MSCS) (AN/TYQ-101)
NI	Network Infrastructure
NMCI	Navy Marine Corps Intranet
PK-E	Public Key Enabling
PKI	Public Key Infrastructure
PLGR	Precision Lightweight Global Positioning System Receiver
PRC-104	HF Radio Set (AN/PRC-104)
PRC-113	Radio Set, UHF (AN/PRC-113(V)3)
PRC-148	Tactical Handheld Radio
PRC-150	HF Manpack Radio
PRR	Personal Role Radio
RRS/LMR	Rapid Response System/Land Mobile Radio
RTU	Remote Terminal Unit
Saber Radio	Saber Radio
SB-22	Switchboard, Telephone, Manual (SB-22/PT)
SB-3614	Switchboard, Telephone, Automatic (SB-3614(V)TT)
SB-3865	Switching Unit, Telephone, Automatic (SB-3865)
SCT	Smart Card Technology
SINCGARS	Single Channel Ground And Airborne Radio System
SMART-T	Secure Mobile Anti-jam Reliable Tactical - Terminal
SPECTRUM XXI	SPECTRUM XXI
SPEED	System Planning, Engineering, And Evaluation Device
SPITFIRE	AN/PSC-5 Enhanced Manpack UHF Terminal
TDMS	Tactical Defense Messaging System
TDN	Tactical Data Network
THHR	Tactical Hand Held Radio
TIGER	Total Information Gateway for Enterprise Resources
TRC-170	Troposcatter Radio Set
TSC-120	HF Communication Central
TSC-85C	Ground Mobile Force (GMF) Communications Terminal (AN/TSC-85C)
TSC-93C	Ground Mobile Force (GMF) Communications Terminal (AN/TSC-93C)
TSC-96A	Fleet Satellite Communications Central
TSM	Transition Switch Module
TTC-42	Automatic Telephone Central Office Unit Level Switch
ULCS PIP	Unit Level Circuit Switch Product Improvement Program
VRC-102	Radio Set (AN/VRC-102)

Project Acronym	Project Title
C2 Systems Control, Networking, and Communications Function (continued)	
VRC-83	Radio Set (AN/VRC-83 (V)2) Command and Control Function
AAAV-C	Advanced Amphibious Assault Vehicle – Command Variant
AAVC-7	Amphibious Assault Vehicle – Command Variant
GCCS	Marine Corps Global Command And Control System
JFRG II	Joint Force Requirements Generator II
LAV-C2	Light Armored Vehicle – Command and Control Variant
MCTEEP-MT	Marine Corps Training, Exercise, and Employment Plan - Management Tools
METCAST	METCAST Client
NFWB	Naval Flight Weather Briefer
NOWS	Night Vision Goggle Operation Weather Software
Quick Weather	Quick Weather
STACS	Staff Tasking & Collaboration System
UOC	Unit Operations Center
Doctrine Function	
No Programs	
Facilities Management Function	
ABIS	Activity-Based Information System
FAIM	Facilities Assessment Inspection Module
FDM	Facilities Degradation Module
FED Database	Facilities Engineering Department Database
FI (Web)	Facilities Integration Website
FMCP	Facilities Management Capability Program
FPD	Facilities Project Database
FSM	Facilities Sustainment Model
IMCHAS	internet Marine Corps Housing Automated System
INFADS	Internet Navy Facility Assets Data Store
NSI	Navy Shore Installations Website
RFMIS	Rental Facilities Management Information System
SDSFIE	Spatial Data Standards For Facilities, Infrastructure And Environment
Financial Management Function	
Bond & Allotments	Bond & Allotments
CAPS-W	Computerized Accounts Payable System For Windows
CAS2NET	Contribution-Based Compensation And Appraisal System For The Internet
COBRA (SABRS)	Computer Optimized Batch Reconciliation Application
DCPS	Defense Civilian Payroll System
DIFIMS	Defense Industrial Financial Management System
DIFMS	Defense Industrial Financial Management System
EAGLS	Electronic Account Government Ledger System
FACTS	Financial Air Clearance & Transportation System

Project Acronym**Project Title****Financial Management Function (continued)**

FIMS II	Financial Information Management System II
Local Finance	Local Finance
MCASSP	Marine Corps Automated Settlement Sheet Process
MCX	Marine Corps Exchange
NET PAY	Net Pay Process
NOE	Notice Of Eligibility For Disability
P&R Customer Support Database	P&R Customer Support Database
P&R Portal	P&R Portal
PBAS	Program Budget Accounting System
PBDD	Program And Budgeting Documentation Database
Plant Account	Plant Account
RETPAY	Retired Process System
SABRS	Standard Accounting, Budgeting & Reporting System
SLDCADA	Standard Labor Data Collection & Distribution Application
SMARTS	SABRS Management Analysis Retrieval Tools System
SRD-1	STANFINS Re-Design One
UPL	CMC Unfunded Priority List
W2-W2C Schoolhouse	W2-W2C Schoolhouse
WINIATS	Windows Integrated Automated Travel System
WYPC	Work Year Personnel Cost

Fires Control Function

AEROS	Advanced Eye-Safe Rangefinder Observation System
AFATDS	Advanced Field Artillery Tactical Data System
ATHS II	Advanced Target Handoff System II
BCS	Battery Computer System
E/MMT	Electronic/Mechanical Meteorological Theodolite
EFSS	Expeditionary Fire Support System
Firefinder	Radar Set, Firefinder TPQ-46
FTLM	False Target Location Modification
GWLR	Ground Weapons Locating Radar
HIMARS	High Mobility Artillery Rocket System
IPADS	Improved Position and Azimuth Determining System
LAV EFSS	Light Armored Vehicle Enhanced Fire Support System
LW155	Lightweight 155mm Howitzer
MBC	Mortar Ballistic Computer (Merlin)
MPLI	Medium Powered Laser Illuminator
Predator/SRAW	Predator/Short Range Antitank Weapon
PTS-180	Precision Targeting System 180
SOFLAM	Special Operations Forces Laser Marker
TCM	Trajectory Correctable Munitions
TLDHS	Target Location, Designation and Hand-Off System

Project Acronym

Project Title

Fires Control Function (continued)

TOW Tube Launched, Optically Tracked, Wire Guided Missiles Weapons System

Force Protection Function

ACADA Automated Chemical Agent Detector Alarm
Chemical Agent Warning Network Chemical Agent Warning Network
DMS Deployable Meteorological System
FIRS Family of Incident Response Systems (Formerly CBIRF)
Fly Away Communication Suite Fly Away Communication Suite
JBPDS Joint Biological Point Detection System
JBSDS Joint Biological Standoff Detection System
JBTDS Joint Biological Tactical Detection System
JCAD Joint Chemical Agent Detector
JSLNBCRS Joint Service Light Nuclear, Biological, Chemical Reconnaissance System
JSLSCAD Joint Service Lightweight Standoff Chemical Agent Detector
JWARN Joint Warning and Reporting Network
MIDAS-AT Meteorological Information and Dispersion Assessment
NBC Terrorism Event NBC Terrorism Event
NBCRSP3I Reconnaissance System Fox XM93/AI
PFDS Proximity Fuze Defense System
RSCAAL Remote Sensing Chemical Agent Alarm PIP
SCAD Standoff Chemical Detector
TSCM Technical Surveillance Countermeasures

Intelligence Function

CCIS Tactical Imagery Production System
CESAS Communications Emitter Sensing And Attacking System
CIHEP Counterintelligence And HUMINT Equipment Program
COBRA Coastal Battlefield Reconnaissance And Analysis
CTN Composite Tracking Network
CTT3 Commanders' Tactical Terminal Three-Channel
DTAMS Digital Terrain Analysis Mapping System
Electronic Warfare Jammer Electronic Warfare Jammer, ULQ-19
I3 Initiatives Integrated Intelligence and Imagery I3 Initiatives, part of GCCS-I3
IOS (V2) Intelligence Operations Server (V2)
IOW (Intel) Intelligence Operations Workstation - Intelligence
JDIICS-D Joint Defense Information Infrastructure Control Systems - Deployed
JDISS Joint Deployable Intelligence Support System
JSTARS Connectivity Joint Surveillance Target Attack Radar System Connectivity
JTT/CIBS-M Joint Tactical Terminal & Common Integrated Broadcast Service-Modules
MAGIS Marine Air-Ground Intelligence System (Analysis Center, Intelligence) AN/TYQ-19(V))
MEF IAS, IOS (V2), IOW Intelligence Analysis System Family Of Systems

Project Acronym

Project Title

Intelligence Function (continued)

MEWSS PIP	Mobile Electronic Warfare Support System - Product Improvement Program
MSIDS	MAGTF Secondary Imagery Dissemination System
RREP	Radio Reconnaissance Equipment Program
SURSS	Small Unit Remote Scouting Systems
TACPHOTO	Tactical Intelligence Photographic Capability
TCAC	Technical Control Analysis Center
TEG	Tactical Exploitation Group
TERPES	Tactical Electronic Reconnaissance Processing And Evaluation System
TPC	Topographic Production Capability
TPCS -MPC	Team Portable Collection System Multi-Platform Capable
TPCS UPGRADE	Team Portable Collection System Upgrade
TROJAN LITE	TROJAN SPIRIT Lightweight Integrated Telecommunications Equipment
TROJAN SPIRIT	TROJAN Special Purpose Integrated Remote Intelligence Terminals
TRSS	Tactical Remote Sensor Systems
TUGV	Tactical Unmanned Ground Vehicle
TVRSTA	Tactical Vehicle Reconnaissance Surveillance and Target Acquisition Capability

Leadership and Education Function

DL	Distance Learning Program
Family of Tactical Decision Games	Family of Tactical Decision Games

Logistics and Sustainment Function

AIS	Aeronautical Information System
AL	Autonomic Logistics
AMRR	Aircraft Material Readiness Report
AMS-TAC	Automated Manifest System-Tactical
ARS	Advanced Radiographic System
ATLASS II+	Asset Tracking Logistics And Supply System II+
ATV	All Terrain Vehicle
BARBARA SIRS	Broadened Arrangement Of Resources From A Basic Accessory Relocation Application - Supply Issue And Recovery System 2000
CAEMS	Computer-Aided Embarkation Management System (CAEMS)
CALMS	Computer Assisted Load Manifesting System (CALMS)
CALTECS	Computer Assisted Logistics And Test Equipment Calibration System
CAMIS	Commercial Activities Management Information System
CAV II (TRAINING)	Commercial Asset Visibility 2 (Training)
CCS	Command Core System
CLC2S	Common Logistics Command and Control System
CMIS WEB	Configuration Management Information System Web
CMOS	Cargo Movement Operations System
Contracts Directorate Document Control System	Contracts Directorate Document Control System
CPARS	Contractor Performance Assessment Reporting System
CRS	Cataloging Reengineering System

Project Acronym Project Title

Logistics and Sustainment Function (continued)

CSSE SDE/Data Warehousing	CSSE Shared Data Environment
Data Entry	Data Entry
DMLSS	Defense Medical Logistics Standard System
DMMS	Depot Maintenance
DPAS - REPORT DESIGNER/REPORT VIEWER	Defense Property Accountability System - Report Designer/Report Viewer
DPAS - REPORT VIEWER	Defense Property Accountability System - Report Viewer
DSS	Distribution Standard System
DSSC	Direct Support Stock Control Subsystem
DTOD	Defense Table Of Official Distances
EPOS	Electronic Point Of Sale
EPPG	Electronic Project Procurement Generator
ERP	Essex Replacement Program
ETPS	Electronic Technical Publication System
Field MIMMS	Field Maintenance Subsystem (MIMMS)
Fuels Manager	Fuels Manager
GATES	Global Air Transportation Execution System
GCCS-MC	Global Combat Support System
GDSS	Global Decision Support System
GFM	Global Freight Management System
GOPAX	Groups Operational Passenger System
GTN	Global Transportation Network
GUI Logistics On-Line Application	Graphical User Interface Logistics On-Line Application
Hazardous Materials Awareness	Hazardous Materials Awareness
Hazardous Materials Incident Commander	Hazardous Materials Incident Commander
Hazardous Materials Operations	Hazardous Materials Operations
HICS	Hazardous Material Information Control System
HMMS	Hazardous Materials Management
HMMWVA2	High Mobility Multipurpose Wheeled Vehicle A2 Series
HSMS	Hazardous Substance Management System
IA MERIT	Investment Advisor - MERIT
IAT	Investment Advisor Tool Kit
IBS	Integrated Booking System
ICF SS03	Inventory Control Forecasting, Subsystem Of ICP
ICODES	Integrated Computerized Deployment System, part of MAGTF LOGAIS
ICP	Inventory Control Point
IFAV	Interim Fast Attack Vehicle
IMA NALCOMIS	IMA Naval Aviation Logistics Command Information System
Integrity	Integrity
IRRIS	Intelligent Road/Rail Information Server
Item Applications On-Line	Item Applications On-Line
ITEMAPPS	Item Applications

Project Acronym**Project Title****Logistics and Sustainment Function (continued)**

ITV	Internally Transportable Vehicle
JCALs	Joint Computer-Aided Acquisition And Logistics Support
JEDMICS PC	Joint Engineering Data Management Information Control System - PC
JEDMICS	Joint Engineering Data Management Information Control System
JLWI	Joint Logistics Warfighting Initiative
JTAV	Joint Tactical Asset Visibility
LAKES HELPER	LAKES HELPER
LBIV-II	Logistics Bases Inventory Visibility Phase II
LINK	Logistics Information Network
LMIS	Logistics Management Information System
LOGS	Local Logistics
MAGTF LOGAIS	Marine Air Ground Task Force Logistics Automated Information System
MAP	Maintenance Automated Program
MAXIMO	COTS Software for Facilities Management Capability Program
MC DoD Automatic Addressing Directory	Marine Corps Department Of Defense Automatic Addressing Directory
MCDRS	Maintenance Center Document Retrieval System
MCDSS	Materiel Capability Decision Support System
MDSS II	MAGTF Deployment Support System II (MDSS II), part of MAGTF LOGAIS
MEDALS	Military Engineering Data Asset Locator System
MERIT	Marine Corps Equipment Readiness Information Tool
MFMP	Material Forecast Management Plan
MHIF-OL	Master Header Inventory File On-Line
MICAPS	Marine Corps Interactive Computer Aided Provisioning System
MIMMS	Marine Corps Integrated Maintenance Management System (MIMMS)
MOWASP	Mechanization Of Warehousing And Shipment Processing
MRP	Material Returns Program
MUMMS SS04	Stores Accounting Subsystem
MUMMS	Marine Corps Unified Material Management System
NAFI	Navy Air Force Interface
NALCOMIS	Naval Aviation Logistics Command Management Information System
NECO	Navy Electronic Commerce On-Line
NFIRS	National Fire Incident Reporting System
NIMMS	NAVAIR Industrial Materiel Management System
NTCSS IBS	NTCSS Integrated Barcode System
OIMA NALCOMIS	Optimized IMA Naval Aviation Logistics Command Information System
OOMA NALCOMIS	Optimized OMA Naval Aviation Logistics Command Information System
PCMIMMS	Personal Computer-Marine Corps Integrated Maint. Management System
PCMISCO	Personal Computer-Maintenance Information Systems Coordination Office
PRF-FOLLOW UP	Inventory Control Project Requirements File Follow-Up Subsystem of ICP

Project Acronym**Project Title****Logistics and Sustainment Function (continued)**

PTOPS	Pilot Transportation Operational Personal Property System
QIR	Quality Inspection Reporting
REP REVIEW	Inventory Control Replenishment Review Subsystem of ICP
ROLMS	Retail Ordnance Logistics Management System Cs
R-SUPPLY	Relational Supply System
Safe-Range	Safe-Range
SAS	Set Assembly System
SASSY	Supported Activities Supply System (SASSY)
SCS	Stock Control System (SCS)
Shipping MATS 1.2.0	Shipping MATS 1.2.0
SL 1-2/1-3 On Line	Stock List 1-2/1-3 - Online
SL 1-2/1-3 PC	Stock List 1-2/1-3 - PC
S-L	Seaway-Loggy
SMOL	ServMart On-Line
SS07 MUMMS (DSSC)	MUMMS Direct Support Stock Control System
SS10 MUMMS (Prov)	MUMMS Provisioning
STAIRS	Standard Automated Inventory And Referral System
STORES NT	Subsistence Total Order And Receipt Electronic System NT
Stratification	Stratification
TC-AIMS II	Transportation Coordinators Automated Information For Movement System II
TC-AIMS	Transportation Coordinators Automated Information For Movement System
TDMS	Technical Data Management System
TIMA	Tool and Inventory Management Application (TIMA)
TMDIS21	Test Measurement, Diagnostic Information System (For The 21st Century)
TMIP-M	Theater Medical Information Program (Maritime)
TMS Freight Sys	Transportation Voucher
TMS	Transportation Management System
UADPS	Uniform Automated Data Processing System
VLIPS	Visual Logistics Information Processing System
WISE	World Wide Integrated Logistics Capability Interim Supply and Maintenance Evaluation System
WRS	War Reserve System

Maneuver Function

AAV	Amphibious Assault Vehicle, Personnel
ABV	Assault Breaching Vehicle (ABV)
EFV	Expeditionary Fighting Vehicle
IOW (Ops)	Intelligence Operations Workstation - Operations
LAV-AAS	Light Armored Vehicle Advanced Antitank System
MCTIS / CID	Mounted Cooperative Target Identification System (MCTIS) / Combat Identification (CID)

Project Acronym**Project Title**

SURC

Maneuver Function (continued)

Small Unit Riverine Craft

TCO

Tactical Combat Operations

Material Management Function

Albany Publishing System

Albany Publishing System

ASCP

Automated Security Control Program

CAPS

Command Automated Program Information System

CAV II

Commercial Asset Visibility II

CMCPB

CMC Preparation Briefs

CMIS/MEARS

Configuration Management Information System

Data Elements

Data Elements

DAWIA Reporting Program

DAWIA Reporting Program

Department Of The Army Electronic Tech Manual Department Of The Army Electronic Tech Manual

DSAMS

Defense Security Assistance Management System

FIMS

Fleet Imaging Management System

FTP

File Transfer Program

H Series ACODP Handbook

H Series ACODP Handbook

IDE

Command Integrated Digital Environment - Increment 0

IDE

Command Integrated Digital Environment - Increment I

IRS

Inquiry Response System

JATDI.REDSTONE.ARMY.MIL

Joint Aviation Technical Data Integration

JDEP

Joint Distributed Engineering Plant

JTM

Joint Technical Manuals

K21

Knowledge For Acquisition In The 21st Century

KMP

Knowledge Management Portal

LDR

Logistics Data Repository

MAGTF

Marine Air Ground Task Force

MCATS

Maintenance Center Asset Tracking System

MCATS

Marine Corps Action Tracking System

MCEFS

Marine Corps Electronic Forms System

MCPDS

Marine Corps Publications Distribution System

MCSD

Marine Corps System Division

MERS

Marine Expeditionary Rifle Squad

MRP

MRP Reports Application

ODI-RMS

Optical Digital Imaging Records Management System

P2ADS

Pollution Prevention Annual Data Summary

PA

Paperless Acquisition

PDREP

Product Data reporting Evaluation Program

Permissions Management

Permissions Management

PIB

POM Initiative Builder

PMRS

Procurement Management Reporting System

Property Accountability

Property Accountability

SCRT

Standard Contract Reconciliation Tool

Project Acronym**Project Title****Material Management Function (continued)**

SPS	Standard Procurement System
STOIC	Science And Technology Operation Information Center
STRATIS	Storage Retrieval Asset Tracking Information System
TOPS	Transportation Operational Personal Property System
TPL	Technical Publications Library Program
TRACKER	Tracker
UDR	Universal Data Repository
ULAS	Unit Level Ammunition Status
VPMS	Virtual Program Management System
WAW	Wide Area Work Flow
WAW-RA	Wide Area Work Flow-Receipts And Acceptance
Weapons Serial Tracking System	Weapons Serial Tracking System
WSS	Warehouse Support System

Organization Function

TFDW	Total Force Data Warehouse
TFSMS	Total Force Structure Management System

Personnel Function

ACRS	Automated Career Retention System
AFRS	Automated Fitness Report System
ALMRS	Automated Leads Management Reporting System
ARMS	Automated Recruit Management System
AUTH STR&MAN	Authorization Strength & Manning Levels
BUPERS	Bureau Of Naval Personnel
C123M	Class I / II / III Maintenance
CCLD	Civilian Career and Leadership Development
CHCSII	Composite Healthcare System II
CSU	Civilian Servicing Unit Application
DCIPS	Defense Casualty Information Processing System
DEERS	Defense Enrollment Eligibility Reporting System
DENCAS	Dental Common Access System
DENCAS(R)	Dental Common Access System (Remote)
DENMIS	Dental Management Information System
Deserter Process	Deserter Process
DIMHRS	Def Integrated Military Human Resources System
DPRIS	Defense Personnel Records Imaging System
DTS	Defense Travel System
EAM	Enlisted Assignment Model
EFMP	Exceptional Family Member Program
ESGM	Enlisted Staffing Goal Model
HMF	Headquarters Master File
JPAS	Joint Personnel Adjudication System
Local Manpower	Local Manpower

Project Acronym

Project Title

Personnel Function (continued)

LOCATOR	Locator
M4L	Marine For Life
Mailgram Model	Mailgram Model
MASS 2001	Manpower Assignment Support System 2001
MCEAS	Marine Forces Enlisted Administrative Separation System
MCMEDS	Marine Corps Medical Entitlements Data System
MCMODS (ODSE)	Marine Corps Manpower Operational Data Store
MCMPS	Marine Corps Mobilization Planning System
MCRISS-RS	Marine Corps Recruiting Information Support System For Recruiting Stations
MCTFS	Marine Corps Total Force System
MDCPDS	Modern Defense Civilian Personnel Data System
MEM	Marine Equity Model
MIPS (UD/MIPS)	Marine Integrated Personnel System (MIPS) Marine Integrated Logistics System (MILOGS)
MLP	Manning Level Process
MMAS	Manpower Mobilization Assignment System
MMS	Manpower Management System
MODELS	Manpower Models
NCMIS	Navy College Management Information System
ODV	Operation Determined Vigilance
OLDS	On-Line Diary System
OMM	Officer Mobilization Model
ORG	Officer Rate Generator
OSGM	Officer Staffing Goal Model
PCS HIST	Permanent Change Of Station History
PES PIP	Performance Evaluation System Product Improvement Program
PPP	Promotion Planning Process
PREPAS	PREPAS
RCCPDS	Reserve Component Common Personnel Data System
RDM	Recruit Distribution Model
RECRPTS	Recurring Reports
Recruit Admin	Recruit Admin
Recruit Evaluation	Recruit Evaluation
Recruit Lables	Recruit Lables
REPS	Reserve Enlisted Planning System
ROWS	Marine Forces Reserve Order Writing System
RSGM	Reserve Staffing Goal Model
SDI	Smart Dental Information
STATS	Statistics Reports
TFAS	Total Force Administration System
TFPM	Target Force Planning Model
TFRS	Total Force Retention System

Project Acronym**Project Title****Personnel Function (continued)**

TMR	Table Of Manpower Requirements
TRIMEP	Tri-Service Medical Evaluation Program For Aviation Physical Waiver Requests
USMC Recruit Manifest	USMC Recruit Manifest
VEF Extract	VEF Extract
VMET	Verification Of Military Experience And Training System
YGSS	Year Group Steady State

Training Function

AAAV	Advanced Amphibious Assault Vehicle Training System
AMTCS-ICW	Aviation Maintenance Training Continuum System (AMTCS) Support Software Suite for Interactive Courseware (ICW)
ATRRS	Army Training Requirements And Resources System
BNA	BNA - By Name Assignment
CACCTUS	Combined Arms Command and Control Training Upgrade System
CLASS	Closed Loop Artillery Simulation System
CVTS	Combat Vehicle Training System
DAU	Defense Acquisition University
Driver/Operator Pumper	Driver/Operator Pumper
First Aid First Responder Training	First Aid First Responder Training
IMTS	Improved Moving Target Simulator
ISMT/ISMT-E	Indoor Simulated Marksmanship Trainer (ISMT)/ISMT - Enhanced (ISMT-E)
Line Charge Simulated Training System	Line Charge Simulated Training System
Logbook	Logbook
LOMAH	Location of Miss and Hit
MCDL	Marine Corps Distance Learning
MEPCOM TRANS	Military Entrance Processing Command Transportation
MILES 2000	Multiple Integrated Laser Engagement System 2000
MOSTAS	Marine Officer Specialty Training Allocation System
MTWS	MAGTF Tactical Warfare Simulation
NITRAS WEB	Navy Integrated Training Resources Administration System
OTA	Oracle Training Administration
PGTS	Precision Gunnery Training System
PITS	Portable Infantry Target System
RETS	Remoted Target System
RIS	Range Instrumentation Systems
SREIS	Situation Report Executive Information System
TIMS	TECOM Integrated Management System
TRRMS	Training Requirements And Resource Management System

APPENDIX D: C4I INTEGRATION BOARD CHARTER

The following pages contain the C4I Integration Board Charter. The document was approved on 28 January 2003. The Operations Division under the Deputy Commander, C4I Integration, holds the original copy, signed by all parties identified on the final page.

Team Name:	Level of Team:
Command, Control, Communications, Computers, Surveillance, and Reconnaissance (C4ISR) Integration	Management Team
Team Mission	
<p><i>Ensure delivery and sustainment of a <u>superior</u> integrated, and interoperable Enterprise C4ISR capability to the operating forces and supporting establishments. * (Includes all C4ISR systems that connect in any way with DoD data networks both tactical and non tactical. Does not include electronics that do not connect in any way to any other systems. Interoperability: (1) The ability of systems, units, or forces to provide services to and accept services from other systems, units or forces and to use the services, units, or forces and to use the services so exchanged to enable them to operate effectively together. (2) The condition achieved among communications-electronics systems or items of communications-electronics equipment when information or services can be exchanged directly and satisfactorily between them and/or their users. Integration: The stage of system development and demonstration that applies to systems that have yet to achieve system level design maturity as demonstrated by the integration of components at the system level in relevant environments.)</i></p>	
Team Goals/Objectives/Metrics	
<p>Our team will collaborate to make value added integration decisions.</p> <ul style="list-style-type: none"> - Utilize the Functional Integration Team (FIT) construct within the processes. - Establish and agree to the process for the resolution of Inter/Intra PG issues. (3rd Qtr FY 03) - Establish and agree to the process for the resolution of external interoperability issues for Marine Corps positions. (4th Qtr FY 03) <p><i>(metrics: SIE tests, JITC tests, OT/DT tests, PQDR resolutions)</i></p> <p>Our team will manage the configuration of the Enterprise Architecture.</p> <ul style="list-style-type: none"> - Utilize the FIT construct within the processes. - Establish and agree to the process for Configuration Management. <p><i>(metrics: produce an accurate Configuration Status Accounting Report (CSAR), Qtrly)</i></p> <p>Our team will assist in the achievement of successful Milestone Decisions/Post Production Block Upgrades in respect to interoperability and integration.</p> <ul style="list-style-type: none"> - Utilize the FIT construct within the processes. - Assist PG in preparation of a system's C4ISP assuring C4ISP work is completed prior to 90% of upcoming milestones. - Ensure IA objectives for AIS/IT systems (IAW CCA) are completed prior to 90% of upcoming milestones. <p><i>(metrics: Percentage of approved C4ISPs in ratio to number required, time to process them. Percentage of approved SSAAs, ASPs, ATOs, and IATOs in ratio to number required, time to process them.)</i></p> <p>Our team will ensure proactive conformance to interoperability standards.</p> <ul style="list-style-type: none"> - Utilize the FIT construct within the processes. - Establish and agree to the process for the development of USMC positions on Joint Interoperability Standards. - Utilize the Fit construct within the processes. - Provide tailored interoperability specifications. - Establish and agree to the Enterprise Integrated Process (EIP). <p><i>(metrics: percentage of systems that successfully participate in the EIP Assessment.)</i></p>	

Our team will embrace, follow, and foster system engineering standards and best practices.

- Utilize the FIT construct within the processes.
- Provide guidelines for implementing system engineering and best practices on all programs.
- Provide coordinated tailorable interoperability specification for implementation tailored system architecture products.

(metrics: percentage of C4I/I programs implementing IEEE 1220)

Customers/Stakeholders

Customers:

PGD 10 –16

Independent PM's

DRPM AAV

Operating Forces

Supporting Establishments

Stakeholders:

HQMC, MCCDC, ASN RDA, DISA, TECOM, MCOTEA, ONI, MATCOM, JFCOM, JITC, NAVCOMPT

Team Products/Services

An Enterprise architecture.

Documentation for all processes defined in this charter.

Approved documentation resulting from the process definition. (e.g. C4ISP's SSAA's, ASP's, ATO's, IATO's, CMP, TSP's)

System engineering guidelines.

Aggregate EIP results

Team Membership by Discipline/Organization/Function		
Name	Organization	Function
Mr. Hobart	C4II	Team Leader
Col Albano	MCTSSA	Commanding Officer
Ms Wasielewski	C4II	C4I Integration Support
Major Wiktorek	C4II	C4I Integration Support
Ms Ashby	C4II	C4I Integration Support
Mr. Smith	C4II	Director, SE&I
Mr. Davis	C4II	Director, IA
Mr. Raton	PG 10	Acting Lead Eng
Maj Eads	PG 11	Acting Lead Eng
Col Allen	PG 12	PGD, MAGTF C4ISR
Mr. Parker	PG 13	Lead Eng
Mr. Lerner	PG 14	Lead Eng
Ms. Redfern	PG 15	Lead Eng
Mr. Leitner	PG 16	Lead Eng
Mr. Robert Tekampe	NGIT	Program Manager
Mr. W. K. Tritchler	MITRE	Senior Engineer for external Interoperability issues
LtCol H. Oldland	DRPM AAA	C4I Division Director/APM(C)
I/II MEF Liaison Officers	I/II MEF	Adhoc membership
PM LAV, PM LW155, PM TRA Systems		As req'd
Team Leader Responsibility		
<ul style="list-style-type: none"> • Conduct C4I Integration Meetings monthly beginning 1st quarter 2003. (continuation of existing forum) • Conduct Target Board Meeting quarterly beginning 1st quarter 2003. (continuation of existing forum) • Document, train, and institutionalize all processes developed. • Executive Management of SE&I, IA Divisions and MCTSSA. • Leads C4I Integration Team (i.e., single integrated air picture; single integrated ground picture) • Brings together the appropriate Product Strategy Team Leaders for integration decision making • Transforms MCTSSA into a Systems Integration Environment • Manages Support Staff to include: C4I Integration Support Team 		

Authority/Accountability/Boundaries			
Federal Acquisition Regulations (FAR) DoD 5000 series and related documents CIO Roles and Responsibilities Clinger Cohen Act			
Review and Approval Process			
Date of Approval: <u>28 Jan 03</u> (Will be reviewed semi-annually)			
Approved	Submitted by <u>Signature on File</u> Submitted		
<p style="text-align: center;">Signature on File</p> <table style="width: 100%;"> <tr> <td style="width: 50%;">Commanding General Marine Corps System Command</td> <td style="width: 50%;">Deputy Commander C4I Integration Marine Corps System Command</td> </tr> </table>		Commanding General Marine Corps System Command	Deputy Commander C4I Integration Marine Corps System Command
Commanding General Marine Corps System Command	Deputy Commander C4I Integration Marine Corps System Command		

Name	Org	Function	Signature
Mr. Hobart	C4II	Team Leader	Signatures on File
Col Albano	MCTSSA	Commanding Officer	
Carol Wasielewski	C4II	Operations Officer	
Major Wiktorek	C4II	C4I Integration Support	
Ms Ashby	C4II	C4I Integration Support	
Mr. Smith	C4II	Director, SE&I	
Mr. Davis	C4II	Director, IA	
Mr. Raton	PG 10	Acting Lead Eng	
Maj Eads	PG 11	Acting Lead Eng	
Col Allen	PG 12	PGD, MAGTF C4ISR	
Mr. Parker	PG 13	Lead Eng	
Mr. Lerner	PG 14	Lead Eng	
Ms. Redfern	PG 15	Lead Eng	
Mr. Leitner	PG 16	Lead Eng	
LtCol H. Oldland	DRPM AAA	C4I Division Director/APM(C)	

APPENDIX E: ENTERPRISE INTEGRATED PRODUCT TARGET BOARD CHARTER & PROCESS

E.1. Background.

The Enterprise Integrated Product (EIP) Target Board Process was developed to assist Marine Corps Product Group Directors/Program Managers/Product Team Leaders in the initiation, development and execution of C4I interoperability and integration targets. References (a), (e), (f), (j), and (k) establish the DOD's disciplined management approach for acquiring C4I systems and materiel that satisfy the operational user's needs. These references apply to major and non-major defense acquisition programs. References (g) and (l) establish the certification of interoperability requirements and C4I Support Plans (C4ISPs) and the policies and procedures for the Joint Capabilities Integration and Development System (JCIDS). Reference (m) establishes Marine Corps command and control systems interoperability policy and implementation procedures to ensure the interoperability of Marine Corps information systems with interfacing DoD, Joint, and other Marine Corps C4I systems.

Too often in the past, the focus for acquiring IT systems was accomplished without the necessary regard to the larger context of how the systems will actually be used and how the systems would be supported throughout its life cycle. To achieve information superiority as specifically required by reference (j), the Deputy Commander, C4I Integration, has been tasked to enforce the use of sound system engineering principles and practices across all elements of MARCORSYSCOM. Reference (j) states that "Forces attain information superiority through the acquisition of systems and families-of-systems that are secure, reliable, interoperable, and able to communicate across a universal IT infrastructure, to include NSS. This IT infrastructure includes the data, information, processes, organizational interactions, skills, and analytical expertise, as well as systems, networks, and information exchange capabilities." As such, MARCORSYSCOM must focus on developing a synergistic, product-centric approach across all of the Product Group Directorates (PGDs). This product-centric approach is necessary to create a controlled, secure, interoperable and integrated, enterprise-wide C4ISR federation-of-systems that supports the MAGTF commander in a Joint environment.

E.2. EIP Target Board Charter

a. Purpose: This charter establishes the EIP Target Board, which shall function under the authority of the Deputy Commander, C4I Integration, MARCORSYSCOM. The Target Board shall assist the Deputy Commander with achieving information superiority across the MAGTF and is responsible for the oversight and management of interoperability and integration "targets".

Targets are system level issues, which pose a potential impact to the MARCORSYSCOM Enterprise-Level Systems Architecture. The tactical portion of this Systems Architecture was baselined under the Marine Corps Integrated Architecture Picture (MCIAP). Additionally, targets will involve system interoperability and integration issues between systems that are managed by different Product Group Directors (PGDs), which cannot be resolved at lower echelons. Targets may also include system interface issues between USMC systems and systems of other Services and external agencies, as well as other significant system interface and integration issues that require the concurrence of the Commander, MARCORSYSCOM.

b. Objectives: The Deputy Commander, C4I Integration will work with the MARCORSYSCOM PGDs to develop an interoperable and integrated enterprise-wide C4ISR federation-of-systems. The MAGTF C4ISR systems architecture shall consist of a collection of

subsystems (hardware and software) designed to automate the processes associated with one or more of the six war-fighting functions; Command and Control (C2), Force Protection, Sustainment, Maneuver, Intelligence, and Fires. These subsystems are the sources of the data shared between MAGTF organizations and operational facilities. By using common computer hardware, fully integrated software, and approved Joint standards and interfaces, MAGTF C4ISR systems will have the capability for seamless interoperability regardless of the functional area(s) they support.

c. Membership:

- Deputy Commander for C4I Integration, MARCORSYSCOM (Chairman)
- MARCORSYSCOM PGD 10
- MARCORSYSCOM PGD 11
- MARCORSYSCOM PGD 12
- MARCORSYSCOM PGD 13 (issue dependent)
- MARCORSYSCOM PGD 14 (issue dependent)
- MARCORSYSCOM PGD 15 (issue dependent)
- MARCORSYSCOM PGD 16 (issue dependent)
- CO, MCTSSA
- Director, C4I SE&I Division
- Director, Concepts Branch, Warfighting Requirements Division, MCCDC
- DRPM, AAA
- Support Groups and Teams:

1) Enterprise Interoperability Working Group (EIWG): The EIWG, functioning under the authority of the Director, C4I SE&I Division, is responsible for the oversight and management of Marine Corps C4ISR Service/Joint/Combined interoperability. The EIWG is responsible to the Director C4I SE&I for providing recommendations to facilitate decisions regarding proposed changes to interoperability configuration items, C4I standards, data elements, and Marine Corps positions on Service/Joint/Combined interoperability standards and issues. The EIWG shall also coordinate with IPTs to provide technical oversight for target related work efforts.

2) Integrated Product Teams: The Target Board, through coordination with all of the MARCORSYSCOM PGDs and other internal/external stakeholders (i.e., independent PMs, HQMC, MCCDC, DRPM AAA, other Services, etc.) shall charter, resource and assign personnel to IPTs as needed to conduct a detailed assessment of targets. These IPTs may have multiple issues under consideration at any one time. Upon completion of these detailed assessments, the IPTs shall present recommended courses of actions to the Target Board addressing programmatic and technical issues as well as identifying resource requirements and a Plan of Action and Milestones (POA&M).

d. Responsibilities:

1) The Commander, MARCORSYSCOM, has designated the Deputy Commander, C4I Integration, as the Target Board Chairman. Although all members of the Target Board can provide information and advise through active participation, the Target Board Chairman is the sole decision maker. The Target Board Chairman is also responsible for ensuring members and working groups adhere to the Target Board process.

2) The Operations Team, C4I/I, MARCORSYSCOM, is responsible for administrative and scheduling support to the Target Board, and is also responsible for assigning the Target Board Secretariat.

3) The Target Board Secretariat performs the administrative functions of the Target Board. The Secretariat resolves all Target Board administration and scheduling issues, as directed by the Target Board Chairman. The Secretariat shall maintain a list of members assigned by each organization to the Target Board. The Secretariat is responsible for the dissemination of all meeting agendas, read-ahead packages, and minutes to all Target Board members. The Secretariat records, and tracks the status and assignment of all Target Board decisions and action items.

4) The Target Board Members identified above shall support the Target Board and provide representatives to Target Board meetings. MARCORSYSCOM PGDs shall also provide staff personnel and other resources as necessary to support IPTs that are chartered by the Target board.

e. Tasks:

1) The Director C4I SE&I Division shall maintain a Marine Corps Enterprise Architecture of integrated operational, systems and technical architectural views. The MCIAP, which documents the MAGTF near-term, tactical C4ISR systems architecture baseline, shall identify and include information pertaining to the system interfaces that are needed to facilitate systems interoperability across the enterprise-level architecture. The MCIAP baseline shall support the analysis of current and new systems interoperability and integration requirements.

2) The Director, C4I SE&I Division, with concurrence from the MARCORSYSCOM PGDs, shall develop the EIP Target Board Process and document the process on the C4I SE&I Knowledge Center.

3) The Director, C4I SE&I Division shall make necessary modifications to MCASE to facilitate the capture and maintenance of all Target documentation in MCASE.

E.3. EIP Target Board Process

a. Receive Target Issues. Issues concerning systems interoperability and integration can come from a number of sources including both internal and external sources to the Marine Corps. The C4I/I Operations Team is responsible for the initial receipt and processing of Target issues, as shown in Figure E-1. Documentation is posted on the C4I SE&I Knowledge Center to outline procedures for submitting issues and to describe the Target Process.

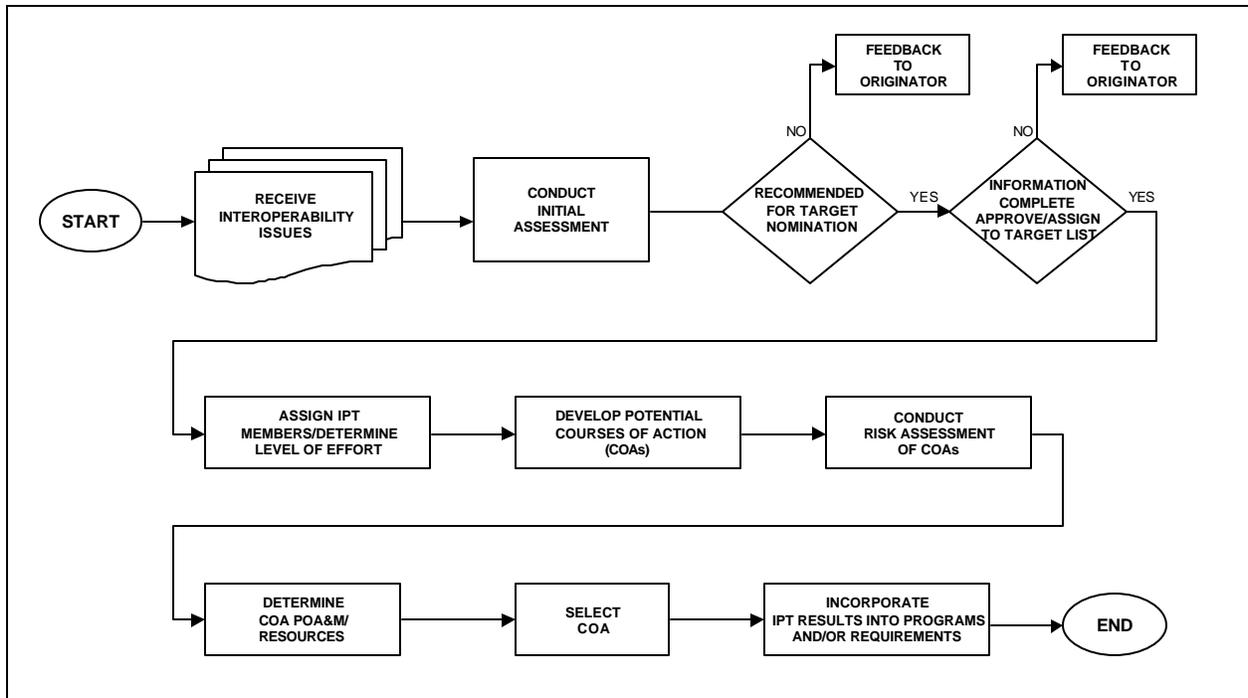


Figure E-1 The EIP Target Board Process

b. Initial Assessment. Upon receipt of an Issue, the Operations Team shall administratively review the Issue for completeness and then forward the Issue to the Systems Engineering and Assessments Section of C4I SE&I. An initial assessment of the Issue will then be conducted to understand the scope of the problem that is being described and to determine the systems that are impacted. Issues that concern systems interoperability and/or integration and meet the following minimum criteria have the potential to become “Targets”:

- Inter-PDG/PM in nature
- Joint interest
- Inter-Service interest
- Marine Corps-wide interest
- Command interest

c. Recommendation. Based on the initial assessment, the C4I SE&I Systems Engineering and Assessments Section will make a determination for further handling of the Issue.

1) Target Nomination. If the Issue meets the criteria outlined above, it can be recommended as a “Potential Target” and submitted to the EIP Target Board for consideration as a qualified “Target”.

2) Feedback to Originator. If the Issue is not recommended as a Target, then C4I SE&I will provide feedback to the Issue originator. The feedback provided can be associated with a number of different cases, each of which requires different follow-up actions on the part of the originator (see Figure E-2):

- a) The Issue needs more information or clarification. The originator provides the additional information or clarification and then re-submits the Issue to C4I SE&I for re-consideration.
- b) The Issue is similar in nature to a Target that is already under consideration. This Issue will be provided to the appropriate IPT.
- c) The Issue falls under the purview of a single PDG/PM; as such, C4I SE&I will forward the Issue to the appropriate PDG/PM.
- d) The Issue pertains to a Joint System for which the Marine Corps does not have primary responsibility; as such, the Issue will be forwarded to the appropriate agency or service.
- e) The Issue does not meet the criteria of a Target and does not merit action at this time. These issues will be monitored for further developments and may be acted on at a future date.

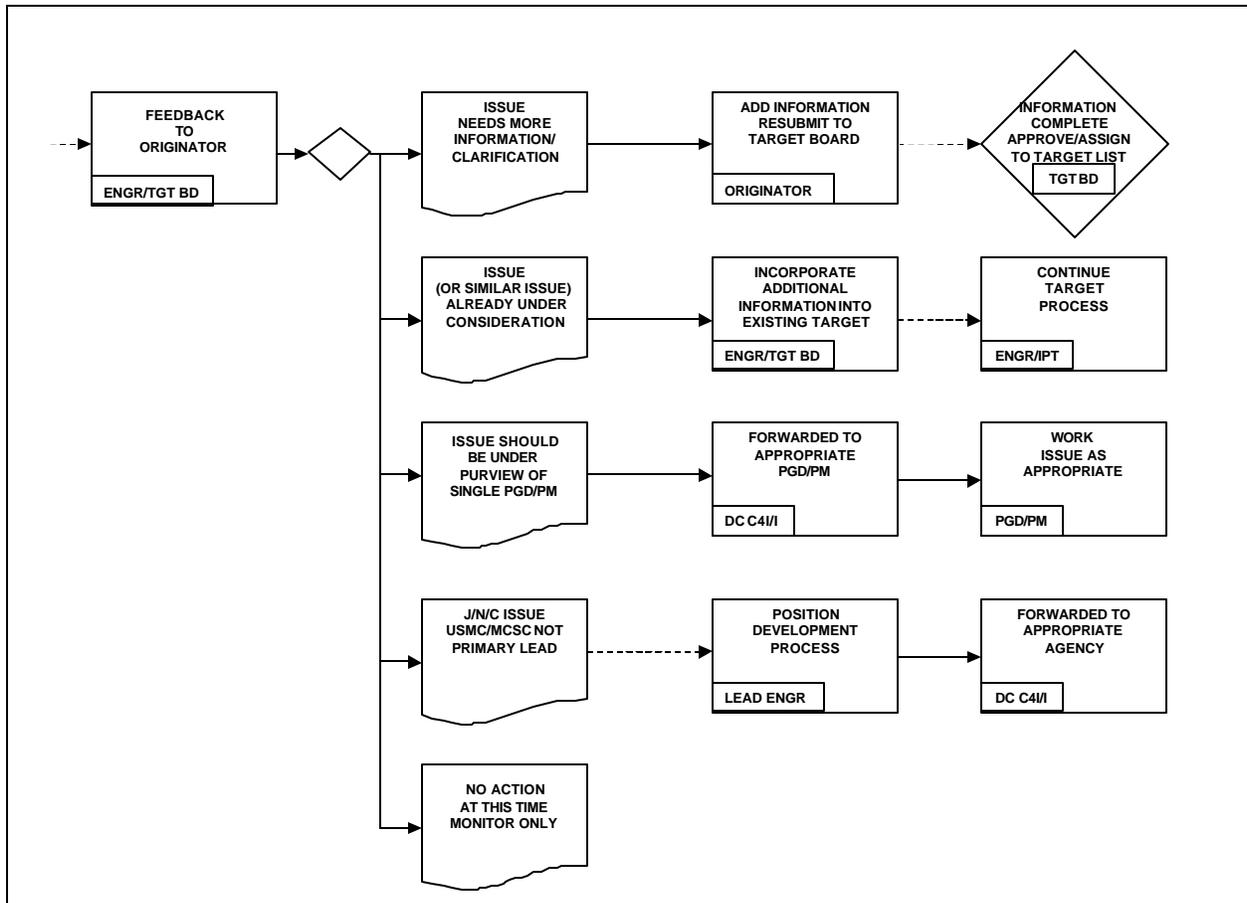


Figure E-2 Feedback to Originator for EIP Target Process

3) USMC/MCSC “Positions”. There are some issues that will not necessarily lend themselves to being identified as executable interoperability targets, but may require the development of an official USMC position. These technically-oriented issues, which are normally related to Joint, Naval and Coalition matters, will be handled as described below. Once

a position has been developed, it will be submitted to the Deputy Commander, C4I/I for approval and dissemination to the appropriate agency (see Figure E-3).

- a) Joint Issues. These issues will be assigned to the Enterprise Interoperability Working Group (EIWG) for position development and documentation.
- b) Naval Issues. These issues will be assigned to the C4I SE&I Joint, Naval, and Coalition Integration Section for position development and documentation.
- c) Coalition Issues. These issues will be assigned to the appropriate Liaison Officer for position development and documentation.

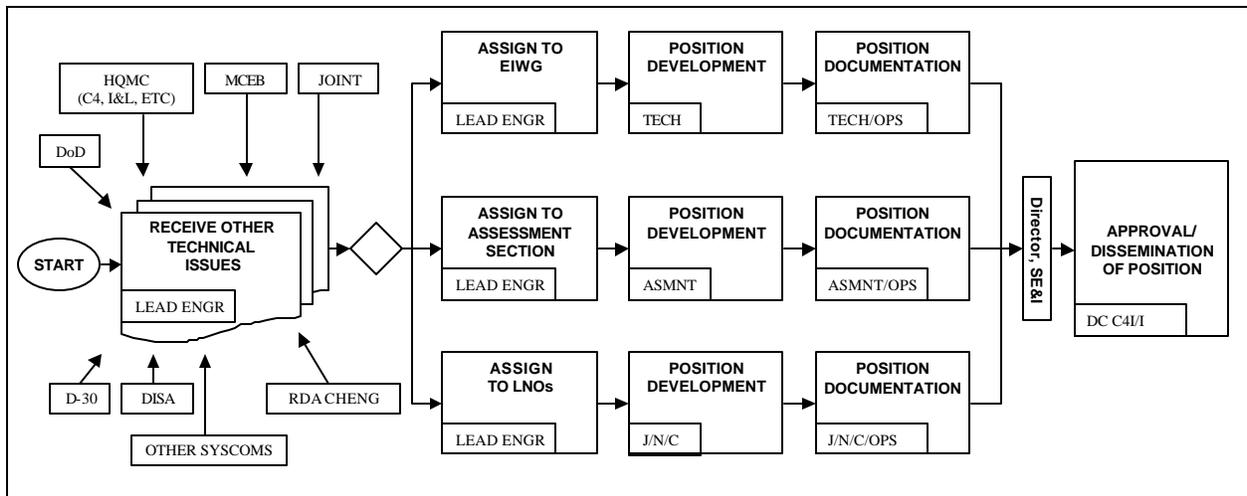


Figure E-3 Joint/Naval/Coalition Issue Development Process

d. Approval/Assignment as a Target. The Target Board will review all issues that have been nominated by C4I SE&I as potential Targets. At this decision point, two course of action can result.

1) Approval. If approved, the Target will be added to the Target List and the Target Board will then determine an appropriate level of effort for further investigation. The Target Board will charter an IPT, which will be tasked with conducting an in-depth assessment of the Target.

2) Disapproval. The Target Board will provide feedback to the originator for all “Potential Targets” that are not approved as Targets. This feedback will be provided in the same format and manner as described in paragraph E.3.c.2 above.

E.4. Target Board Integrated Product Teams

An Integrated Product Team (IPT) is a multifunctional team assembled around a product or service, and responsible for advising the Product Leader, Program Manager, or MDA on cost, schedule, and performance of the product. There are three types of IPTs: Overarching IPT, Program IPT, and Working-level IPT (WIPT). The Target Board will use the WIPT.

1) Working-Level IPTs: The Working-level IPT (WIPT) is the type that will be chartered by the Target Board to conduct an in-depth assessment of a selected target(s). The Target Board-sponsored WIPT will be comprised from the Target Board member PGD/Program Manager resources. When necessary, the Target Board may also invite other stakeholders that are not members of the Target Board to provide resources to the WIPT. The WIPT Charter shall

identify the Target to be assessed; the level of effort that should be applied by the WIPT towards assessing the assigned target; and identify all WIPT resources to be used. The WIPT shall be provided access to MCASE and the MCIAP.

2) **Target Assessments/Courses of Action (COA):** As part of these detailed assessments, the WIPT will develop courses of action (COA) to mitigate or resolve the interoperability and/or integration Target. The WIPT will also conduct a risk assessment, resource requirements and a Plan of Action and Milestones (POA&M) for each COA. The WIPT will then present their assessment to the Target Board with their recommended COAs. The Target Board will select a COA and forward it to the appropriate PGDs/PMs or other stakeholder for incorporation into their programs and/or their project requirements.

E.5. Target Originator's Request:

a. The completed EIP Target Originator's Request (TOR) is an important information component that is used to identify interoperability and integration issues associated with IT systems or NSS affecting the Marine Corps Enterprise Architecture. Essentially, the TOR acts as a "work request" for identifying current and future (systems or technical) interoperability and/or integration issues, and it is the primary means for entry into the Target Process. The TOR identifies systems and/or technical architecture related performance opportunities and deficiencies that impact operational capabilities and overall mission effectiveness. The TOR can also be used to identify potential opportunities, which may include new capabilities, improvements to existing capabilities, and elimination of redundant or unneeded capabilities.

b. Each originator of an issue is required to complete the first part of the TOR. The originator provides information about the primary POC, target type, target description, time frame of potential impact, and the rationale for pursuing this issue as an interoperability and integration issue. The remaining information is for tracking, analysis, and feedback purposes and will be compiled and completed by personnel from the C4I SE&I Division, the Target Board, and/or the assigned WIPT. The entire TOR form is provided in Attachment E-1 and is available on the C4I SE&I Knowledge Center.

C4I Interoperability and Integration Issue Target Originator's Request (TOR)

Target Short Title	For use by MARCORSSYSCOM C4I SE&I Division
Target No.	Date Target No. Assigned

PURPOSE

The completed EIP Target Originator's Request (TOR) is an important information component used to identify interoperability and integration issues associated with IT systems or NSS affecting the Marine Corps Enterprise Architecture. Essentially, the TOR acts as a "work request" for identifying current and future (systems or technical) interoperability and/or integration issues, and it is the primary means for entry into the Target Process. The TOR identifies systems and/or technical architecture related performance opportunities and deficiencies that impact operational capabilities and overall mission effectiveness. The TOR can also be used to identify potential opportunities, which may include new capabilities, improvements to existing capabilities, and elimination of redundant or unneeded capabilities.

TOR Routing and Status (For use by C4I SE&I Division)

Reception and forwarding dates for each part of the TOR are summarized here. The numbered processes are identified below in the Target process.

TGT	Actions	Rec'd	Fwd'd
1	Originator Submits Interoperability Issue		
2	C4I SE&I Conducts Initial Assessment		
3a	TGT BD Approves Issue to Target List		
3b	TGT BD Assigns IPT/Determines Level of Effort		
4a	IPT Stands-up - Develops Potential Course of Action		

TGT	Actions	Rec'd	Fwd'd
4b	IPT Conducts Risk Assessments on COAs		
4c	IPT Determines POA&M and Resources for COAs		
5	TGT BD Selects COA - Issues SPD		
6	Results of IPT Incorporated into Program and/or Requirements		

The EIP Target Board Process

(Provided for information and reference)

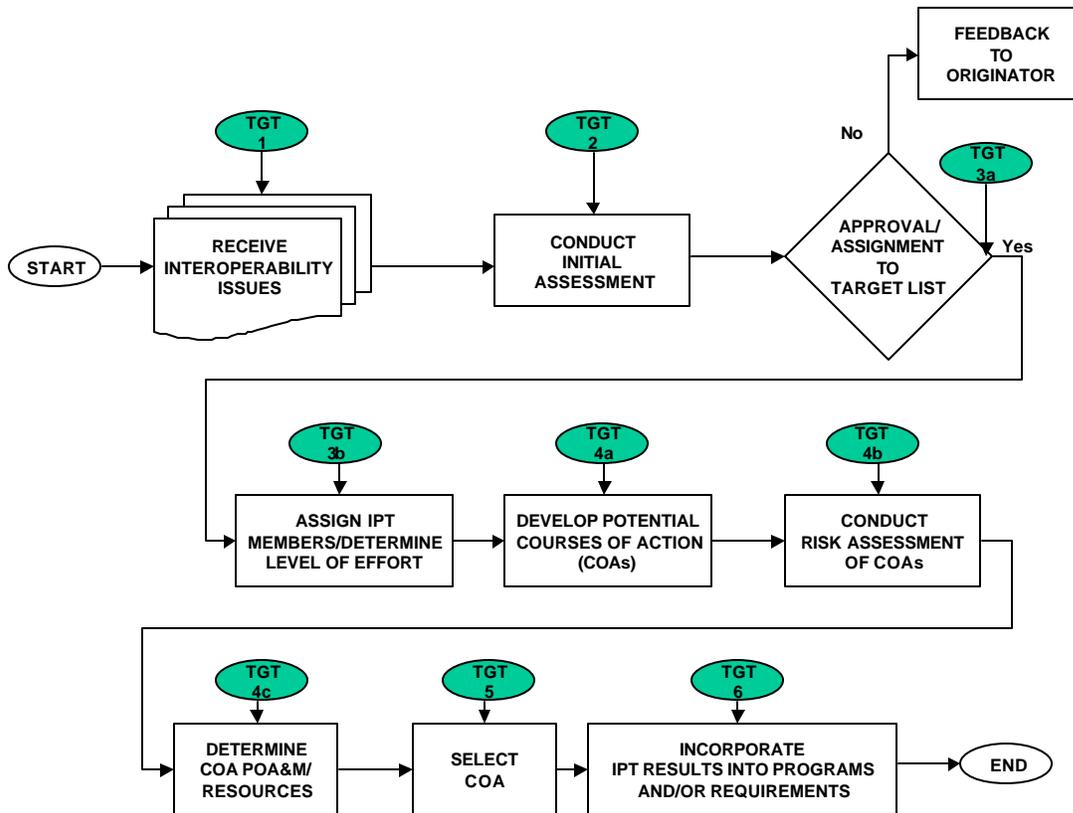


Figure E-1-4: EIP Target Board Process

**C4I Interoperability and Integration Issue
Target Originator's Request (TOR)**

Target Short Title	For use by MARCORSYSCOM C4I SE&I Division
Target No.	Date Target No. Assigned

Part 1 of 6 - Originator

Name (Last, First, Initial)	Rank/Grade	Phone	FAX
	Interested in participation on Solution Course of Action IPT?	Request TOR updates by e-mail?	E-mail Address RUC

Target Type (select the appropriate choice – add, improve, or delete capability)

ADD a new capability that does not currently exist	<input type="checkbox"/>	IMPROVE or FIX an existing capability	<input type="checkbox"/>	REMOVE an existing capability	<input type="checkbox"/>
--	--------------------------	---------------------------------------	--------------------------	-------------------------------	--------------------------

Target Description Describe the nature of the target as it pertains to the condition, consequence, and context.

- a. Condition, Consequence – A complete target description will include a **condition** (a brief statement that describes the circumstances, situation, etc. that outlines the potential threat/opportunity as it relates to the Systems/Technical Architecture. Additionally, the description can include a **consequence** (a short statement that identifies the potential (positive/negative) outcome) of this condition on the Systems/Technical Architecture.
- b. Context - The target statement describes the condition and consequence of target. Additional information should also be collected to provide **context** for the target. This context (what, when, where, how and why) will ensure that the original intent of the target can be understood as it progresses through the entire process.

**C4I Interoperability and Integration Issue
Target Originator's Request (TOR)**

Target Short Title	For use by MARCORSYSCOM C4I SE&I Division
Target No.	Date Target No. Assigned

Time Frame of Potential Impact to the Marine Corps Integrated Architecture

URGENT		6 Months		1 Year		2 Years		5 Years		10 Years		Other (date)
--------	--	----------	--	--------	--	---------	--	---------	--	----------	--	--------------

Rationale Describe why the target requires resolution in timeframe selected (e.g., interoperability issues, Congressional mandate, etc.).

Performance Impact Describe how the target impacts the performance of the current systems/technical architecture.

**C4I Interoperability and Integration Issue
Target Originator's Request (TOR)**

Target Short Title	For use by MARCORSYSCOM C4I SE&I Division
Target No.	Date Target No. Assigned

Effectiveness Impact Describe how the target impacts mission or task effectiveness.

PART 2 OF 6 – C4I SE&I SYSTEMS ENGINEERING AND ASSESSMENTS SECTION REVIEW

Action Officer (AO):		AO Email:	
AO Phone:		Date TOR Review Complete:	
Date TOR Forwarded To Target Board:		Date Target Board:	

PGD Involvement

Lead:	
Support:	

TOR Review (Part 1): Describe the Target in the context of its impact to the current Marine Corps Integrated Architecture.

**C4I Interoperability and Integration Issue
Target Originator's Request (TOR)**

Target Short Title	For use by MARCORSSYSCOM C4I SE&I Division
Target No.	Date Target No. Assigned

TOR Review (Part 2): Review projects and initiatives currently in the Target Process to determine if the Target is a new initiative, related to current Target initiatives, or redundant (already addressed by the Target Process). When appropriate, the review should include any ongoing Science & Technology initiatives.

PART 3A OF 6 - TARGET BOARD ENDORSEMENT

For use by C4I SE&I

Lead PGD Organization	
POC	Phone
Date Approved	E-mail

Target Board Decision to Continue TGT Processing

CONCUR as written. The target is approved for further processing; assign to IPT.

CONCUR as modified by comments. The target, as modified by Target Board comments, is approved for further processing; assign to IPT.

NON-CONCUR. Rationale is provided in Target Board comments. The issue shall be returned to Originator with a copy forwarded to C4I SE&I Assessments Branch.

OTHER. Explained in Target Board comments.

**TGT BD
Comments**

Comments shall address TOR Review (Part 1). Modifying comments may address the description of need, the requested timeframe, the mission/task, and benefits and risk. In order to determine the required level of effort, comments shall include any architecture implications, relative prioritization of the target, and dissenting comments from any supporting PGDs.

**C4I Interoperability and Integration Issue
Target Originator's Request (TOR)**

Target Short Title	For use by MARCORSYSCOM C4I SE&I Division
Target No.	Date Target No. Assigned

Target Board Comments (Summary):

Part 3b of 6 – Target IPT Assignment

Lead PGD:	
Date IPT Assigned:	
IPT Meeting Date:	
IPT Membership (Lead)	Name/Organization
IPT Membership (Member)	Name/Organization

Target IPT Charter Required level of effort and resources (summary).

**C4I Interoperability and Integration Issue
Target Originator's Request (TOR)**

Target Short Title	For use by MARCORSYSCOM C4I SE&I Division
Target No.	Date Target No. Assigned

Part 4a of 6 - Target IPT Courses of Action (COAs)

Date Entered	COA No.	IPT Summary

Part 4b of 6 - Target IPT Courses of Action (COAs) Risk Assessment

Date Entered	COA No.	IPT Summary

Part 4c of 6 - Target Estimate of Supportability

Est. of Supportability Due Date:	
IPT Recommendation:	COA #

Target Estimate of Supportability (POA&M/Resources Summary)

**C4I Interoperability and Integration Issue
Target Originator's Request (TOR)**

Target Short Title	For use by MARCORSYSCOM C4I SE&I Division
Target No.	Date Target No. Assigned

Part 5 of 6 - Target Board Selects COA

Target Board Selected COA:	COA #	Date of Selection:
SPD Draft Date:	SPD Final Date:	

Description of COA Selected by Target Board

Target Solution Planning Directive (SPD) (Summary)

**C4I Interoperability and Integration Issue
Target Originator's Request (TOR)**

Target Short Title	For use by MARCORSYSCOM C4I SE&I Division
Target No.	Date Target No. Assigned

Part 6 of 6 - Assignment of IPT Results to Appropriate Program/Requirements

Feedback to Originator

Date of Response to Originator:

Feedback Text

APPENDIX F: ENTERPRISE INTEROPERABILITY WORKING GROUP CHARTER

F.1 PURPOSE

This charter establishes the Enterprise Interoperability Working Group (EIWG), which shall function under the authority of the Marine Corps Systems Command (MARCORSYSCOM) Enterprise Configuration Control Board (ECCB) and the Enterprise Integrated Product (EIP) Target Board. The EIWG is responsible for conducting configuration management of the Marine Corps C4ISR architecture and Joint/Combined C4ISR interoperability standards. The EIWG makes recommendations to the ECCB regarding proposed changes to interoperability configuration items, C4ISR data elements and Marine Corps positions on Joint/Combined C4ISR interoperability standards.

F.2 RELATIONSHIPS

The EIWG is responsible for providing technical oversight of the EIP Target Board Integrated Product Teams (IPTs) as well as Standing Working Groups - the Hardware Working Group (HWG), the Software Working Group (SWWG), the Integrated Broadcast Service Working Group (IBS WG), the Communications and Network Working Group (C&N WG), and the Cryptographic Modernization Initiative Working Group (CMI WG). Figure F-1 depicts the organizational relationships of the EIWG in accordance with the MARCORSYSCOM C4I Enterprise Integrated Product (EIP) Configuration Management Plan (MARCORSYSCOM C4I ECMP) of 23 December 2002, reference (b), and the EIP Target Board Charter and Process, Appendix (E). Depending on the issues to be addressed, the C4I Integration Board may also function as the ECCB or the Target Board.

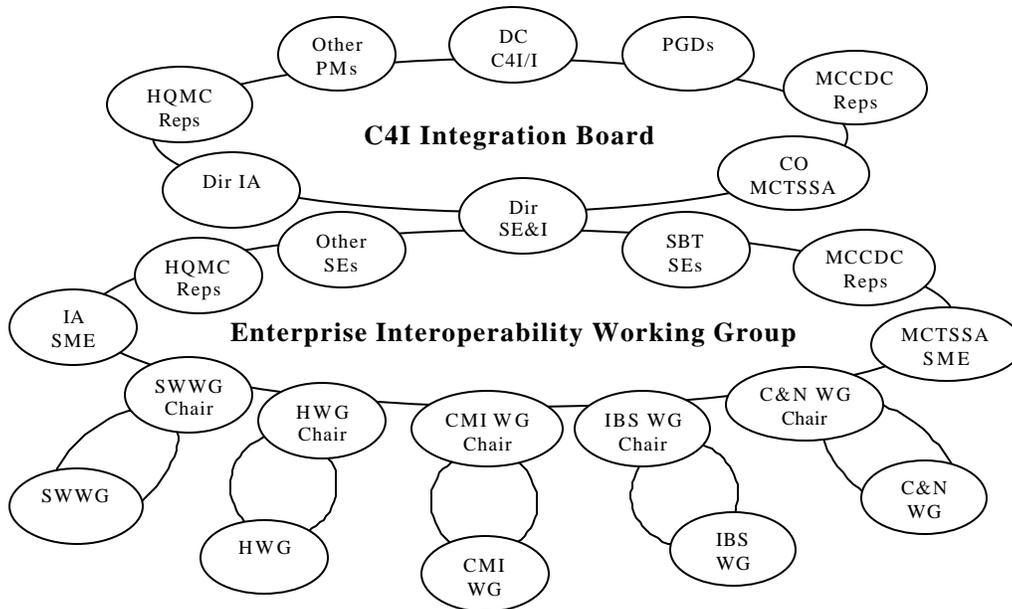


Figure F-1 EIWG Organizational Relationship

F.3 BACKGROUND

The EIWG is central to the Marine Corps interoperability enterprise configuration control process and is the interoperability management hub for development and maintenance of Marine Corps C4ISR technical architectures and standards. Generally, the EIWG deals with the

evaluation and disposition of proposed changes affecting C4ISR systems interfaces, and operational and doctrinal interoperability.

F.4 OBJECTIVE

The objective of the EIWG is to promote interoperability of interfacing C4ISR systems by developing and coordinating workable solutions to interoperability and integration problems.

F.5 MEMBERSHIP

a. The EIWG permanent membership shall consist of the systems engineers from the following organizations:

- 1) Chairman: Designated by the Director, C4I Systems Engineering and Integration (C4I SE&I) Division, MARCORSYSCOM
- 2) MARCORSYSCOM Product Group (PG) 10, Information Systems and Infrastructure
- 3) MARCORSYSCOM PG 11, Battlespace Management and Air Defense Systems
- 4) MARCORSYSCOM PG 12, Marine Air-Ground Task Force (MAGTF) Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance (C4ISR)
- 5) MARCORSYSCOM PG 13, Infantry Weapons Systems, as required
- 6) MARCORSYSCOM PG 14, Armor & Fire Support Systems, as required
- 7) MARCORSYSCOM PG 15, Ground Transportation and Engineer Systems, as required
- 8) MARCORSYSCOM PG 16, Combat Equipment and Support Systems, as required

Members designated "as required" have full membership status for issues that impact their programs.

b. And representatives from:

- 1) Marine Corps Tactical Systems Support Activity (MCTSSA), SE&I Support Division
- 2) Marine Corps Combat Development Command (MCCDC), Expeditionary Force Development Center, C2 Integration Division
- 3) MCCDC, Expeditionary Force Center, Materiel Requirements Division
- 4) Deputy Commandant for Aviation (DC/A), Headquarter Marine Corps (HQMC)
- 5) Director, Command, Control, Communications, and Computers (C4), HQMC
- 6) Director, Intelligence Department, HQMC
- 7) Direct Report Program Manager, Advanced Amphibious Assault (DRPM AAA)
- 8) MARCORSYSCOM PM Ammunition, as required
- 9) MARCORSYSCOM PM Training Systems, as required
- 10) Marine Corps Warfighting Laboratory (MCWL) Technology Division, as required
- 11) Others as determined by Chairman

c. Supporting IPTs/Working Groups (WGs): The EIWG coordinates with Target Board IPTs and Standing Working Groups.

1) Target Board IPTs under the technical oversight of the EIWG are:

a) Chartered by the Target Board to conduct in-depth assessments of selected targets and systems' level issues that pose a potential impact to the MARCORSSYSCOM Enterprise-Level Systems Architecture.

b) Tasked to conduct detailed assessments of assigned target issues; present recommended courses of action to the Target Board addressing programmatic and technical requirements and a Plan of Action and Milestones (POA&M).

2) Standing Working Groups will propose common material solutions across the Marine Corps Enterprise in their assigned product lines and operate through the EIWG. Standing WGs are established to investigate/address inter-Product Group (PG) issues that respective systems engineers cannot resolve; programs that have an impact of high significance across MARCORSSYSCOM; and programs that involve significant policy issues with agencies outside of the command. Charters for the Hardware, Software, Integrated Broadcast Service and the Communications and Network Working Groups are provided in Attachments F-1-1 to F-1-4, respectively.

a) Hardware Working Group – Responsible for conducting technical research and developing and presenting recommended courses of action with respect to the Marine Corps Common Hardware Suite (MCHS) computers and Navy/Marine Corps Intranet (NMCI) acquisition programs.

b) Software Working Group – Responsible for providing technical support and programmatic recommendations to identify and resolve Marine Corps unique requirements and issues with the MAGTF Software Baseline, and other common core software segments. Responsible for coordinating Marine Corps representation and positions in joint software related working groups.

c) Integrated Broadcast Service Working Group – Responsible for providing a unified, coherent Marine Corps position within the Marine Corps and to the various IBS working groups. This Working Group will receive and evaluate reports from the joint working groups. It will ensure that information on IBS requirements and issues is exchanged between the IBS community and the appropriate organizations within the Marine Corps. It was formed to improve coordination of Marine Corps positions in joint interoperability and configuration control forums

d) Communications and Network Working Group – Responsible for addressing issues related to the integration of the Joint Tactical Radio Systems into the Marine Corps. This group will also address other Marine Corps communication and network issues that impact interoperability of C4ISR systems.

F.6 TASKS

a. The EIWG shall perform the following tasks:

1) Oversee and manage Target Board IPTs and standing working groups technical activities. Serve as a focal point for Marine Corps participation in joint and combined forums and establish consistent, consolidated Marine Corps positions regarding joint interoperability for applicable C4ISR systems.

- 2) Propose Marine Corps positions on Joint/Combined C4ISR interoperability policies and provide guidance on development of MARCORSYSCOM Orders intended to provided interpretation of applicable policies and clarification of roles/responsibilities.
 - 3) Make recommendations to the ECCB regarding proposed Interface Change Proposals (ICPs) and EIP Engineering Change Proposals (EECPs) to interoperability configuration items, C4ISR data elements and Marine Corps positions on joint and combined interoperability standards.
 - 4) Develop guidance for Marine Corps representatives to joint forums (e.g., DOD Information Technology Standards Committee (ITSC), Information Technology Standards Working Groups (ISWGs), Joint Multi-Tactical Data Link Standards Working Group (JMSWG), Joint Multi-Tactical Data Link Configuration Control Board (JMTCCB), United States Message Text Formatting (USMTF) Technical Review Panel/Configuration Control Board, Variable Message Format Subgroup (VMFSG), and Combat Net Radio Working Group (CNRWG).
 - 5) Identify and forward, to the Target Board, proposed targets, system interoperability and integration issues between systems managed in different MARCORSYSCOM Product Groups that cannot be resolved at lower echelons.
 - 6) Coordinate with Target Board IPTs and provide technical oversight for target related work by conducting peer reviews of IPT results.
 - 7) Establish and organize IPTs, as required, to address specific issues.
- b. The Target Board IPTs will perform the following tasks:
- 1) Conduct a detailed assessment of assigned targets.
 - 2) Present recommended courses of action to the Target Board addressing programmatic and technical issues as well as identifying resource requirements and a POA&M. IPT results shall be coordinated through the EIWG before presentation to the Target Board.
- c. Standing Working Groups will perform the following tasks:
- 1) Create the Enterprise Master Plan for their product/process.
 - 2) Resolve interoperability issues through the Deputy Commander C4I Integration process resulting from routine EIWG review.

F.7 RESPONSIBILITIES

a. The EIWG Chairman is responsible to the ECCB and the Target Board for interoperability issues. The Chairman is responsible for scheduling EIWG meetings, designating meeting locations, and providing reports and briefings to the ECCB and the Target Board. The Chairman shall ensure Target Board IPT technical issues are reviewed by the EIWG and that EIWG recommendations are presented to the Target Board.

b. The EIWG Secretariat performs the administrative functions of the EIWG. The Secretariat resolves EIWG administrative and scheduling issues as directed by the EIWG Chairman. The Secretariat shall maintain a list of EIWG members as assigned by each organization. The Secretariat is responsible for the dissemination of all meeting agendas, read-

ahead packages, and minutes to all EIWG members. The Secretariat records and tracks the status and assignment of all EIWG decisions and action items.

c. EIWG member organizations shall designate a primary and alternate representative to support the EIWG meetings and ensure their names are provided to the EIWG Secretariat. The Strategic Business Team Lead Engineer shall serve as the Product Group primary EIWG representative.

d. EIWG members shall be responsible for support of and participation in the EIWG activities as follows:

- 1) Represent their organization and provide technical support for all EIWG meetings, including subject matter experts to include contractor participation, when required.
- 2) Provide qualified alternates to work all tasks (including attendance at EIWG and subgroup meetings) when the primary representative is unavailable.
- 3) Respond to assigned action items in a timely fashion.

e. IPT chairmen are responsible to the EIWG and the Target Board for the status and results of their assigned targets. Each chairman is responsible for scheduling IPT meetings, designating meeting locations, and providing reports and briefings to the EIWG and the Target Board.

f. Standing Working Group chairmen are responsible to the EIWG and the ECCB for the status and results of their assigned tasks. Each chairman is responsible for scheduling WG meetings, designating meeting locations, and providing reports and briefings to the EIWG and the ECCB.

F.8 ADMINISTRATIVE

Meetings. EIWG meetings will be held at the call of the Chairman. Normally meetings will be scheduled quarterly, but high priority interoperability actions may require more frequent meetings. A meeting announcement/agenda will be provided to members prior to each meeting. When required, read-ahead packages will be provided prior to the meeting. Communications with members will be accomplished using e-mail to the maximum extent possible.

a. **Decision Making.** The working group in open forum shall generate all EIWG recommendations. EIWG decisions will be made by consensus. If there are objections they will be noted in the EIWG minutes and a simple majority vote of the EIWG members shall establish the consensus. The Chairman shall resolve tie votes. If the Chairman is required to cast the deciding vote, the rationale for his vote will be documented in the EIWG meeting minutes. An EIWG member may declare his opposition to a majority vote as substantive during the EIWG meeting. A position paper outlining the majority position and opposing position with supporting documentation will be forwarded, depending on the nature of the issue, to the ECCB or the Target Board for resolution.

b. **Action Items.** Action items will be assigned at meetings to resolve specific questions at a later date in order to facilitate meeting progress. Once assigned, the Chairman will track action items to closure. The statuses of open action items will be distributed prior to each meeting.

c. **Issues.** An open issues list will be developed from candidate issues provided by EIWG members and accepted by the Chairman. The status of open issues will be briefed at each meeting. The EIWG will determine which issues are forwarded as targets to the Target Board or as standards issues to the ECCB. The Chairman will assign open issues, not forwarded to the Target Board or the ECCB as action items directed to closure.

d. IPTs/WGs. The EIWG may establish IPTs to address specific issues. The EIWG shall provide technical oversight of Target Board IPTs and Standing Working Groups by reviewing their statuses at each EIWG meeting.

F.9 AUTHORITY

The Enterprise Interoperability Working Group is chartered by the authority of the Deputy Commander, C4I Integration, MARCORSYSCOM.

F.10 APPROVAL/ENDORSEMENT

In accordance with signature page.

ATTACHMENT F-1: HARDWARE WORKING GROUP CHARTER

F-1.1 PURPOSE. The Marine Corps Common Hardware Suite (MCHS) Computer Hardware Working Group (HWG) shall develop, approve, and maintain the MCHS Allocated Baseline (ABL).

F-1.2 RELATIONSHIPS. The HWG is related to the EIWG, the Marine Corps Systems Command (MARCORSYSCOM) Enterprise Configuration Control Board (ECCB), the Enterprise Integrated Product (EIP) Target Board, and other IPTs and Working Groups (WGs) as depicted in the following diagram. Depending on the issues to be addressed, the C4I Integration Board may also function as the ECCB or the Target Board.

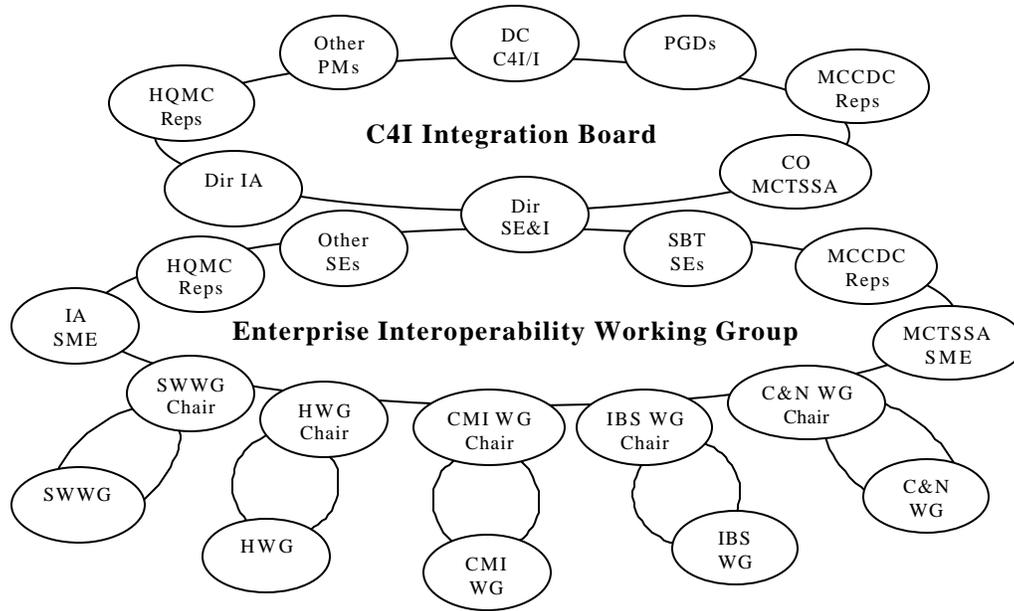


Figure F-1.2 HWG Organizational Relationship to EIWG

F-1.3 BACKGROUND: The Marine Corps is developing and implementing an information technology (IT) infrastructure, compliant with the Defense Information Infrastructure (DII) Common Operating Environment (COE), to support Marine Corps software applications' requirements. To implement this infrastructure, the Marine Corps established the MCHS program. The MCHS includes common Reduced Instruction Set Computer (RISC), or UNIX based information technology hardware and Complex Instruction Set Computer (CISC), or Wintel based information technology hardware, with a limited number of equipment configurations. It also includes enterprise logistics support of the equipment and affects the actions necessary to purchase computers from standard contract vehicles, such as Blanket Purchasing Agreement (BPA), or Indefinite Delivery Indefinite Quantity (IDIQ). Typically, the computers MCHS purchases include laptops, and ruggedized laptops, desktops and servers. MCHS does not cover peripheral devices

F-1.4 OBJECTIVES. The HWG will assist in implementing the Marine Corps Information Technology Infrastructure (ITI) to support Marine Corps software applications' requirements. The HWG shall develop, approve, and maintain the MCHS ABL.

F-1.5 MEMBERSHIP. The membership shall consist of representatives from the following organizations:

- a. Chairman: MCHS Project Lead (PM NMCI/IT)
- b. Secretariat: MCHS Support Contractor
- c. Space and Naval Warfare Command (SPAWAR) Liaison to MARCORSYSCOM
- c. Marine Corps Liaison to SPAWAR
- d. MARCORSYSCOM D-30 Coordinator
- e. MARCORSYSCOM C4I/I Information Assurance (IA)
- f. MARCORSYSCOM Chief Information Officer (CIO)
- g. Marine Corps Information Technology Network Operations Center (MITNOC)
- h. MARCORSYSCOM PG 10: Information Systems and Infrastructure
- i. Program Manager (PM) Combat Support Information Systems (CSIS) (PMM 101)
- j. PM Navy/Marine Corps Intranet/Information Technology Infrastructure (NMCI/IT) (PMM 102)
- k. MARCORSYSCOM PG 11: Battlespace Management and Air Defense Systems (BMADS)
- l. PM Operation Centers (OC) (PMM 111) BMADS Coordination Team (BCT)
- m. PM Radar Systems (RS) (PMM 112) BCT
- n. PM Air Defense Weapon Systems (ADWS) (PMM 113) BCT
- o. MARCORSYSCOM PG 12: MAGTF C4ISR
- p. PM Ground C2 (PMM 121)
- q. PM Communications (PMM 122)
- r. PM Intel (PMM 123)
- s. MARCORSYSCOM PG13: Infantry Weapons Systems
- t. MARCORSYSCOM PG14: Armor & Fire Support Systems
- u. PM Tanks (PMM 142)
- v. PM Amphibious Assault Vehicle Systems (AAVS) (PMM 143)
- w. MARCORSYSCOM PG15: Ground Transportation & Engineer Systems
- x. MARCORSYSCOM PG16: Combat Equipment & Support Systems
- y. PM Test, Measurement and Diagnostic Equipment (TMDE) (PMM 161)
- z. PM Nuclear, Biological and Chemical (NBC) Defense Systems (PMM 163)

- aa. PM AMMO (PMM pending)
- bb. Direct Report Program Manager, Advanced Amphibious Assault (DRPM AAA)
- cc. Marine Corps Warfighting Laboratory (MCWL)
- dd. Marine Corps Operational Test and Evaluation Activity (MCOTEA)
- ee. Director, Command, Control, Communications, and Computers (C4), Headquarters Marine Corps (HQMC)
- ff. Director, Intelligence Department, HQMC
- gg. Deputy Commandant for Aviation (DC/A), HQMC
- hh. Deputy Commandant for Installations and Logistics, HQMC
- ii. Deputy Commandant for Manpower and Reserve Affairs, HQMC
- jj. MCCDC Requirements
- kk. MCCDC Expeditionary Force Development Center, C2 Integration Division
- ll. Marine Corps Training and Education Command (TECOM)
- mm. Marine Corps Tactical Systems Support Activity (MCTSSA)
- nn. Naval Air Systems Command (NAVAIRSYSCOM) PMA 275 (V-22)
- oo. Naval Air Systems Command (NAVAIRSYSCOM) PMA 276 (H-1)
- pp. Marine Forces Atlantic (MARFORLANT)
- qq. Marine Forces Pacific (MARFORPAC)
- rr. Marine Forces Reserve (MARFORRES)
- ss. Marine Forces Europe (MARFOREUR)
- tt. Other voting members may be added as determined by individual issues.

F-1.6 TASKS

- a. The HWG shall develop the MCHS ABL and ensure that:
 - 1) MCHS ABL complies with the ECCB Functional Baseline (FBL);
 - 2) Hardware configuration standards comply with the DII COE;
 - 3) Hardware configurations only consist of commercial off the shelf (COTS) items and non-developmental items (NDI);
 - 4) Hardware configurations meet requirements of multiple systems, minimum quantity and be authorized by TE number.
 - 5) Hardware configurations meet USMC technical and logistical requirements.
- b. After the HWG determines that the candidate hardware configuration meets the above criteria, they shall:
 - 1) comply with ECCB FBL to ensure that the MCHS ABL reflects approved changes;
 - 2) approve the MCHS ABL;

- 3) record and document electronically all changes to the MCHS ABL;
- 4) inform PM NMCI/ITI of Products Baseline (PBL) changes.
- c. Review currently selected vendor 'roadmaps' for future developments.
- d. Review ongoing and proposed MCHS and HQ C4 policies and procedures and make recommendations for improvement as required.
- e. Review the logistics support provided by MCHS and make recommendations for improvement as necessary.

F-1.7 RESPONSIBILITIES

- a. The Chairman shall have the authority and responsibility to lead and direct the MCHS HWG in carrying out its functions. The Chairman will:
 - 1) Schedule and conduct the WG meetings.
 - 2) Provide reports and briefings to the EIWG and ECCB.
- b. The members designated in paragraph 5 will report and follow the directions of the HWG Chairman in executing their assigned tasks.

F-1.8 ADMINISTRATIVE

Meetings: held bi-annually or tri-annually, depending on current issues.

- a. Planned Duration and Schedule: on-going process that will continue at the discretion of the Chairman. The Chairman will notify HWG members via e-mail or Naval Message.
- b. Coordination, discussions, voting, and tasking are accomplished via meeting, Internet (e-mail, video conferencing and/or web hosting services) technologies.

F-1.9 AUTHORITY. The Hardware Working Group is chartered by the authority of the Deputy Commander, C4I Integration, MARCORSYSCOM.

F-1.10.APPROVAL/ENDORSEMENT. Approval of this Charter is tied to approval of the Enterprise Interoperability Working Group Charter, to which this Charter is an appendix.

ATTACHMENT F-2: SOFTWARE WORKING GROUP CHARTER

F-2.1 PURPOSE. This charter establishes the Software Working Group (SWWG), which shall report to the Enterprise Interoperability Working Group (EIWG). The Software Working Group shall assist the C4I SE&I Division, Product Group Directors, Direct Report Program Managers, Marine Corps Chief Information Officer (CIO), Marine Corps Combat Development Command (MCCDC), and Marine Corps Systems Command (MARCORSYSCOM) Deputy Commander for C4I Integration with maximizing Software Integration and Interoperability across the Marine Corps CIO Enterprise.

F-2.2 RELATIONSHIPS. The SWWG is related to the EIWG, the Marine Corps Systems Command (MARCORSYSCOM) Enterprise Configuration Control Board (ECCB), the Enterprise Integrated Product (EIP) Target Board, and other IPTs and Working Groups (WGs) as depicted in the following diagram. Depending on the issues to be addressed, the C4I Integration Board may also function as the ECCB or the Target Board.

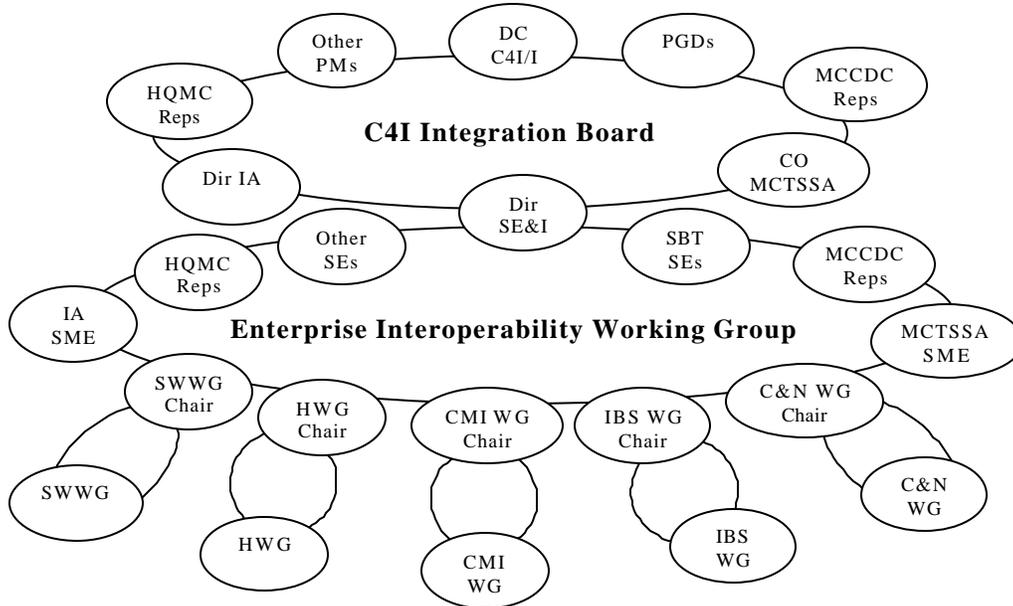


Figure F-2.3 SWWG Organizational Relationship to EIWG

F-2.3 BACKGROUND. Acquisition of software for IT systems must be accomplished in the larger context of who will use it, how it will be used, and how it will be supported. Various directives and products have been formulated to further the goal of information and data interoperability. While these have assisted in development of interoperable software solutions, the level of discretion inherent in applying standards and guidance has resulted in a less than optimum level of software integration. Forcing the issue at MARCORSYSCOM, a C4I Support Plan (C4ISP) is required to be developed for each Information Technology/National Security Systems (IT/NSS) program that has interoperability requirements. The EIP Configuration Management Plan (ECMP) provides the authority to establish the Software Working Group under the EIWG.

F-2.4 OBJECTIVES. The SWWG will assist in development of a synergistic approach among MARCORSYSCOM product groups (PGs), direct report program managers, and other software

development stakeholders to field controlled, secure, integrated and interoperable enterprise-wide Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) and supporting software for the Marine Corps. By using common computer hardware, approved Joint standards and interfaces, and working together to develop fully integrated software, Enterprise Integrated Product systems will have the capability for seamless interoperability regardless of the functional area(s) they support.

F-2.5 MEMBERSHIP. The membership shall consist of representatives from the following organizations:

- a. Chairman: chosen by the membership, to serve for one year
- b. Systems Engineering and Integration (C4I SE&I) Software Team
- c. Space and Naval Warfare Command (SPAWAR) Liaison to MARCORSYSCOM
- d. Marine Corps Liaison to SPAWAR
- e. MARCORSYSCOM D-30 Coordinator
- f. MARCORSYSCOM C4I/I Information Assurance (IA)
- g. MARCORSYSCOM Chief Information Officer (CIO)
- h. Marine Corps Information Technology Network Operations Center (MITNOC)
- i. MARCORSYSCOM PG 10: Information Systems and Infrastructure
- j. Program Manager (PM) Combat Support Information Systems (CSIS) (PMM 101)
- k. PM Navy/Marine Corps Intranet/Information Technology Infrastructure (NMCI/IT) (PMM 102)
- l. PM Enterprise Business and Systems Support
- m. PM Logistics Information Systems
- n. MARCORSYSCOM PG 11: Battlespace Management and Air Defense Systems (BMADS)
- o. PM Operation Centers (OC) (PMM 111) BMADS Coordination Team (BCT)
- p. PM Radar Systems (RS) (PMM 112) BCT
- q. PM Air Defense Weapon Systems (ADWS) (PMM 113) BCT
- r. MARCORSYSCOM PG 12: MAGTF C4ISR
- s. PM Ground C2 (PMM 121)
- t. PM Communications (PMM 122)
- u. PM Intel (PMM 123)
- v. MARCORSYSCOM PG13: Infantry Weapons Systems
- w. MARCORSYSCOM PG14: Armor & Fire Support Systems
- x. PM Tanks (PMM 142)
- y. PM Amphibious Assault Vehicle Systems (AAVS) (PMM 143)

- z. MARCORSYSCOM PG15: Ground Transportation & Engineer Systems
- aa. MARCORSYSCOM PG16: Combat Equipment & Support Systems
- bb. PM Test, Measurement and Diagnostic Equipment (TMDE) (PMM 161)
- cc. PM Nuclear, Biological and Chemical (NBC) Defense Systems (PMM 163)
- dd. Direct Report Program Manager, Advanced Amphibious Assault (DRPM AAA)
- ee. Marine Corps Warfighting Laboratory (MCWL)
- ff. Marine Corps Operational Test and Evaluation Activity (MCOTEA)
- gg. Director, Command, Control, Communications, and Computers (C4), Headquarters Marine Corps (HQMC)
- hh. Director, Intelligence Department, HQMC
- ii. Deputy Commandant for Aviation (DC/A), HQMC
- jj. Deputy Commandant for Installations and Logistics, HQMC
- kk. Deputy Commandant for Manpower and Reserve Affairs, HQMC
- ll. MCCDC Requirements
- mm. MCCDC Expeditionary Force Development Center, C2 Integration Division
- nn. Marine Corps Training and Education Command (TECOM)
- oo. Marine Corps Tactical Systems Support Activity (MCTSSA)
- pp. Naval Air Systems Command (NAVAIRSYSCOM) PMA 275 (V-22)
- qq. Naval Air Systems Command (NAVAIRSYSCOM) PMA 276 (H-1)
- rr. Marine Forces Atlantic (MARFORLANT)
- ss. Marine Forces Pacific (MARFORPAC)
- tt. Marine Forces Reserve (MARFORRES)
- uu. Other members may be added as determined by individual issues.

F-2.6 TASKS. The Software Working Group shall:

a. Provide recommendations for synchronization of fielding and migration to specific software products that include specific application versions and operating systems. This will include:

- 1) Develop and maintain a list of Marine Corps software packages and operating systems that are candidates for neckdown / convergence.
- 2) Review the neckdown strategies for software baseline convergence, initially based upon convergence plans of each individual member.
- 3) Develop a Marine Corps transition plan for migration from the Common Operating Environment (COE) 3.X baseline to the COE 4.X baseline; and future Joint common services.

- b. Create a master schedule that shows timeframes for use of specific software products by individual systems.
- c. Through the EIWG, identify and make recommendations to the ECCB for configuration management issues at the system-of-systems level.
- d. Draft, refine, and administer the MARCORSYSCOM Software Strategic Plan as necessary.
- e. Act as the technical advisory group to the Marine Corps CIO in determination of the optimum U. S. Marine Corps Software Portfolio.
- f. Create and maintain a listing of technical and programmatic points of contact for Marine Corps tactical data systems programs and support facilities
- g. Establish and maintain an electronic collaboration capability through which SWWG members and associates may solicit and exchange technical and programmatic information.
- h. Provide technical support to HQMC C4 (CIO) for development of the U. S. Marine Corps plan for Data Management and Interoperability (DMI) implementation.
- i. Reconcile Technical Architectures with Operational Architectures/Requirements as related to Software elements.
- j. Gather and distribute technical information supporting interchange with Joint and Service agencies, and act as a conduit for aggregation and promulgation of U. S. Marine Corps input to the DoD Information Technology Standards Registry (DISR), COE, C4ISR Architectural Framework, Global Information Grid (GIG) and other entities as directed.
- k. Assist in reconciliation of elements of the Marine Corps Software Baseline (HQMC list of software) with the MARCORSYSCOM Enterprise Integrated Product systems.
- l. Provide recommendations for update of interoperability instructions as necessary.

F-2.7 RESPONSIBILITIES

- a. The Chairman is responsible for validating issues to be presented to the SWWG. The Chairman will:
 - 1) Schedule and conduct the WG meetings.
 - 2) Conduct electronic voting.
 - 2) Disseminate SWWG decisions and recommendations.
 - 3) Provide reports and briefings to the EIWG and ECCB.

- b. The SWWG Secretariat performs the administrative functions of the SWWG. The Secretariat will:
 - 1) Resolve all administration and scheduling issues, as directed by the Chairman. The Secretariat is responsible for the dissemination of all meeting agendas, read-ahead packages, and minutes to all SWWG members.
 - 2) Maintain a list of members of the group, to be maintained as an attachment to this Charter.

3) Record and track the status and assignment of all SWWG decisions, recommendations, and action items. The Secretariat maintains an online compilation of reference documents applicable to SWWG tasks, and administers an electronic voting capability that will reduce the necessity for frequent meetings.

c. The members identified in paragraph 5 shall support the SWWG and provide representatives to SWWG meetings.

F-2.8 ADMINISTRATIVE

a. It is anticipated that the SWWG will meet quarterly, with meetings or virtual meetings scheduled as needs dictate.

b. The Secretariat will establish and maintain an electronic decision support presence on the C4I SE&I QuickPlace.

F-2.9 AUTHORITY. The Software Working Group is chartered by the authority of the Deputy Commander, C4I Integration, MARCORSYSCOM.

F-2.10 APPROVAL/ENDORSEMENT. Approval of this Charter is tied to approval of the Enterprise Interoperability Working Group Charter, to which this Charter is an attachment.

**ATTACHMENT F-3: INTEGRATED BROADCAST SERVICE WORKING GROUP
CHARTER**

F-3.1 PURPOSE. The Integrated Broadcast Service (IBS) Working Group (WG), functioning under the authority of the Enterprise Interoperability Working Group (EIWG), is the single Marine Corps Systems Command (MARCORSYSCOM) point of contact on IBS matters. The IBS WG is being formed to better coordinate Marine Corps Systems Command positions in joint interoperability and configuration control forums. The IBS WG will function as an Intelligence/Information subgroup of the EIWG.

F-3.2 RELATIONSHIPS. The IBS WG is related to the EIWG, the MARCORSYSCOM Enterprise Configuration Control Board (ECCB), the Enterprise Integrated Product (EIP) Target Board, and other IPTs and WGs as depicted in the following diagram. Depending on the issues to be addressed, the C4I Integration Board may also function as the ECCB or the Target Board.

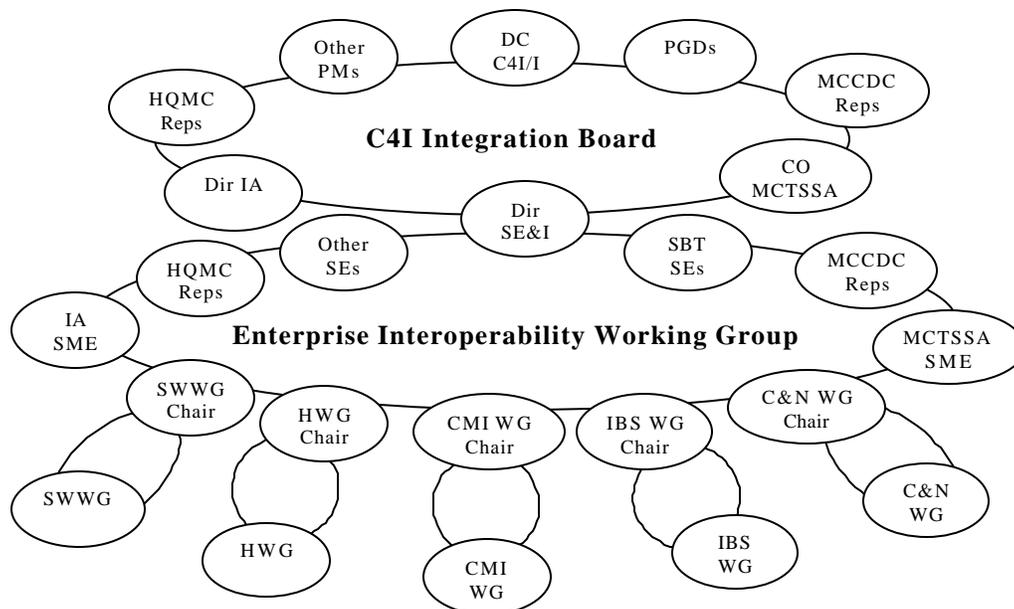


Figure F-3.4 IBS WG Organizational Relationship to EIWG

F-3.3 BACKGROUND. The Integrated Broadcast Service (IBS) is a congressionally directed effort to consolidate the four existing tactical intelligence broadcasts, i.e. the IBS-Simplex (IBS-S) previously known as Tactical Reconnaissance and Related Applications (TRAP) Data Dissemination System (TDDS), IBS-Interactive (IBS-I) previously known as Tactical Intelligence Broadcast Service (TIBS), IBS-Line of Sight (IBS-LOS) previously known as Tactical Reconnaissance Information Exchange System (TRIXS), and Near Real Time Dissemination (NRTD). IBS is transitioning these legacy broadcasts to an IBS Common Message Format (CMF), an IBS waveform and new tactical terminals/Joint Tactical Radio System (JTRS) radios. Marine Corps tactical data processors (TDPs) must be able to process Tactical Data Intercomputer Message Format – G (TDIMF-G) and CMF messages. Systems in the Marine Corps that are scheduled to employ IBS include Tactical Electronic Reconnaissance Processing and Evaluation System (TERPES), Intelligence Analysis System (IAS), Technical Control Analysis Center (TCAC), Tactical Air Command Center (TACC), Tactical Air Operations Center (TAOC), and Joint Surveillance Target Attack Radar System (JSTARS)

Common Ground Station (CGS). Each of these systems operates using legacy message formats that will be obsolete with the full implementation of IBS CMF. The IBS WG under EIWG oversight will coordinate and develop consolidated, consistent Marine Corps positions on IBS issues addressed at Joint IBS and Tactical Data Link Forums and coordinate IBS implementation into Marine Corps systems.

F-3.4 OBJECTIVES. The IBS WG will provide a unified, coherent Marine Corps Systems Command position within the Marine Corps on all IBS matters affecting systems and interoperability.

F-3.5 MEMBERSHIP. The membership shall consist of representatives from the following organizations:

- a. Chairman: Provided by PM Intelligence, MARCORSYSCOM (has one vote in order break ties)
- b. Secretariat: Provided by PM Intelligence, MARCORSYSCOM (Administrative participation only - no vote)
- c. Director, Command, Control, Communications, and Computers (C4), Headquarters Marine Corps (HQMC)
- c. Director, Intelligence Department, HQMC
- d. Deputy Commandant for Aviation (DC/A), HQMC
- e. Marine Corps Combat Development Command (MCCDC), Material Requirements Division
- f. MCCDC, Expeditionary Force Development Center, C2 Integration Division
- h. MARCORSYSCOM, Director, C4I SE&I Division
- i. MARCORSYSCOM, Product Group (PG) 10, Information Systems & Infrastructure
- j. MARCORSYSCOM, PG 11, Battlespace Management & Air Defense Systems
- k. MARCORSYSCOM, PG 12, MAGTF C4ISR
- l. MARCORSYSCOM, Marine Corps Tactical Systems Support Activity (MCTSSA)
- m. Marine Corps Operational Test and Evaluation Activity (MCOTEA) (Auxiliary Membership)
- n. Non-voting members are representatives with subject matter expertise related to IBS and/or associated intelligence agenda topics

F-3.6 TASKS

- a. The IBS WG will only deal with MARCORSYSCOM IBS related matters.
- b. The IBS WG will ensure that information on IBS requirements, systems development and interoperability issues is exchanged between the IBS community and the appropriate element within Marine Corps Systems Command.
- c. The WG will provide support to the Marine Corps representatives to Joint IBS forums.
- d. Matters of policy will be recommended to the EIWG then to the Enterprise Configuration Control Board (ECCB) for approval.

F-3.7 RESPONSIBILITIES

a. The WG Chairman will be responsible to the EIWG for IBS issues. The Chairman will schedule WG meetings, designate meeting locations, and provide reports and briefings to the EIWG and the ECCB.

b. The members listed in paragraph 5 shall appoint primary and alternate representatives that are authorized to speak for their organization. Participation is mandatory for these members in the normally scheduled meetings and any urgent sessions that are called by the Chairmen of the WG.

c. The Director of Intelligence, HQMC, will continue to provide Marine Corps representation to Joint IBS policy forums.

d. MCTSSA Systems Engineering and Integration Support Division (SE&ISD) Interoperability Branch (IOB) will continue to provide the Marine Corps representative to the Joint Multi-Tactical Data Link (TDL) Standards Working Group (JMSWG) Implementation Working Group, the Joint Multi-TDL Configuration Control Board, and other Joint forums addressing IBS message standards.

F-3.8 ADMINISTRATIVE

a. Meetings: will be held as determined by Chairman.

b. Decision Making. Within the WG, positions are determined and decisions made by achieving consensus through majority vote of the membership. Any member may declare a minority position or their opposition to a position or decision of the WG as substantive. In cases of a substantive issue, it will be documented and forwarded to the EIWG for further consideration and resolution. Decisions made at the WG shall hold unless explicitly reversed by the EIWG.

F-3.9 AUTHORITY. The Integrated Broadcast Service Working Group is chartered by the authority of the Deputy Commander, C4I Integration, MARCORSYSCOM.

F-3.10 APPROVAL/ENDORSEMENT. Approval of this Charter is tied to approval of the Enterprise Interoperability Working Group Charter, to which this Charter is an attachment.

**ATTACHMENT F-4: COMMUNICATIONS AND NETWORK WORKING GROUP
CHARTER**

F-4.1 PURPOSE. This charter establishes Communications and Network Working Group (C&N WG), which shall function under the authority of the Marine Corps Systems Command (MARCORSYSCOM) Enterprise Interoperability Working Group (EIWG) and the Enterprise Integrated Product (EIP) Target Board. The C&N WG is responsible for conducting configuration management of the Marine Corps expeditionary communications and network architectures¹. The C&N WG makes recommendations to the EIWG regarding proposed changes to interoperability configuration items, communications/network data elements and Marine Corps positions on Joint/Combined communications and networking interoperability standards. The C&N WG is additionally specifically tasked with for addressing issues related to the integration of the Joint Tactical Radio Systems (JTRS) into the Marine Corps expeditionary communications and network architectures.

F-4.2 RELATIONSHIPS. The C&N WG is related to the EIWG, the Marine Corps Systems Command (MARCORSYSCOM) Enterprise Configuration Control Board (ECCB), the Enterprise Integrated Product (EIP) Target Board, and other IPTs and Working Groups (WGs) as depicted in the following diagram. Depending on the issues to be addressed, the C4I Integration Board may also function as the ECCB or the Target Board.

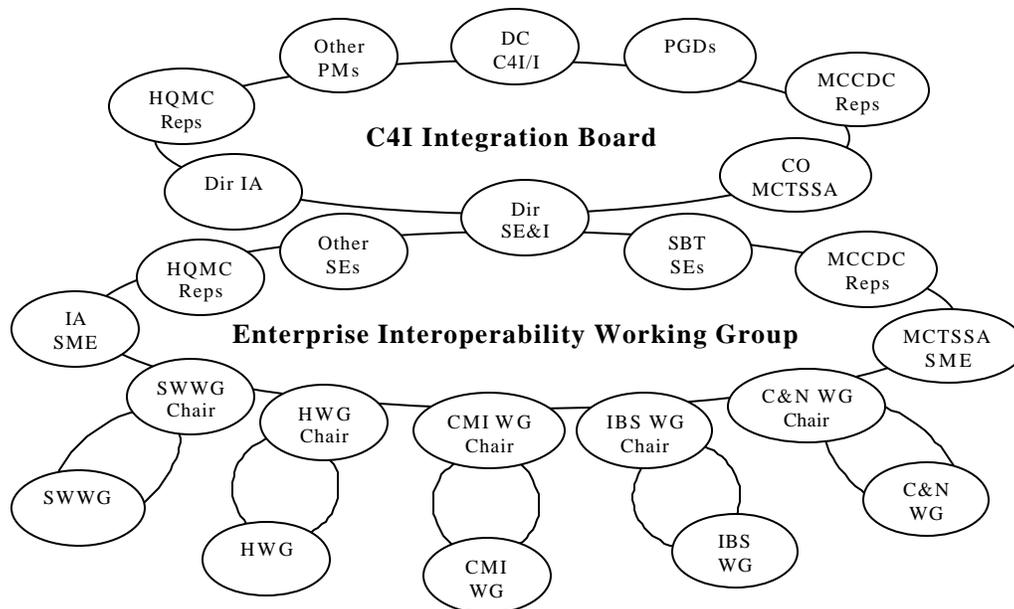


Figure F-4.5 C&N WG Organizational Relationship to EIWG

F-4.3 BACKGROUND. The C&N WG is central to the Marine Corps communications and networking configuration control process and is the communications and network interoperability management hub for development and maintenance of Marine Corps communications and networking technical architectures and standards. Generally, the C&N WG

¹ The Marine Corps' Expeditionary Network is defined in HQMC's C4 Campaign Plan, Second Edition, 2003, "Building the Marine Corps Expeditionary Network (eXNET)" as the expeditionary part of the Marine Corps Enterprise Network (MCEN).

deals with the evaluation and disposition of proposed changes affecting communication and network systems interfaces, and operational (doctrinal) and technical interoperability.

F-4.4 OBJECTIVES. The objective of the C&N WG is to promote an integrated communications and network architecture by developing and coordinating workable solutions to interoperability and integration problems.

F-4.5 MEMBERSHIP. The C&N WG membership shall consist of the systems engineers and representatives from the varying organizations.

1. Permanent membership shall consist of the systems engineers from the following organizations:

- a. Chairman: Designated by Program Manager, Communications Systems, MARCORSYSCOM
- b. Director, Command, Control, Communications, and Computers (C4), Headquarters Marine Corps (HQMC)
- c. MARCORSYSCOM System Engineering and Integration will maintain the System and Technical Views of the communications architecture
- d. MCCDC C2 Integration Division will maintain the Operational View of the communications architecture.
- e. MARCORSYSCOM Product Group (PG) 10, Information Systems and Infrastructure
- f. MARCORSYSCOM Program Manager (PM) Combat Support Information Systems (CSIS) (PMM 101), as required
- g. MARCORSYSCOM PM Navy/Marine Corps Intranet/Information Technology Infrastructure (NMCI/IT) (PMM 102), as required
- h. MARCORSYSCOM PG 11, Battlespace Management and Air Defense Systems, as required
- i. MARCORSYSCOM PM Operation Centers (OC) (PMM 111) BMADS Coordination Team (BCT), as required
- j. MARCORSYSCOM PM Radar Systems (RS) (PMM 112) BCT, as required
- k. MARCORSYSCOM PM Air Defense Weapon Systems (ADWS) (PMM 113) BCT, as required
- l. MARCORSYSCOM PG 12, Marine Air Ground Task Force (MAGTF) Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance (C4ISR)
- m. MARCORSYSCOM PM Ground C2 (PMM 121)
- n. MARCORSYSCOM PM Communications (PMM 122)
- o. MARCORSYSCOM PM Intel (PMM 123)
- p. MARCORSYSCOM PG 13, Infantry Weapons Systems, as required
- q. MARCORSYSCOM PG 14, Armor & Fire Support Systems, as required
- r. MARCORSYSCOM PM Tanks (PMM 142), as required

- s. MARCORSYSCOM PM Assault Amphibious Vehicle Systems (AAVS) (PMM 143), as required
- t. MARCORSYSCOM PG 15, Ground Transportation and Engineer Systems, as required
- u. MARCORSYSCOM PG 16, Combat Equipment and Support Systems, as required
- v. Direct Report Program Manager, Advanced Amphibious Assault (DRPM AAA), as required
- w. Marine Corps Warfighting Laboratory (MCWL)
- x. Marine Corps Operational Test and Evaluation Activity (MCOTEA)
- y. Director, Intelligence Department, HQMC
- z. Deputy Commandant for Aviation (DC/A), HQMC
- aa. Deputy Commandant for Installations and Logistics, HQMC
- bb. Deputy Commandant for Manpower and Reserve Affairs, HQMC
- cc. MCCDC Requirements
- dd. MCCDC Expeditionary Force Development Center, C2 Integration Division
- ee. Marine Corps Training and Education Command (TECOM)
- ff. Marine Corps Tactical Systems Support Activity (MCTSSA)
- gg. Naval Air Systems Command (NAVAIRSYSCOM) PMA 275 (V-22), as required
- hh. Naval Air Systems Command (NAVAIRSYSCOM) PMA 276 (H-1), as required
- ii. Marine Forces Atlantic (MARFORLANT)
- jj. Marine Forces Pacific (MARFORPAC)
- kk. Marine Forces Reserve (MARFORRES)
- ll. Marine Forces Europe (MARFOREUR)
- mm. Marine Corps Information Technology Network Operations Center (MITNOSC)

Other voting members may be added as determined by individual issues. Members designated “as required” have full membership status for issues that impact their programs.

2. Permanent membership shall also consist of representatives from the following organizations:
 - a. Marine Corps Tactical Systems Support Activity (MCTSSA), SE&I Support Division
 - b. MARCORSYSCOM PM Ammunition, as required
 - c. MARCORSYSCOM PM Training Systems, as required
 - d. Others as determined by Chairman

F-4.6 TASKS. The C& N WG shall perform the following tasks:

- a. Oversee and manage the Marine Corps’ communication architecture. Serve as a focal point for Marine Corps participation in joint and combined network and communications forums

and establish consistent, consolidated Marine Corps communications architecture and its integration to the Global Information Grid (GIG).

- b. Propose Marine Corps positions on DoD communications and networking policies and provide guidance on development of MARCORSYSCOM Orders intended to provide interpretation of applicable policies and clarification of roles/responsibilities.
- c. Identify and forward, to the Target Board, proposed targets, communications and networking issues between systems managed in different MARCORSYSCOM Product Groups that cannot be resolved at lower echelons.
- d. Establish and organize IPTs, as required, to address specific issues.

F-4.7 RESPONSIBILITIES

- a. The C&N WG Chairman is responsible to the EIWG, ECCB and the Target Board for communications and networking issues. The Chairman is responsible for scheduling C&N WG meetings, designating meeting locations, and providing reports and briefings to the EIWG, ECCB, and the Target Board. The Chairman shall ensure Target Board IPT technical issues are reviewed by the C&N WG and that C&N WG recommendations are presented to the EIWG and Target Board.
- b. The C&N WG Secretariat performs the administrative functions of the C&N WG. The Secretariat resolves C&N WG administrative and scheduling issues as directed by the C&N WG Chairman. The Secretariat shall maintain a list of C&N WG members as assigned by each organization. The Secretariat is responsible for the dissemination of all meeting agendas, read-ahead packages, and minutes to all C&N WG members. The Secretariat records and tracks the status and assignment of all C&N WG decisions and action items.
- c. C&N WG member organizations shall designate a primary and alternate representative to support the C&N WG meetings and ensure their names are provided to the C&N WG Secretariat. The Strategic Business Team Lead Engineer shall serve as the Product Group primary C&N WG representative.
- d. C&N WG members shall be responsible for support of and participation in the C&N WG activities as follows:
 - 1) Represent their organization and provide technical support for all C&N WG meetings, including subject matter experts to include contractor participation, when required.
 - 2) Provide qualified alternates to work all tasks (including attendance at C&N WG and subgroup meetings) when the primary representative is unavailable.
 - 3) Respond to assigned action items in a timely fashion.
- e. IPT chairmen are responsible to the C&N WG and the Target Board for the status and results of their assigned targets. Each chairman is responsible for scheduling IPT meetings, designating meeting locations, and providing reports and briefings to the C&N WG, EIWG and the Target Board.

F-4.8 ADMINISTRATIVE

- a. Meetings: will be held as determined by Chairman.
- b. Decision Making. Within the WG, positions are determined and decisions made by achieving consensus through majority vote of the membership. Any member may declare a

minority position or their opposition to a position or decision of the WG as substantive. In cases of a substantive issue, it will be documented and forwarded to the EIWG for further consideration and resolution. Decisions made at the WG shall hold unless explicitly reversed by the EIWG.

- c. Action Items. Action items will be assigned at meetings to resolve specific questions at a later date in order to facilitate meeting progress. Once assigned, the Chairman will track action items to closure. The statuses of open action items will be distributed prior to each meeting.
- d. Issues. An open issues list will be developed from candidate issues provided by C& N WG members and accepted by the Chairman. The status of open issues will be briefed at each meeting. The C& N WG will determine which issues are forwarded as targets to the EIWG, Target Board or as standards issues to the ECCB. The Chairman will assign open issues, not forwarded to the EIWG, the Target Board or the ECCB as action items directed to closure.
- e. IPTs/WGs. The C& N WG may establish IPTs to address specific issues. The C& N WG shall provide technical oversight of C& N WG IPTs and Standing Working Groups by reviewing their statuses at each C& N WG meeting.

F-4.9 AUTHORITY. The Communications and Network Working Group is chartered by the authority of the Deputy Commander, C4I Integration, MARCORSYSCOM.

F-4.10 APPROVAL/ENDORSEMENT. Approval of this Charter is tied to approval of the Enterprise Interoperability Working Group Charter, to which this Charter is an attachment.

ATTACHMENT F-5: CRYPTOGRAPHIC MODERNIZATION INITIATIVE WORKING GROUP CHARTER

F-5.1 PURPOSE: The Marine Corps Cryptographic Modernization Initiative Working Group (CMI WG) shall report to the Enterprise Interoperability Working Group (EIWG). The CMI WG shall assist the C4I SE&I Division, Product Group Directors, Direct Report Program Managers, Headquarters Marine Corps C4, Marine Corps Combat Development Command (MCCDC), and Marine Corps Systems Command (MARCORSYSCOM) Deputy Commander for C4I Integration with maximizing Cryptographic and Key Management Interoperability and Integration across the Marine Corps Enterprise. Additionally, the CMI WG will identify programmatic and life-cycle costs not covered under initial procurement to ensure Programs of Record (PORs) are sufficiently planning and budgeting for the DoD mandated upgrades to USMC equipment.

F-5.2 RELATIONSHIPS. The CMI WG is related to the EIWG, the Marine Corps Systems Command (MARCORSYSCOM) Enterprise Configuration Control Board (ECCB), the Enterprise Integrated Product (EIP) Target Board, and other IPTs and Working Groups (WGs) as depicted in the following diagram. Depending on the issues to be addressed, the C4I Integration Board may also function as the ECCB or the Target Board.

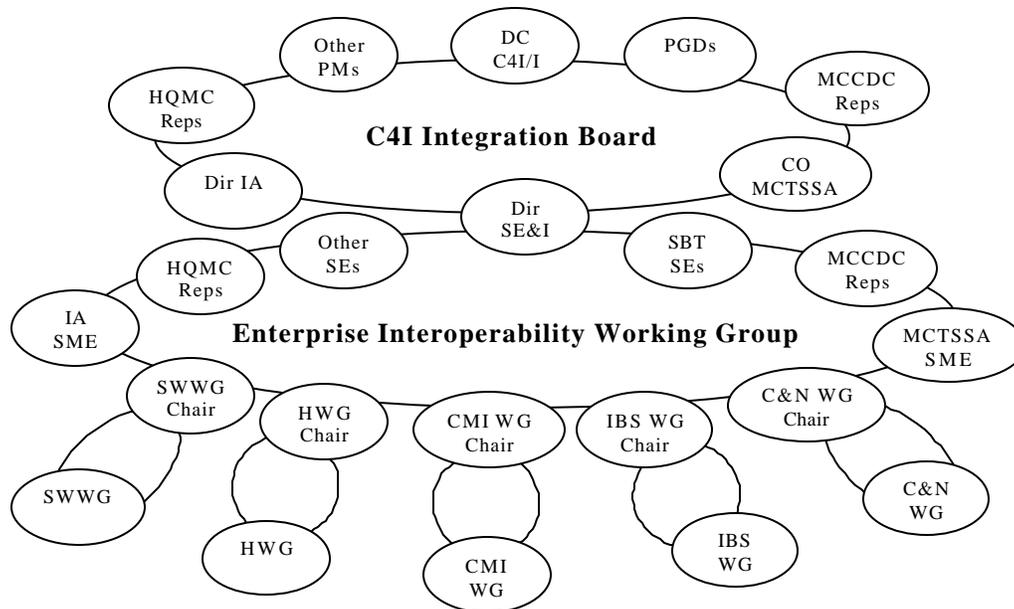


Figure F-4.6 CMI WG Organizational Relationship to EIWG

F-5.3 BACKGROUND. The Assistant Secretary of Defense for Command, Control, Communications and Intelligence (ASD/C3I) directed a DoD-wide initiative to address the challenges of modernizing DoD cryptographic product inventory and associated key management infrastructure.¹ This direction was based upon compelling evidence regarding the state of the current cryptographic inventory, specifically:

- Based on Security and component technologies that are 20-30+ years old and unless replaced or upgraded will reach the end of its useful cryptographic life.
- Becoming logistically unsupportable in the near future.
- Designed to operate in point-to-point configurations even though DoD is increasingly moving to net-centric information architectures.
- Not designed to support the increased allied, Department of Homeland Security (DHS) and coalition partner interoperability requirements that include the ability to add and delete partners on a very dynamic basis.

Information Assurance (IA) is no longer a luxury but a critical warfighting capability. Within Joint Vision 2020 (JV2020), under the Information Security pillar, DoD established the need to provide the secure, seamless, and collaborative information environment that will enable full situational awareness and information dominance during military operations. To this end, the DoD adopted the Defense-in-Depth approach to IA. The four focus areas of Defense-in-Depth include Local Computing Environments or Enclaves, Enclave Boundaries, Networks, and Supporting Infrastructures. Cryptographic systems are utilized in all four Defense-in-Depth focus areas and support the following security services: Confidentiality, Integrity, Identification & Authentication, and Non-Repudiation. These security services can be used individually or in combination to satisfy the protection requirements of the information.

NSA has established the Joint Service Cryptographic Modernization Initiative Working Group to manage the Cryptographic Modernization Initiative (CMI). The CMI ensures the availability of logistically supportable cryptographic devices, implementing robust cryptographic algorithms in a cost-effective manner throughout their life cycle. The CMI presents an effective path for DoD to achieve modern security solutions to improve cryptographic robustness and to resolve logistics support issues within the current communications security (COMSEC) inventory. The result will be a modernized cryptographic inventory that enables improved mission capability and enhanced operational effectiveness for our warfighters.

In a related effort, NSA has established the Joint Key Management Infrastructure Working Group to manage the Key Management Infrastructure (KMI). The KMI encompasses all the requirements of the Electronic Key Management System (EKMS) which manages Type I (classified) keys, and the Public Key Infrastructure (PKI) which manages Type III and Type IV (Sensitive But Unclassified) keys. KMI will integrate both these infrastructures into a seamless integrated infrastructure that better supports Joint Vision 2020 and reduces costs to DoD.

¹ ASD/C3I memorandum, 23 Feb 01.

F-5.4 OBJECTIVES. The CMI WG will use a synergistic approach among MARCORSYSCOM product groups (PGs), direct report program managers, and other stakeholders to field modernized cryptographic and key-management devices for the Marine Corps in accordance with USMC, DoN, DoD, and National policies to meet CMI and KMI objectives. The CMI WG will assist all stakeholders with identification of C4I I&I requirements related to CMI.

F-5.5 MEMBERSHIP. Within the CMI WG, a member is defined as those listed in this section that are part of a Marine Corps command. Other agencies listed below may act in a liaison capacity only and are not voting members. Representatives to the CMI WG must have at least a SECRET level clearance to participate. When possible the members should have at least one year left in their current assignment upon assignment.

1. Permanent members must have a designated representative at all meetings. The CMI WG chairman must be selected from this group. They shall consist of the following organizations:

- a. Chairman: chosen by the membership, to serve for one year.
- b. HQMC C4 (CS)
- c. HQMC C4 (CP)
- d. MCCDC Expeditionary Force Development Center, C2 Integration Division
- e. Deputy Commandant for Manpower and Reserve Affairs, HQMC
- f. MARCORSYSCOM C4I Systems Engineering and Integration (C4I SE&I)
- g. MARCORSYSCOM C4I/I Information Assurance (IA)
- h. MARCORSYSCOM PM Communications (PMM 122)
- i. Project Officer Public Key Infrastructure/Public Key Encryption (PO PKI/PKE)

2. As Needed Members may participate in voting, and may attend all meetings. They must have a designated representative when requested by the CMI WG chairman. They shall consist of the following organizations:

- a. MCCDC Requirements Division
- b. Marine Corps Training and Education Command (TECOM)
- c. Marine Corps Warfighting Laboratory (MCWL)
- d. Marine Corps Operational Test and Evaluation Activity (MCOTEA)
- e. Marine Corps Tactical Systems Support Activity (MCTSSA)
- f. Direct Report Program Manager, Advanced Amphibious Assault (DRPM AAA)
- g. MARCORSYSCOM PG13: Infantry Weapons Systems
- h. MARCORSYSCOM PG14: Armor & Fire Support Systems
- i. MARCORSYSCOM PG 10: Information Systems and Infrastructure
- j. Program Manager (PM) Global Combat Support System-Marine Corps (GCSS-MC) (PMM 101)

- k. PM Navy/Marine Corps Intranet/Information Technology Infrastructure (NMCI/IT) (PMM 102)
 - l. PM Enterprise Business and Systems Support
 - m. PM Logistics Information Systems
 - n. PM Tanks (PMM 142)
 - o. PM Assault Amphibious Vehicle Systems (AAVS) (PMM 143)
 - p. PM Test, Measurement and Diagnostic Equipment (TMDE) (PMM 161)
 - q. PM Nuclear, Biological and Chemical (NBC) Defense Systems (PMM 163)
 - r. MARCORSYSCOM PG 11: Battlespace Management and Air Defense Systems (BMADS)
 - s. PM Operation Centers (OC) (PMM 111) BMADS Coordination Team (BCT)
 - t. PM Radar Systems (RS) (PMM 112) BCT
 - u. PM Air Defense Weapon Systems (ADWS) (PMM 113) BCT
 - v. MARCORSYSCOM PG 12: MAGTF C4ISR
 - w. PM Ground C2 (PMM 121)
 - x. PM Intel (PMM 123)
 - y. MARCORSYSCOM Chief Information Officer (CIO)
 - z. Marine Corps Network Operations and Security Command (MCNOSC)
 - aa. Director, Intelligence Department, HQMC
 - bb. Marine Forces Reserve (MARFORRES) MCMO
 - cc. Marine Forces Pacific (MARFORPAC) MCMO
 - dd. Marine Forces Atlantic (MARFORLANT) MCMO
 - ee. First Marine Expeditionary Force (I MEF) MCMO
 - ff. Second Marine Expeditionary Force (II MEF) MCMO
 - gg. Third Marine Expeditionary Force (III MEF) MCMO
3. Liaison (non-voting) attendees may be invited by the CMI WG chairman when desirable and should be informed of CMI WG decisions.
- a. Director, Cryptographic Modernization (NSA)
 - b. Director, Key Management Infrastructure (NSA)
 - c. Chief of Naval Operations (CNO N64332)
 - d. PEO C4I and Space PMW-161 (Cryptographic Modernization PMO)
 - e. Naval Air Systems Command (NAVAIRSYSCOM)
 - f. PM Cryptographic Modernization, Army

- g. PM Cryptographic Modernization, Air Force
- h. Marine Corps Liaison to the Director of COMSEC Material System (DCMS)
- i. Marine Corps IA Liaison to the Director, National Security Agency (DIRNSA)

Other members may be added as determined by individual issues.

F-5.6 TASKS. The Cryptographic Modernization Initiative Working Group shall:

- a. Provide recommendations for synchronization of fielding and migration to specific cryptographic and key management products that include specific application versions and algorithms. This will include:
 - 1) Develop and maintain a list of Marine Corps cryptographic devices, software and algorithms that are candidates for convergence to a modernized family of cryptography.
 - 2) Review the convergence strategies for current USMC programs and integrate these into an enterprise baseline.
 - 3) Perform gap analysis on the enterprise baseline in order to:
 - a). Develop a Marine Corps transition plan for modernization of cryptographic devices, algorithms and software in accordance with DoD CMI.
 - b). Develop a Marine Corps transition plan for modernization of key management infrastructure in accordance with DoD CMI.
- b. Create a master schedule that shows timeframes for use of specific cryptographic products and related software versions by individual systems.
- c. Through the EIWG, identify and make recommendations to the ECCB for configuration management issues at the system-of-systems level.
- d. Create and maintain a listing of technical and programmatic points of contact for inter-service cryptographic systems programs and support facilities.
- e. Establish and maintain an electronic collaboration capability through which CMI WG members and associates may solicit and exchange technical and programmatic information.
- f. Provide technical support to HQMC C4 for development of the U. S. Marine Corps Cryptographic Modernization Implementation Plan.
- g. Reconcile Technical Architectures with Operational Architectures/Requirements as related to cryptographic elements.
- h. Identify USMC cryptographic requirement gaps to CG MCCDC, SPAWAR PMW-161, HQMC C4, CNO, and Director NSA (DIRNSA).
- i. Gather and distribute technical information supporting interchange with Joint and Service agencies, and act as a conduit for aggregation and promulgation of U. S. Marine Corps input to the Joint Service Cryptographic Modernization Initiative Working Group, Joint Key Management Infrastructure Working Group, C4ISR Architectural Framework, Global Information Grid (GIG) and other entities as required.
- j. Support COMSEC Cables Program in development of COMSEC requirements for submission to HQMC C4 in accordance with MCO 5239.1.
- k. If additional tasks are required by a majority of the members, they will be presented to the EIWG for approval.

F-5.7 RESPONSIBILITIES.

- a. The Chairman is responsible for validating issues to be presented to the CMI WG. The Chairman will:
 - 1) Schedule and conduct the CMI WG meetings.
 - 2) Conduct electronic voting.
 - 3) Disseminate CMI WG decisions and recommendations.
 - 4) Provide reports and briefings to the EIWG, Joint Service Cryptographic Modernization Working Group (JSCMWG), and Joint Key Management Infrastructure Working Group (JKMIWG).
- b. The CMI WG Secretariat performs the administrative functions of the CMI WG. The Secretariat will:
 - 1) Resolve all administration and scheduling issues, as directed by the Chairman. The Secretariat is responsible for the dissemination of all meeting agendas, read-ahead packages, and minutes to all CMI WG members.
 - 2) Maintain a list of member representatives to the CMI WG.
 - 3) Record and track the status and assignment of all CMI WG decisions, recommendations, and action items. The Secretariat maintains an online compilation of reference documents applicable to CMI WG tasks, and administers an electronic voting capability that will reduce the necessity for frequent meetings.
- c. The members previously identified shall perform action items assigned by the CMI WG chairman, and provide representatives to CMI WG meetings as required by the chairman.

F-5.8 ADMINISTRATIVE

a. Meetings: Initially meetings will be scheduled every four months. The Chairman may change the frequency to semiannually or quarterly as necessary for the execution of the CMI WG tasks.

b. Decision Making. Decisions are made by achieving consensus through majority vote of the membership, as defined above. Any member may declare a minority position or their opposition to a position or decision of the CMI WG as substantive. In cases of a substantive issue, it will be documented and forwarded to the EIWG for further consideration and resolution. Decisions made at the CMI WG shall hold unless explicitly reversed by the EIWG.

F-5.9 AUTHORITY. The Cryptographic Modernization Initiative Working Group is chartered by the authority of the Deputy Commander, C4I, Integration, MARCORSYSCOM.

F-5.10 APPROVAL/ENDORSEMENT. Approval of this Charter is tied to approval of the Enterprise Interoperability Working Group Charter, to which this Charter is an appendix.

APPENDIX G: C4ISP PROCEDURES

G.1 PURPOSE

As described in Section 1, MARCORSYSCOM accomplishes its CM functions through the use of C4ISPs. This appendix describes the C4ISP development and approval process for MARCORSYSCOM AAPs and ACAT III and IV programs. Attachment G-1 offers information on how Marine Corps ACAT I, IA, and II programs develop C4ISPs, and how they coordinate their effort with MARCORSYSCOM. Attachment G-2 provides a checklist for determining the need for a C4ISP. Attachment G-3 provides details on preparing for the C4ISP Establishment Review. Attachment G-4 details procedures to follow in reviewing C4ISPs developed outside of MARCORSYSCOM.

G.2 BACKGROUND

The Chief Joint Chiefs of Staff Instruction 6212.01B (reference (g)) requires the development of C4ISPs for programs in all acquisition categories when they connect in any way to the communications and information infrastructure. The C4ISP provides a mechanism to identify and resolve C4ISR support shortfalls, and planned solutions at any given phase in a program's acquisition cycle.

G.3 C4ISP POLICY

The following subsections describe the policy on creation and maintenance of MARCORSYSCOM-generated C4ISPs.

G.3.1 When Required

C4ISPs are required for all ACAT programs and all Abbreviated Acquisition Programs under the cognizance of the Commanding General, MARCORSYSCOM that connect in any way to the communications and information infrastructure. C4ISPs will be used within the command to facilitate interoperability and integration among the information systems within all program directorates and programs reporting directly to the Commanding General. Attachment G-2 provides a checklist for determining the need for a C4ISP.

G.3.2 C4ISP Timeframe

When a program meets the criteria specified in reference (g) requiring a C4ISP, PGDs and PMs will ensure an approved C4ISP is completed/updated prior to major program reviews or milestone decisions.

G.3.3 C4ISP Maintenance

Once completed, a C4ISP shall be kept current through the final production milestone decision, and updated if undergoing a major upgrade or product improvement. Approved C4ISPs will be used to monitor the progress of the system development toward meeting its interoperability and integration goals.

G.4 PROCEDURES

Figure G.4-1 provides a diagram of the process used to create C4ISPs for AAPs and ACAT III and IV programs at MARCORSYSCOM. When a MARCORSYSCOM program is placed on the Office of the Assistant Secretary of Defense (OASD) "C4ISP Special Interest List," the process for creating a C4ISP is modified as noted in figure G.4-2. Both figures are labeled with numbers to correspond to the procedures outlined below.

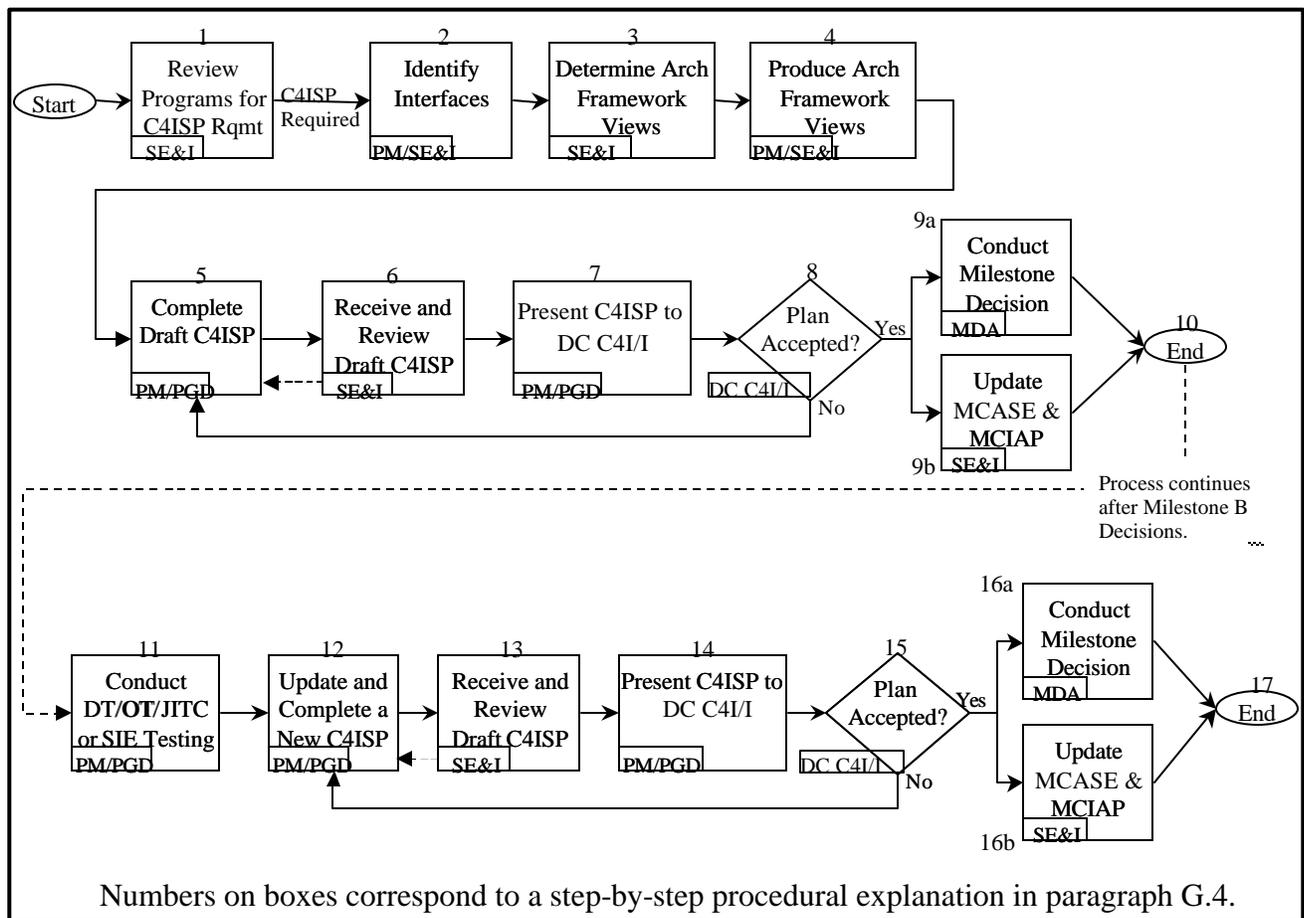


Figure G.4-1 Process for Preparation and Approval of C4ISPs

G.4.1 Step 1. Review Programs for C4ISP Requirement

C4I SE&I Division begins the C4ISP process by screening all programs listed in the Command Automated Program/Information System (CAPS) for C4ISP applicability. C4I SE&I Division will coordinate with PMs in developing a recommendation as to whether or not a C4ISP is required. Attachment G-2 provides a checklist used to screen each program. One of three determinations will be made during the screening process:

- a. **No C4ISP is required.** The program does not have a reasonable impact, interface, or connection to any system within the Marine Corps communications and information infrastructure.
- b. **A C4ISP is required.** The program represents a significant impact to the Marine Corps communications and information infrastructure.
- c. **A C4ISP is required, but the program was developed under the old DoD 5000.** When a program requires a C4ISP, but it achieved a post-Milestone II status before 4 January 2001, the program may be considered for a waiver to the full C4ISP requirement. When this occurs, such programs shall develop the minimum set of C4ISR Architecture Framework System Views (SV-2 and SV-6), and Technical View (TV-1) to document system-to-system interfaces, and the system’s degree of

compliance with the Joint Technical Architecture (JTA) and with MARCORSSYSCOM policies on the use of common hardware, software, and support products.

G.4.2 Step 2. Identify Interfaces

When a program is determined to require a C4ISP or the minimum set of architectural views, C4I SE&I Division will meet with the PM or designated system engineer in order to identify all interfaces with the system being procured. This determination is used to scope the level of effort needed to diagram the architecture in the C4ISP.

G.4.3 Step 3. Determine Architecture Framework Views

After identifying the system interfaces, C4I SE&I Division will make a determination on the C4ISR Architecture Framework views needed for the C4ISP. The required C4ISP views will reflect an increase in detail as the system progresses through the acquisition cycle.

G.4.4 Step 4. Produce Architecture Framework Views

The fourth step in developing C4ISPs involves creating the C4ISR Architecture Framework views required for the C4ISP. For the majority of the lower ACAT level programs, the Product Team Leader (PTL) will be responsible for creating the architecture views, using templates available on the C4I SE&I Knowledge Center web page of the MARCORSSYSCOM secure web site (TIGER). C4I SE&I Division will provide training and support as needed for PTLs using the templates. For complex architectures, C4I SE&I Division will work with the designated PTL to develop the architecture views for the C4ISP. When the SV-6 (System Data Exchange Matrix), and TV-1 (Technical Architecture Profile) are completed, they become directive in nature to the system being acquired.

G.4.5 Step 5. Complete Draft C4ISP

Once the architecture views are completed, the PM shall prepare the remaining portions of the C4ISP, incorporating the completed architectural views. The C4ISP template provides the easiest means to complete a draft C4ISP that meets the mandated C4ISP requirements. PMs shall adjust their acquisition strategy as necessary to implement the standards and connectivity depicted in the architecture views.

G.4.6 Step 6. Receive and Review Draft C4ISP

After a draft C4ISP is completed, it is submitted to C4I SE&I Division for review. During the review process, C4I SE&I Division will work with PMs to clarify ambiguities and resolve interoperability and integration issues. After final corrections are made to the C4ISP, the PM and the Director C4I SE&I shall sign the C4ISP and schedule the C4ISP Establishment Review with the Deputy Commander C4I Integration. After approval by the PM and the Director C4I SE&I, the C4ISP will be routed to the PGD for concurrence prior to the C4ISP Establishment Review.

G.4.7 Step 7. Present C4ISP to DC C4I/I

In the seventh step of the C4ISP process, the PM conducts the C4ISP Establishment Review with the Deputy Commander C4I Integration. Attachment G-3 provides more details on preparing for the C4ISP Establishment Review.

G.4.8 Step 8. Plan Accepted or Returned

Depending on the outcome of the C4ISP Establishment Review, the Deputy Commander will either approve the C4ISP or return it to the PM/PGD for modification.

- a. If approved, the Deputy Commander C4I Integration will sign the C4ISP. The Director, C4I SE&I Division shall be responsible for delivery of the C4ISP to Agencies outside of MARCORSYSCOM in accordance with guidance to be provided by those agencies.
- b. If returned, the C4ISP will be modified, and reenter the approval process.

G.4.9 Step 9. Conduct Milestone Decision & Update MCASE and MCIAP

Following approval of the C4ISP, the document follows two separate paths:

- a. Step 9a. When a C4ISP is approved, the PM/PGD submits a copy of the signed document to the Assistant Commander, Programs for inclusion in preparatory documentation for the next scheduled milestone decision. CAPS will also be updated to reflect having an approved C4ISP.
- b. Step 9b. C4I SE&I Division will update the MCASE and MCIAP databases.

G.4.10 Step 10. End of C4ISP Development Process prior to Milestone B

The tenth step reflects the end of the C4ISP development process in preparation for a Milestone B decision. PMs are expected to incorporate the plans for meeting their interoperability and integration requirements into all aspects of their system development, testing, fielding and life cycle support. Steps 11 through 17 reflect the process to update a C4ISP in preparation of a Milestone C decision.

G.4.11 Step 11. Conduct DT, OT, JITC or SIE Testing

The eleventh step in developing a C4ISP reflects the PM's developmental, operational, and joint interoperability testing that occurs during the acquisition process. From this testing, resolution of standards used, and connectivity to hardware (with the software used) are finalized. If testing reveals a major interoperability or standards problem in the architecture views assigned by C4I SE&I Division, Director C4I SE&I Division will work with the PM to resolve the problem. The results of testing provide the information needed to update the program's C4ISP.

G.4.12 Step 12. Update and Complete a New C4ISP

In the twelfth step, the PM shall update the C4ISP based upon results of developmental, operational, and certification testing. The architectural views previously used in earlier versions of the C4ISP will be updated to reflect test results. A draft revised C4ISP is developed and submitted by the PM to C4I SE&I Division for review.

G.4.13 Steps 13 through 17. Similar to Steps 6 through 10

Steps 13 through 17 are similar to Steps 6 through 10 above, but will reflect the additional understanding of the system performance derived from system development and testing.

G.4.14 Additional Steps for "C4ISP Special Interest" Programs

Figure G.4-2 provides a diagram of the additional steps followed to create C4ISPs for ACAT III and IV programs that have been placed on the Office of the Assistant Secretary of Defense (OASD) “C4ISP Special Interest List.” Reference (g) provides the following additional steps for developing “Special Interest” C4ISPs.

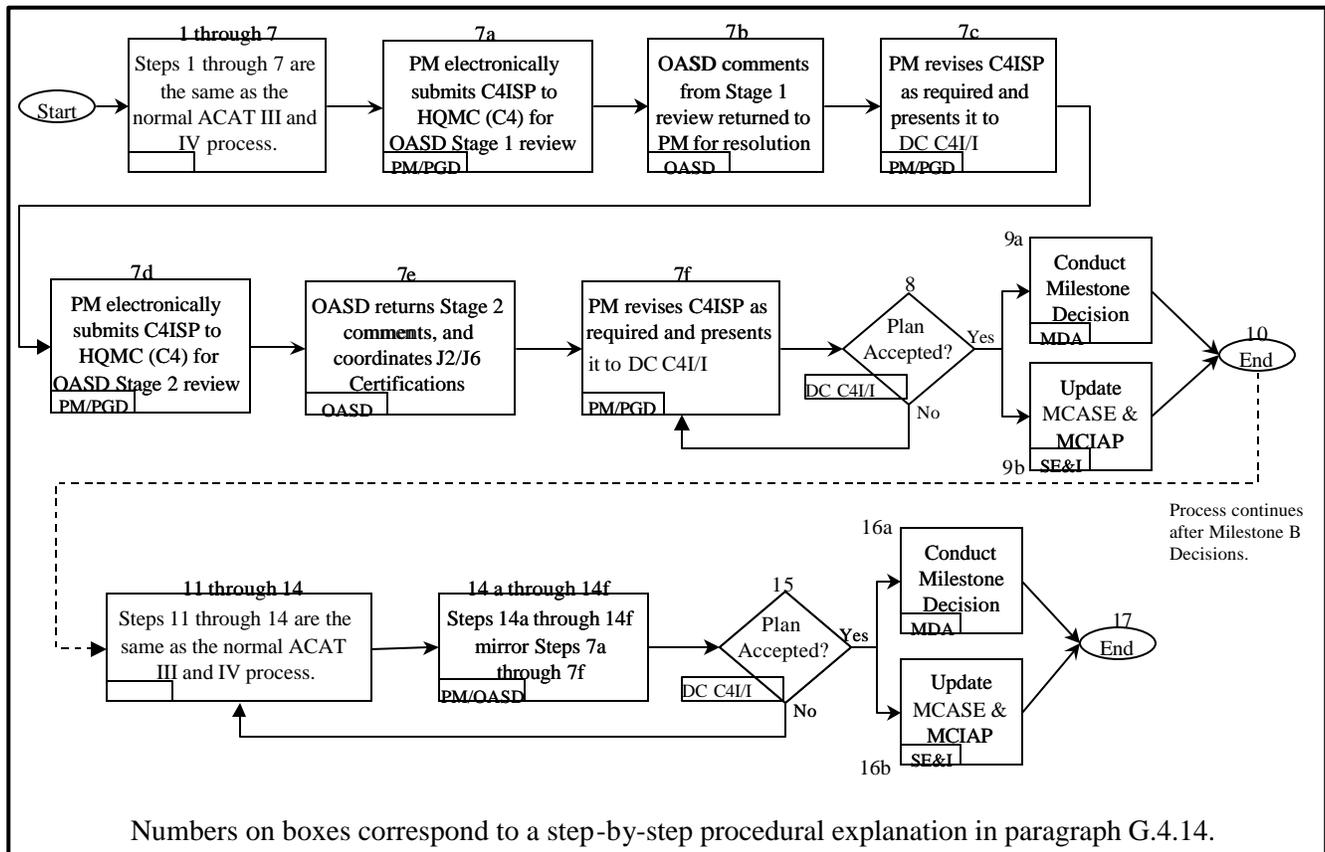


Figure G.4-2 Process for Preparation and Approval of OASD “C4ISP Special Interest” Programs

- a. **Step 7a.** After a C4ISP has been presented to the Deputy Commander, C4I Integration at Step 7, the PM will electronically submit the document to HQMC (C4) for an OASD Stage 1 review as defined in reference (g). The Stage 1 review, as coordinated through OASD will take at least 35 days to complete.
- b. **Step 7b.** OASD will gather all comments received on the C4ISP, and return them to the PM (through HQMC (C4)) for resolution.
- c. **Step 7c.** When the comments to the C4ISP are received, the PM resolves the issues addressed, and revises the document as needed. If an issue cannot be resolved by the PM due to scope or subject matter, the Director C4I SE&I Division, or Deputy Commander C4I Integration may be brought into the resolution process for assistance. After the C4ISP has been revised, it is presented once again to the Deputy Commander C4I Integration in the same manner followed at Step 7.
- d. **Step 7d.** After presenting the C4ISP to the Deputy Commander C4I Integration, the PM will resubmit the document to HQMC (C4) for an OASD Stage 2 review as defined in reference (g). The Stage 2 review coordinated through OASD will take at least 21 days to complete.

- e. **Step 7e.** OASD will gather all comments received on the C4ISP and coordinate the generation of the Joint Chiefs of Staff J-2 and J-6 Supportability Certifications. The comments and certifications will be returned to the PM (through HQMC (C4)).
- f. **Step 7f.** If needed, the PM resolves any remaining issues addressed in the Stage 2 review and revises the C4ISP as needed. The completed C4ISP with J-2/J-6 certifications are presented to the Deputy Commander C4I Integration for final approval and signature.
- g. **Steps 14a through 14f.** When a “Special Interest” C4ISP is developed for post Milestone B decision reviews, Steps 7a through 7f are repeated. Those additional steps are shown as Steps 14a through 14f in figure G.4-2.

G.5 RESPONSIBILITIES

The specific responsibilities of the various groups and individuals involved in the C4ISP process are provided in Section 6, Roles and Responsibilities.

ATTACHMENT G-1: C4I SUPPORT PLAN DEVELOPMENT FOR MARINE CORPS ACAT I/II

G-1.1. Purpose

This Attachment describes the coordination procedures for C4ISP development between Marine Corps ACAT I, IA, and II programs, and C4I SE&I Division. The Attachment provides policy for the upper ACAT level programs with respect to information on how those programs interface with MARCORSYSCOM interoperability policies and resources.

G-1.2. Background

- a. The vast majority of Marine Corps C4I-related weapons systems and information technology programs are developed at MARCORSYSCOM. Configuration management responsibility rests with the applicable program office, while configuration management of interoperability authority rests with the MARCORSYSCOM Deputy Commander C4I Integration. This ensures the enterprise-level MAGTF systems and technical architectures satisfy the operational requirements in support of Marine Corps Commanders. Milestone Decision Authority (MDA) for ACAT I, IA, and II programs rests with Agencies and officials external to MARCORSYSCOM.
- b. Regardless of ACAT level, all Marine Corps C4ISR programs must inevitably interface with systems under development at MARCORSYSCOM. Practically, this is accomplished through the portrayal of intended interfaces, interconnectivity, and dependencies between systems within a C4ISP. The C4ISP provides a mechanism to identify and resolve C4ISR support shortfalls, and planned solutions at any given phase in a program's acquisition cycle.
- c. As delineated in Section 1 of this document, MCASE provides the baseline source data for preparing all architectural views produced by MARCORSYSCOM. The MCASE database contains information on command node functions, operational interfaces, information exchanges and the C4ISR systems used to support information exchange requirements. This source information is then used to develop the specific information exchanges required by a system under development.

G-1.3. Procedures for ACAT Level I, IA, and II C4ISP Development

Figure G-1-1 provides a diagram of the process used to coordinate the development and review of ACAT level I, IA, and II C4ISPs with MARCORSYSCOM. The major phases, and stages shown in the diagram represent a flow in process as detailed in reference (g), and draft DoN procedures. The diagram corresponds to the procedures outlined below.

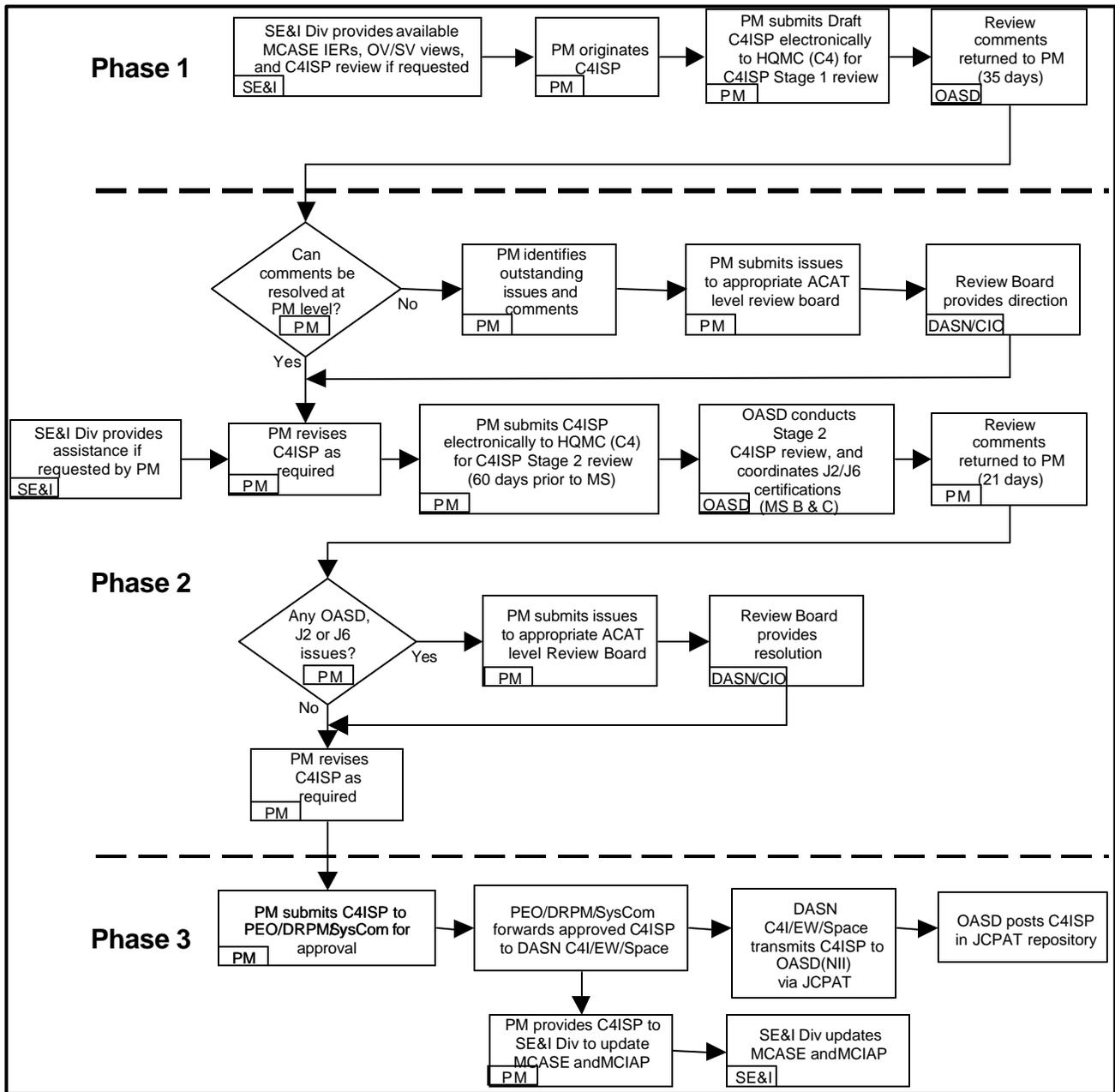


Figure G-1-3 Process for Developing C4ISPs at the ACAT I, IA, and II Level

- a. Phase 1 begins when a PM develops a draft C4ISP and conducts an internal organizational review of it. Prior to generating the draft C4ISP, PMs are encouraged to contact C4I SE&I Division to receive available MCASE IERs, OVs and SVs. Additionally, C4I SE&I Division has C4ISP templates that simplify the development of the C4ISP, yet meet DoD requirements for format. Once the PM completes an internal review of the C4ISP, it is submitted electronically into the Joint C4I Program Assessment Tool (JCPAT) for a Stage 1 review as coordinated by the Office of the Assistant Secretary of Defense for Networks and Information Integration (OASD (NII)). The submission of documents into JCPAT is accomplished via HQMC (C4) for

Marine Corps commands. Through the tools offered in JCPAT, OASD (NII) coordinates a 35-day (maximum) review cycle of the C4ISP.

- b. Phase 2 commences after C4ISP comments are received by the PM from JCPAT. Comments or concerns that cannot be resolved at the PM level are forwarded to an appropriate ACAT level C4ISP review board. (Roles and responsibilities for the C4ISP review board are addressed in the DoN C4ISP User's Guide, currently in draft form.) After getting direction from the C4ISP review board, PMs are encouraged to again contact C4I SE&I Division to receive assistance in rebuilding an adjudicated C4ISP that addresses the issues/ comments received during the Stage 1 JCPAT review. Once the C4ISP is revised, it is resubmitted to OASD (NII) for a Stage 2 review and to receive Joint Staff (J-2 and J-6) supportability certifications. Program Managers should expect OASD comments to be returned within 21 days after the C4ISP is posted to JCPAT. If OASD or the Joint Staff have issues with the C4ISP, then the C4ISP review board will be used to resolve the open issues. Once the PM and the C4ISP review board are satisfied with resolving the raised issues, then the PM prepares the final C4ISP for the particular milestone or decision point.
- c. Phase 3 begins with the submittal of the final C4ISP to the cognizant and designated approval authority (PEO/DRPM/SysCom) for signature. The approval authority forwards the signed document to DASN C4I/EW/Space who will submit the approved document to OASD (NII) for posting the document in the JCPAT repository. When the C4ISP is approved, PMs should provide a copy of the document to C4I SE&I Division, which will then be used to update MCASE and the MCIAP.

G-1.4. Roles and Responsibilities

- a. **DRPMs.** This C4I I&IMP does not hold directive authority over DRPMs with regards to C4ISP development. However, DRPMs are encouraged to establish and maintain close contact with C4I SE&I Division to receive assistance in developing the architecture views for the C4ISP and validation of interoperability capability with systems being acquired.
- b. **PGDs/PMs.** As with the C4ISPs developed under DRPMs, this C4I I&IMP does not hold directive authority over PGDs/PMs when the DoN CIO holds approval authority for ACAT II level programs, and the associated C4ISPs. However, PMs are encouraged to establish and maintain close contact with C4I SE&I Division to receive assistance in developing the architecture views for the C4ISP and validation of interoperability capability with systems being acquired. Signed/Approved C4ISPs should be submitted to C4I SE&I Division to ensure MCASE and MCIAP depictions are properly shown for the system being acquired.
- c. **Director, C4I SE&I Division**
 - (1) Participate with PMs as they develop ACAT I, IA, and II level C4ISPs to provide architecture framework products held in the MCASE database.
 - (2) Provide technical support and training to DRPMs and PMs, when requested, on completing C4ISPs that meet the guidelines of the Interim Defense Acquisition Guidebook; 30 October 2002 (non-mandatory reissue of former DoD Regulation 5000.2-R, Mandatory Procedures for Major Defense Acquisition Programs

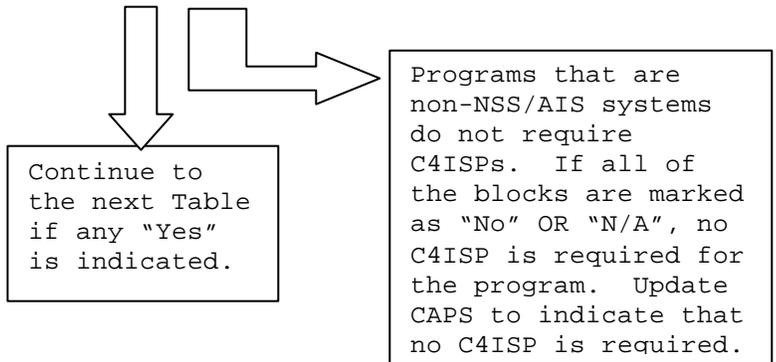
(MDAPS) and Major Automated Information System (MAIS) Acquisition Programs), reference (j).

- (3) Update MCASE and MCIAP when a Marine Corps ACAT I, IA, or II level C4ISP is submitted to C4I SE&I Division

ATTACHMENT G-2: CHECKLIST FOR C4ISP APPLICABILITY

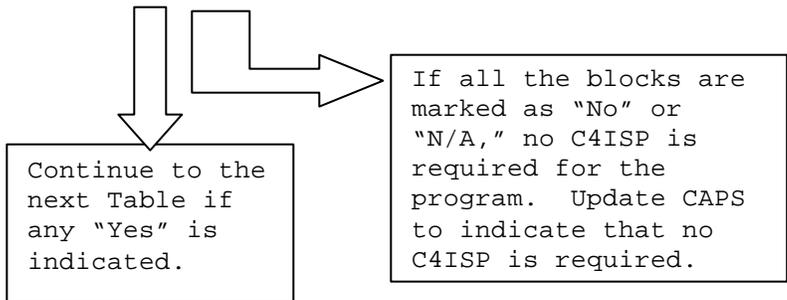
National Security System and Automated Information System Determination

DoDI 5000.2 Definitions	Yes	No	N/A	Comment
1. Does the program result in fielding a telecommunications or information system operated by the U.S. Government whose function, operation, or use:				A "Yes" answer to questions 1.a. to 1.e. indicates the system is considered a National Security System (NSS).
Involves intelligence activities.				
Involves cryptologic activities related to national security.				
Involves command and control of military forces.				
Involves equipment that is an integral part of a weapon or weapons system				
Is critical to the direct fulfillment of military or intelligence missions.				
2. Does the program result in acquiring an information technology (IT) system not covered under questions 1.a. to 1.e. above?				A "Yes" indicates the system is considered an IT Automated Information System (AIS).



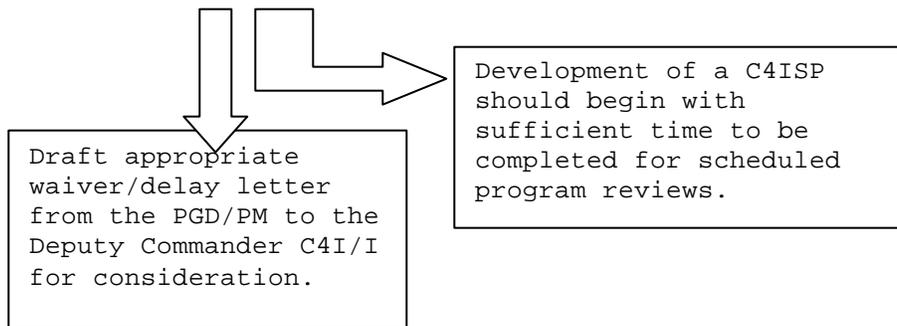
Determining if a C4ISP is Required

	Yes	No	N/A	Comment
1. Does the program result in acquiring a system that connects in any way to the communications and information infrastructure?				A "Yes" indicates the system meets the Interim Defense Acquisition Guidebook (para C6.4.2) requirement to have a C4ISP developed for the program.
2. Does the program upgrade or replace portions of the communications and information infrastructure?				A "Yes" indicates the system meets the Interim Defense Acquisition Guidebook (para C6.4.2) requirement to have a C4ISP developed for the program.
3. Is the program an upgrade to an existing system that connects in any way to the communications and information infrastructure?				A "Yes" indicates the system meets the Interim Defense Acquisition Guidebook (para C6.4.2) requirement to have a C4ISP developed for the program that <u>addresses the upgrade (only)</u> .
4. Does the ORD (or other document) have an Interoperability Key Performance Parameter, or a list of Information Exchange Requirements to external systems?				Per CJCSI 6212.01B (para 5.j.), a "Yes" provides an indicator for a need to have a C4ISP developed for the program.
5. Does the program result in an impact, interface, or connection to any system within the Marine Corps communications and information infrastructure or Marine Corps Integrated Architecture Picture?				A "Yes" indicates the program requires review (via the C4ISP) for horizontal configuration management issues.



Determination to Waiver or Delay a C4ISP

	Yes	No	N/A	Comment
1. Is the program documentation based on the old DoD 5000 series directives, and was it in a post-Milestone II status as of 4 January 2001?				A waiver for the full C4ISP requirement may be considered per provisions in the Interim Defense Acquisition Guidebook (para C6.4.5). In its stead, a C4ISP shall be tailored based on the complexity, scale, mission criticality, or other unique aspects of the program.
2. Has a Milestone C decision already occurred for the program without a C4ISP having been created?				The C4I SE&I Assessment Section will consider the necessity to represent the interfaces or connectivity with other C4ISR systems. If no documentation is needed, a waiver letter should be submitted. When there is a need for documenting the interfaces or connectivity, the Program Manager/Project Officer should be informed of the need to complete a C4ISP (or portions of it). If a program review is in the immediate future, a request for a delay in completing a C4ISP could be considered.
3. Is there insufficient time to complete a C4ISP prior to an upcoming program review or Milestone Decision?				Request a delay for completing the C4ISP. Interim Defense Acquisition Guidebook (para AP5.3.5) notes that an incomplete C4ISP should not be in itself a reason to delay a program review.



ATTACHMENT G-3: C4I SUPPORT PLAN ESTABLISHMENT REVIEW PROCESS

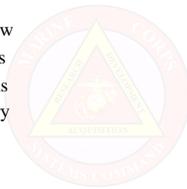
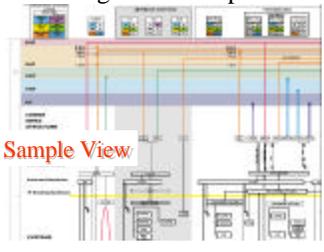
1. C4ISPs are used within the command to facilitate interoperability and integration among the information systems within all program directorates and programs reporting directly to the Commanding General. C4ISPs are required at program initiation, Milestones B and C, and all subsequent major modifications to the system. The Deputy Commander C4I Integration (DC C4I/I) is the MARCORSSYSCOM approval authority for all AAPs and ACAT III and IV C4ISPs. This Attachment provides additional information on the formal C4ISP Establishment Review process used to present C4ISPs to the DC C4I/I for approval and signature.
2. Program Managers and C4I SE&I Division will work together to make a determination on whether a C4ISP will be required for each program listed in the Command Automated Program/Information System (CAPS). When a program is identified as needing a C4ISP, particular attention should be given to noting the next milestone date for the program. C4I SE&I Division will update CAPS with the C4ISP determination decision, and validate the information on a quarterly basis. When a C4ISP is required, adequate preparation time should be planned to allow for the C4ISP Establishment Review to be completed at least 30 days prior to the next milestone event. Tab 1 to this Attachment provides the C4ISP Establishment Review Checklist, and Tab 2 provides a briefing template for preparing for the C4ISP Establishment Review.
3. The Assessments Section in C4I SE&I Division will provide assistance to PMs preparing for the C4ISP Establishment Review briefings. Scheduling the briefing will be the responsibility of the PM.

TAB 1 to ATTACHMENT G-3: C4ISP Establishment Review Checklist

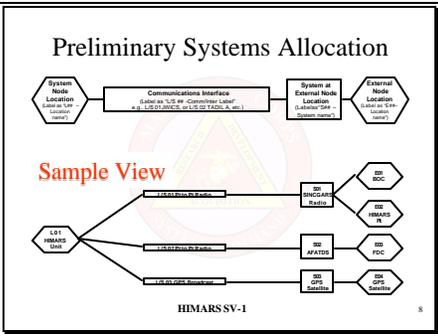
- Program Description: Provides an overall synopsis of the system being acquired. The graphic used for the slide should be taken from the MCIAP.OV-1 Validation by MCCDC: The OV-1, once completed, shall be submitted to MCCDC (program sponsor or OA division) for validation, and also the Functional Sponsor for AISs. This validation may be accomplished via e-mail. A copy of the e-mail shall be provided by the PM at the C4ISP Establishment Review.High Level Mission and Requirements Analysis: The High-level Operational Concept Graphic (OV-1) provides a pictorial of the missions, high-level operations, organizations, and geographical distribution of assets. When applicable, the OV-1 should address organizational, and tactical deployment of the system.
- Functional Flow Analysis: Depicted by the Operational Node Connectivity Description (OV-2) and Operation Information Exchange Matrix (OV-3) slides from the C4ISP. Both convey the major (or significant) information exchanges that occur at or through the node where the system being acquired is located. When applicable, the OV-2 should address organizational, and tactical deployment of the system.
- Preliminary Systems Allocation: Depiction of the systems that are used to fulfill the connectivity to the system being acquired. Two views from the C4ISP provide the information needed for the brief, the System Interface Description (SV-1), and the Systems Communications Description (SV-2).
- Systems Integration and Interface Analysis: Looks in greater detail at the specific system interfaces of the system being acquired. The System Information Exchange Matrix (SV-6) from the C4ISP describes (in tabular format) information exchanges between systems. The focus is on how the data exchanges are (or will be) implemented, in system-specific details covering such characteristics as specific protocols, and data or media formats
- Specifications: Should be based on the information provided in the Technical Architecture Profile (TV-1) from the C4ISP. Description of the use of JTA standards should be addressed. Description of compliance with MARCORSYSCOM policies on the use of common systems should be addressed.
- C4ISR and Manpower Support Required for Training: Details specific C4ISR support systems or items needed to train on the system being acquired, and if MCTSSA's SIE will be used in any way to accomplish this. Also, describe the plan for representing the system in SIE.
- C4ISR Support for Testing: Addresses how the C4ISP was used for input to the TEMP. Be prepared to address if any connections shown in the C4ISP views were NOT tested (or are not scheduled to be tested). Consider addressing how the SIE (at MCTSSA) was (or will be) used for testing the connectivity to the system being acquired.

- ❑ C4I Shortfalls: Based on the information provided in the table of the last appendix of the C4ISP, identify C4I shortfalls that the PM cannot influence or change. The table lists specific C4ISR support shortcomings that might affect the development, operation, testing, or training of the system being acquired
- ❑ Interoperability Risk Reduction: An assessment on the ongoing effort to ensure interoperability with the systems in the architecture. Three aspects are addressed: An assessment on achieving interoperability, a concurrence on the interface (with the PM of the system), and the system engineering effort being taken to prove the interoperability

Template

Slide 1	<p style="text-align: center;">Program XXX C4ISP Establishment Review</p>  <p style="text-align: center;">Date _____ Program Manager: _____</p> <p style="text-align: right;">1</p>	
Slide 2	<p style="text-align: center;">Agenda</p> <ul style="list-style-type: none"> • Overview • Graphics • Shortfalls • Summary  <p style="text-align: right;">2</p>	<p>The format for the C4ISP Establishment Review was built on the general outline provided for a System Requirements Review (SRR) as detailed in MIL-STD 1521B. The information provided in the brief is based on details from the C4ISP.</p>
Slide 3	<p style="text-align: center;">Program Description</p>  <p style="text-align: right;">3</p>	<p>A Program Description provides an overall synopsis of the system being acquired. The graphic used for the slide should be taken from the MCIAP.</p> <p>In the brief: Indicate where the system being acquired fits into the MCIAP.</p>

Slide 7



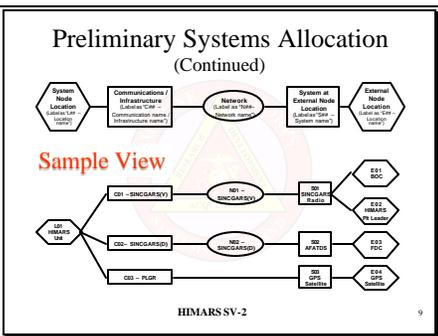
The Preliminary Systems Allocation begins to paint a picture of what systems are used to fulfill the connectivity to the system being acquired. Two views from the C4ISP provide the information needed for the brief, the System Interface Description (SV-1), and the Systems Communications Description (SV-2). For briefs prepared for the C4ISPs created for MS-B, and MS-C decisions, the SV-1 could be skipped in lieu of the same (but more detailed information) being provided in the SV-2.

The SV-1 depicts the systems that accomplish information exchanges shown in the OV-2 graphic.

In the brief:

- Emphasize what systems are connected to the system being acquired.
- Be prepared to address needed changes in AAOs for the systems that connect to the system being acquired, and whether those program offices are aware of the changes.
- Be prepared to talk to whether the system being acquired is using, or planning to use the Marine Corps Common Hardware Suite.
- Be prepared to identify the connectivity based on the ORD based, non-ORD based, or fulfill the interoperability KPP.

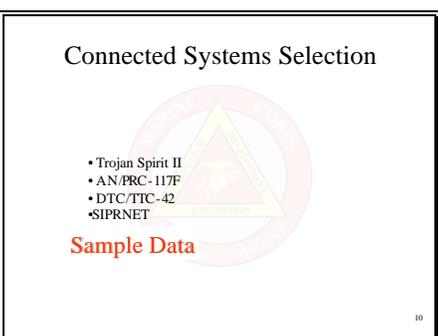
Slide 8



In the brief: (Preliminary Systems Allocation continued)

- Emphasize what systems are connected to the system being acquired.
- Be prepared to address needed changes in AAOs for the systems that connect to the system being acquired, and whether those program offices are aware of the changes.
- Be prepared to talk to whether the system being acquired is using, or planning to use the Marine Corps Common Hardware Suite.
- Be prepared to identify the connectivity based on the ORD based, non-ORD based, or fulfill the interoperability KPP.

Slide 9



The Connected Systems Selection should address the cost and operational advantages for selecting the systems that provide connectivity to the system being acquired.

In the brief:

- Emphasize the advantages/reasoning for selecting the systems that are connected to the system being acquired.
- Be prepared to address what systems were not chosen, and the reasoning behind that decision.
- If necessary, note the selection of the systems as related to the requirements provided in the ORD.

Slide 10

Systems Integration and Interface Analysis

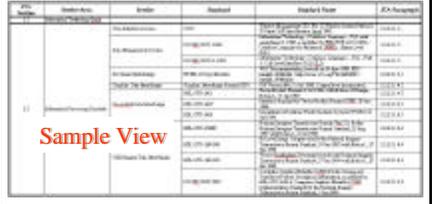
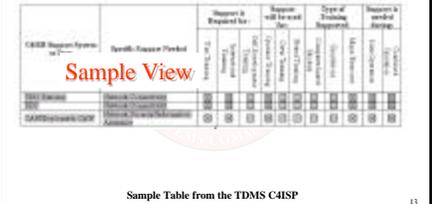
Sample View

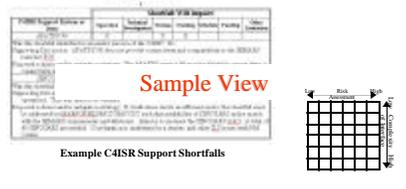
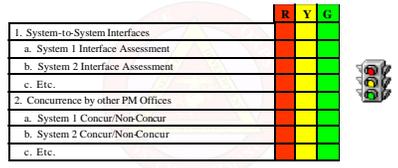
System Name	System ID	System Location	System Type	System Capability	System Interface	System Data	System Media	System Format	System Protocol	System Frequency	System Bandwidth	System Power	System Range	System Status
AN/PRC-117F	AN/PRC-117F	AN/PRC-117F	AN/PRC-117F	AN/PRC-117F	AN/PRC-117F	AN/PRC-117F	AN/PRC-117F	AN/PRC-117F	AN/PRC-117F	AN/PRC-117F	AN/PRC-117F	AN/PRC-117F	AN/PRC-117F	AN/PRC-117F
DTC/TTC-42	DTC/TTC-42	DTC/TTC-42	DTC/TTC-42	DTC/TTC-42	DTC/TTC-42	DTC/TTC-42	DTC/TTC-42	DTC/TTC-42	DTC/TTC-42	DTC/TTC-42	DTC/TTC-42	DTC/TTC-42	DTC/TTC-42	DTC/TTC-42
SIPRNET	SIPRNET	SIPRNET	SIPRNET	SIPRNET	SIPRNET	SIPRNET	SIPRNET	SIPRNET	SIPRNET	SIPRNET	SIPRNET	SIPRNET	SIPRNET	SIPRNET

SV-6 Example from TEG Information

The Systems Integration and Interface Analysis begins to look in greater detail at the specific system interfaces to the system being acquired. The System Information Exchange Matrix (SV-6) from the C4ISP provides the details needed for this portion of the C4ISP Establishment Review.

The System Information Exchange Matrix describes (in tabular format) information exchanges between systems. The focus is on how the data exchanges are (or will be) implemented, in system-specific details covering such characteristics as specific protocols, and data or media formats. The SV-6 can potentially be multiple pages in length. Do not try to insert the entire SV-6 into the brief. Provide a synopsis of the matrix, and pull some potential problem

		<p>or issue areas from the matrix and insert them into the brief. Specifically, if an interoperability KPP is directed by the requirement documents (ORD), show the connectivity string of the equipment implementing the interoperability KPP.</p> <p>In the brief be prepared to address the following issues: Identify the connectivity components based on requirements in the ORD, non-ORD sources, or those that fulfill the interoperability KPP. Are the project officers for the communication systems noted in the matrix aware of the any new interfaces, and message exchanges that will be passed through/to their systems?</p>
<p>Slide 11</p>	<p style="text-align: center;">Specifications</p>  <p style="text-align: center;">Sample TV-1 from the TEG C4ISP</p> <p style="text-align: right;">12</p>	<p>The Specifications addressed in the C4ISP Establishment Review should be based on the information provided in the Technical Architecture Profile (TV-1) from the C4ISP.</p> <p>The TV-1 lists the Joint Technical Architecture (JTA) Standards (or other source of standards) needed to engineer in interoperability with the systems shown in the SV-1 and SV-2 diagrams. As is the case of the SV-6, the TV-1 can potentially be multiple pages in length. Do not try to insert the entire TV-1 into the brief. Provide a synopsis of the matrix, and pull some potential problem or issue areas from the matrix and insert them into the brief. Of particular interest to the Deputy Commander will be references to the mandated common systems, message standards, and data structure shown in the TV-1.</p> <p>In the brief be prepared to address the following issues: How/Where are common systems being used in the architecture as noted in the TV-1? How is compliance with JTA standards going to be (or was) validated? Where were non-JTA standards used, and why? How were the JTA standards selected?</p>
<p>Slide 12</p>	<p style="text-align: center;">Special C4ISR and Manpower Support Required for Training</p>  <p style="text-align: center;">Sample Table from the TDMS C4ISP</p> <p style="text-align: right;">13</p>	<p>The Special C4ISR and Manpower Support Required for Training slide details specific C4ISR support systems or items needed to train on the system being acquired. The information for this slide is available in a table from the C4ISP prepared for a MS-C decision. This slide can be excluded from C4ISP Establishment Reviews prepared for C4ISPs associated with pre-MS-C decisions.</p> <p>In the brief: Be prepared to address if training on the system will be accomplished using the SIE at MCTSSA. If the SIE is used, has provisioning been planned to support it?</p>

<p>Slide 13</p>	<p style="text-align: center;">C4ISR Support for Testing</p>  <p style="text-align: right;">14</p>	<p>The C4ISR Support for Testing addresses how the C4ISP was used for input to the TEMP. The C4ISR support to testing is not specifically addressed in the C4ISP, but this slide offers the PM an opportunity to explain how the interfaces identified in the C4ISP were tested. There is no specific format offered for this slide.</p> <p>In the brief:</p> <p>Be prepared to address if any connections shown in the C4ISP views were NOT tested, or are not scheduled to be tested. Consider addressing how the SIE (at MCTSSA) was (or will be) used for testing the connectivity to the system being acquired.</p>
<p>Slide 14</p>	<p style="text-align: center;">C4I Shortfalls</p>  <p style="text-align: center;">Example C4ISR Support Shortfalls</p> <p style="text-align: right;">15</p>	<p>The C4I Shortfalls addressed in the C4ISP Establishment Review should be based on the information provided in the table of the last appendix of the C4ISP. Titled the “C4ISR Support Shortfalls,” the table succinctly lists specific C4ISR support shortcomings that might affect the development, operation, testing, or training of the system being acquired.</p> <p>The listed systems or items addressed during this portion of the brief should correspond to the systems identified in the SV-2 graphic and/or the list of C4ISR training needs found in other parts of the C4ISP. The specifics of the shortfall should be briefly explained, as well as proposed solutions and/or mitigation strategies. Use a risk assessment matrix (shown above) to provide a relative assessment of the risks associated with the use and interface to common products.</p> <p>In the brief be prepared to address the following:</p> <ul style="list-style-type: none"> A complete explanation of each of the issues The anticipated plan of action to mitigate the issues Actions taken to date on resolving the issues.
<p>Slide 15</p>	<p style="text-align: center;">Interoperability Risk Reduction</p>  <p style="text-align: center;">System Engineer Effort</p> <ul style="list-style-type: none"> • Use of SIE • Training Systems <p style="text-align: right;">16</p>	<p>The Interoperability Risk Reduction slide indicates an assessment of the ongoing effort to ensure interoperability with the systems in the architecture. Three aspects are addressed: An assessment on achieving interoperability, a concurrence on the interface (with the PM of the system), and the system engineering effort being taken to prove the interoperability.</p> <p>The system-to-system interface assessment, and the concurrence by other PM offices should be indicated by a Red, Yellow, or Green highlighted stoplight.</p> <p>In the brief:</p> <p>Be prepared to address how future (or completed) testing supports the information presented on this slide.</p>

ATTACHMENT G-4: PROCEDURES FOR THE REVIEW OF JOINTLY DEVELOPED
C4I SUPPORT PLANS

1. Chapter 7 of reference (g) directs that Joint programs have only one C4ISP but offers no procedure for reviewing or validating the document while being developed, unless it is an ACAT I or IA program. For ACAT I or IA programs, reference (g) offers review procedures for C4ISPs submitted to the Joint Chiefs of Staff (J-2/J-6) and Office of the Assistant Secretary of Defense (NII), to include the release of those documents to HQMC for additional staffing. Current practice for lower ACAT programs appears to lean towards developing Joint C4ISPs through an IPT-like process, with the lead DoD Component having the final say on the appearance and specificity of the architecture depictions in the C4ISP. This process tends to broad-brush the interconnectivity and interoperability of the systems being acquired, and leaves Marine Corps systems poorly represented in the architecture depictions and subsequent program planning.
2. In order to mitigate the potential shortcomings of Joint C4ISPs, the following procedures will be followed whenever possible:
 - a. When a draft Joint C4ISP is sent to MARCORSYSCOM for review, cognizant PMs receiving the C4ISP will forward a copy of it to C4I SE&I Division for concurrent review. If during the C4I SE&I or PM support team review, a determination is made regarding a shortcoming to the Marine Corps depictions in the C4ISP, appropriate comments by the PM will be submitted to the Joint Program Office. The C4ISP templates available on the C4I SE&I Division Knowledge Center (on the MARCORSYSCOM Intranet TIGER web page) offer PMs an ideal tool to communicate correct Marine Corps architecture depictions.
 - b. Where there is no attempt by the Joint Program Office to provide the needed Marine Corps architecture depictions in the Joint C4ISP, PMs are expected to independently develop C4ISR Architecture Framework System View (SV) and Technical View (TV) depictions commensurate with their program, and provide them to C4I SE&I Division. The SV and TV depictions will be used by C4I SE&I Division to maintain a correct system architecture of the systems fielded by MARCORSYSCOM. At System Security Authorization Agreement (SSAA), or Authority to Operate (ATO) decision reviews, PMs will be expected to provide the SV-1, SV-2, SV-6, and TV-1 architecture depictions that are specific to Marine Corps requirements. Preparing the architecture views in advance of the SSAA and ATO decision reviews will streamline the approval process.

**APPENDIX H: PROCESSES FOR SUPPORT TO GROUPS EXTERNAL TO
MARINE CORPS SYSTEMS COMMAND**

TBD

**APPENDIX I: MCTSSA VII MEF SYSTEMS INTEGRATION FACILITY
VERIFICATION AND VALIDATION PLAN AND PROCEDURES**

The following appendix contains the verification and validation plan and procedures documents for the MCTSSA VII MEF Systems Integration Facility. They are being included here, without any modification, for completeness of the I&IMP. All references to appendices and references are contained in the original documents.



**Marine Corps
Tactical Systems Support Activity**

VII MEF

Systems Integration Facility

Verification and Validation Plan

SIF-V&V PLAN-001-V3

5 December 2003

**Prepared by:
Marine Corps Tactical Systems Support Activity
Systems Engineering and Integration Support Division**

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1 BACKGROUND

1.1 User Need

In reference (a), the Commanding General, Marine Corps Systems Command (MARCORSYSCOM) directed the Marine Corps Tactical Systems Support Activity (MCTSSA) to design, build, and maintain an environment that replicated the Operating Forces architecture. The goal was to create an environment in which the Marine Corps could conduct operationally and architecturally relevant tests. The goal statement was to provide an **“Instrumented, realistic, flexible MAGTF C4I architecture”**. MCTSSA’s Systems Integration Facility (SIF) provides MARCORSYSCOM and the Operating Forces with a dynamic and flexible means to conduct measurable, repeatable integration and interoperability assessments of Marine Air-Ground Task Force (MAGTF) Command and Control, Communications, Computers, and Intelligence, Surveillance, and Reconnaissance (C4ISR) systems.

1.2 SIF Description

The SIF employs the C4ISR architecture if a notional MAGTF designated the VII Marine Expeditionary Force (VII MEF) as shown in Figure 1. The VII MEF is connected in various ways, including hardware, commercial lines, and standard Marine Corps communication assets, including Local Area Network (LAN) and Wide Area Network (WAN) services. The SIF maintains access to the Marine Corps Enterprise Network (MCEN), the Defense Information System Network

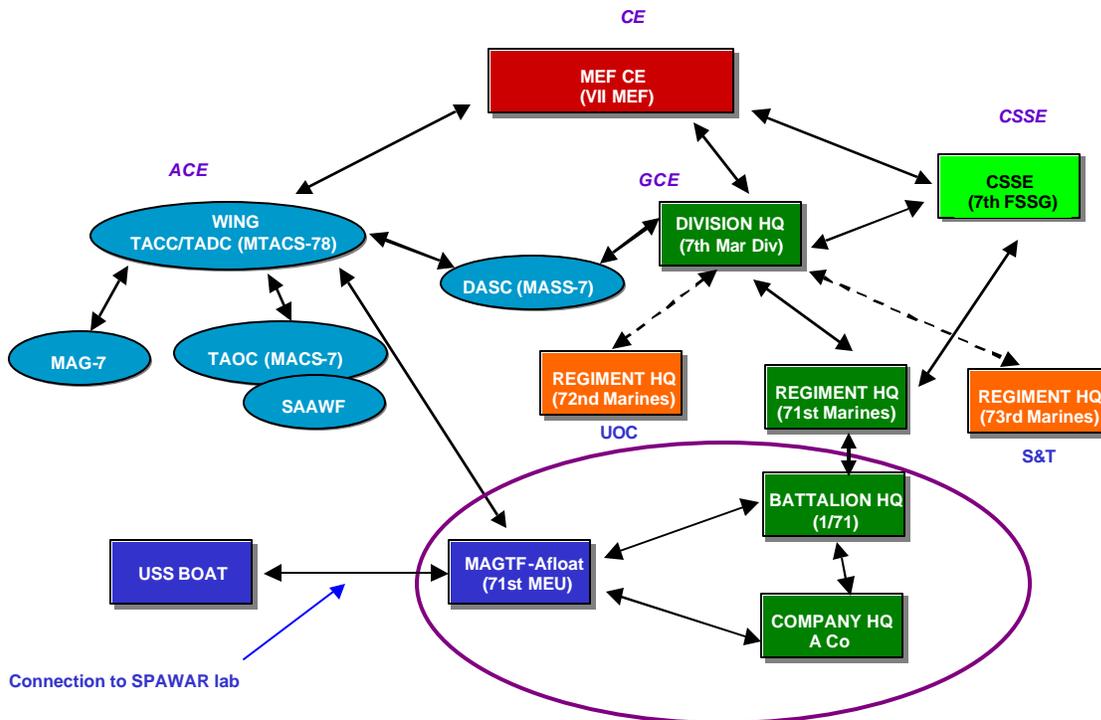


Figure 1: VII MEF Architecture

(DISN), and the Joint Interoperability Test Command (JITC) at Ft. Huachuca, Arizona. Reference (b), the VII MEF Systems Integration Facility Architecture Design Description describes the architecture of the VII MEF elements within the SIF.

MCTSSA operates and maintains the SIF facilities. Configuration control of the communications and C4ISR systems is the responsibility of the Component Managers and the Network Operations Center (NOC) Branch Head in coordination with the SIF Configuration Manager and Maintenance Branch personnel.

1.3 SIF Background Status

This is the initial Verification and Validation (V&V) Plan for the SIF. This document is limited to the VII MEF Command Element (CE) and Ground Combat Element (GCE).

1.4 References

- a. Commander, Marine Corps Systems Command ltr 3900 C2O of 28 Oct 92
- b. VII MEF Systems Integration Facility Architecture Design Description, SIF-ADD-001-V3
- c. Department of the Navy Modeling and Simulation Verification, Validation, and Accreditation Implementation Handbook, Volume I – VV&A Framework, of 18 Aug 03
- d. MAGTF C4ISR Integrated Architecture Picture, of 12 Jun 02
- e. VII MEF Systems Integration Facility Verification and Validation Procedures, SIF-V&V PROC-001-V2
- f. MAGTF C4I Systems Technical Architecture Repository (MSTAR)
<http://www.marcorsyscom.usmc.mil/sites/sei/Mstar.asp>
- g. Command and Control Operational Architecture (C2OA)
<http://www.c2oa.mccdc.usmc.mil>

2 VERIFICATION AND VALIDATION MANAGEMENT STRATEGY

2.1 Verification and Validation Scope

Reference (c), the Department of the Navy (DON) Modeling and Simulation Verification, Validation, and Accreditation Implementation Handbook, describes verification and validation as two inter-related, but distinct processes. Verification answers the question “Was it built right?” while validation answers the question “Was the right thing built?”. The definitions are based on the premise that there are three separate items to compare: (a) a defined “real world”, (b) a conceptual model, and (c) the completed system. Verification compares the conceptual model to the completed system, while validation compares the completed system to the “real world”.

The DON Modeling and Simulation process presents a problem for verifying and validating the SIF. The SIF was designed using the notional MEF architectures as represented in reference (d), the MAGTF C4ISR Integrated Architecture Picture (MCIAP). The MCIAP represents the

conceptual model, a hybrid “picture” containing components and features found in several formal architecture framework views. There isn’t a single MEF architectural view that accurately depicts a consolidated I MEF, II MEF, and III MEF architecture. Each MEF has a different mission and geographic Areas of Operation. For these reasons, there isn’t one “real world” view that can be used to validate the conceptual model. Figure 2 below further represents the problem. As a result, the DON Modeling and Simulation process has been tailored for the SIF verification and validation effort. The SIF verification and validation process will determine if the SIF and it’s associated documentation is an accurate representation of the MCIAP and has traceability to the MCIAP.

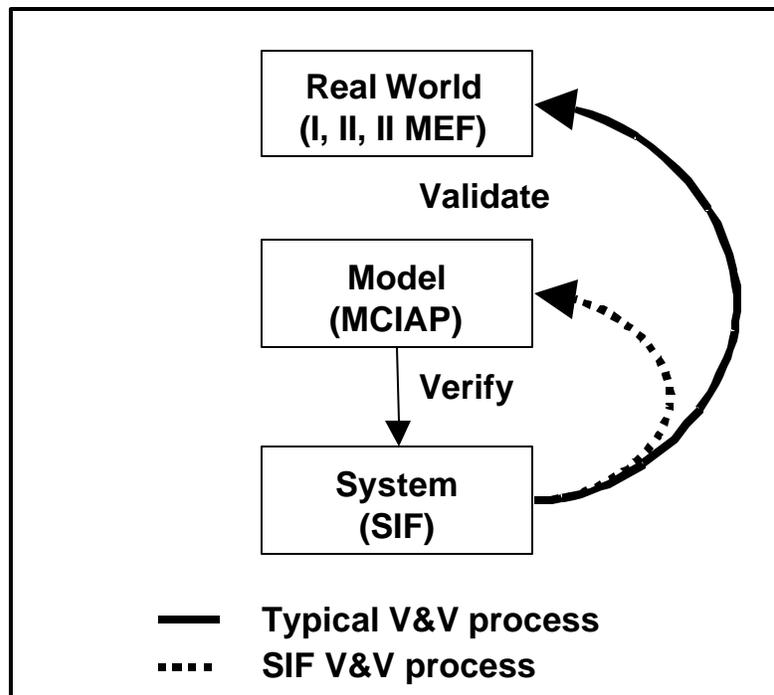


Figure 2: Verification and Validation Process

2.2 Points of Contact

- a. SIF Sponsor: MARCORSYSCOM
- b. SIF Users: Operating Forces, MARCORSYSCOM Program Managers (PMs), MCOTEA, DoD developers
- c. SIF Proponent: Commanding Officer, MCTSSA
- d. SIF Accreditation Authority: Deputy Commander MARCORSYSCOM C4II, Director MCOTEA
- e. Accreditation Agent: MARCORSYSCOM C4II or designee, Director MCOTEA
- f. Verification & Validation Agent: Systems Engineering & Integration Support Division (SE&ISD), MCTSSA

- g. Subject Matter Experts (SMEs): SE&ISD Technical Lead and SIF Branch Head, MCTSSA

2.3 Verification and Validation Program Control

MCTSSA will plan the SIF verification and validation effort. MCTSSA Quality Assurance (QA) personnel will conduct the verification and validation to determine if the SIF and its associated documentation is an accurate representation of the MCIAP and have traceability to the MCIAP. The CO, MCTSSA, assigned the SE&ISD Technical Lead as the V&V Action Officer (V&V AO). Throughout the verification and validation effort, QA personnel will report the status of the activities performed and any noted deficiencies to the V&V AO. The V&V AO, in coordination with QA personnel, will prioritize and determine the actions to be taken to correct/resolve the noted deficiencies.

The VII MEF SIF Verification and Validation Report will summarize the findings of the verification and validation effort. The report will document issues that could not be resolved prior to the completion of the verification and validation effort and the operational impacts. The report will describe any conclusions or recommendations resulting from the verification and validation activities.

MARCORSYSCOM PMs requiring subsequent verification and validation of the SIF, as a prerequisite to tests or assessments of new and existing C4ISR systems and capabilities, will coordinate with MCTSSA and complete an independent verification and validation on an "as needed" basis.

2.4 Verification and Validation Risk Management

Architecture and equipment deviations between the SIF and the MCIAP are identified and described in the VII MEF SIF Architecture Design Description, including the operational impacts and the options for mitigating the risks.

MARCORSYSCOM PMs or other agencies requiring subsequent verification and validation of the SIF will identify, analyze, and determine acceptance or non-acceptance of any risks for that effort.

3 FUNDING

The SIF is not a program of record and does not receive direct program funding. Funding is provided by agreement with the MARCORSYSCOM PMs and through other users of the facility. MARCORSYSCOM PMs or other agencies requesting subsequent verification and validation efforts need to provide funding or include tasking in the respective Technical Support Plan.

4 SCHEDULE

<u>Task</u>	<u>Start</u>	<u>Finish</u>
a. Prepare VII MEF SIF Architecture Design Description	08/11/03	12/01/03
b. Update SIF Configuration Management Plan	08/28/03	12/01/03

c.	Update SIF Standing Operating Procedures	09/15/03	12/01/03
d.	Prepare VII MEF SIF Verification & Validation Plan	08/19/03	11/21/03
e.	Prepare VII MEF SIF Verification & Validation Procedures	09/22/03	11/29/03
f.	Conduct SIF Verification & Validation (MEF CE & GCE only)	10/29/03	11/29/03
g.	Prepare VII MEF SIF Verification & Validation Report	11/24/03	12/06/03
h.	Submit Accreditation Package to Accreditation Agent	12/10/03	12/10/03

5 APPROACH

The SIF verification and validation process will determine if the VII MEF CE and GCE (and its associated documentation) are accurate representations of the MCIAP and have traceability to the MCIAP.

5.1 SIF Verification and Validation Activities

MCTSSA will complete the following verification and validation activities in accordance with the VII MEF Systems Integration Facility Verification and Validation Procedures, reference (e). Note that throughout the verification and validation effort, QA personnel will report noted deficiencies to the V&V AO. The V&V AO, in coordination with QA personnel, will prioritize and determine the actions to be taken to correct/resolve the deficiencies. The VII MEF SIF Verification and Validation Report will document any unresolved deficiencies.

a. Develop MCIAP Traceability Matrix

This activity identifies each of the notional MEF CE and GCE elements (i.e., operational facilities), communications systems, C4ISR systems, and the communications connectivity identified on the MCIAP dated 2 Jun 02. The MCIAP represents the conceptual model and serves as the authoritative reference that defines what the expected architectural framework should be.

b. Map VII MEF CE and GCE components to MCIAP Traceability Matrix

This activity demonstrates traceability of the VII MEF CE and GCE components implemented in the SIF to the MCIAP. This activity verifies that the VII MEF Systems Integration Facility Architecture Design Description is complete and:

(1) Accurately describes the systems that comprise the “as built” VII MEF CE and GCE architecture and communications connectivity.

(2) Accurately identifies the architecture and equipment differences between the SIF and the MCIAP, the operational impacts for each deviation, and the options for mitigating the risks.

Results of the mapping provide the foundation for the subsequent verification and validation activities.

c. Verify physical layout of VII MEF CE and GCE

This activity verifies that the physical layout of the C4ISR and communications equipment/hardware included in the VII MEF CE and GCE is accurate and internally consistent with the diagrams included in the VII MEF Systems Integration Facility Architecture Design Description. This activity demonstrates traceability of the C4ISR and communication equipment/systems to the MCIAP.

d. Verify C4ISR systems and communications equipment/systems configuration

This activity verifies that the equipment/hardware and software included in the SIF master baseline for the VII MEF CE and GCE is accurately identified, categorized (i.e., actual fielded (production) system or functional equivalent), tracked, and is consistent with the VII MEF Systems Integration Facility Architecture Design Description.

e. Verify C4ISR systems and communication equipment/systems connectivity

This activity verifies the connectivity capabilities of the C4ISR and communications equipment/hardware included in the VII MEF CE and GCE and demonstrates traceability to the MCIAP.

f. Review SIF supporting documentation

This activity will ensure that the SIF Configuration Management Plan and Standard Operating Procedures/Handbook are consistent with the VII MEF Systems Integration Facility Architecture Design Description, and that the necessary activities for operating and maintain the SIF are identified, internally consistent, and accurately described. This activity will ensure that the process for recording and reporting all the information needed to change or manage the hardware and software included in the SIF master baseline is controlled according to a documented procedure.

g. Prepare SIF Verification & Validation Report

The VII MEF SIF Verification and Validation Report will summarize the findings of the verification and validation effort. The report will document issues that could not be resolved prior to the completion of the verification and validation effort and will include the operational impacts. The report will also include other findings not specifically addressed by the verification and validation effort, but that may be of use to the readers of the report. The report will describe any conclusions or recommendations resulting from the verification and validation activities.

5.2 Accreditation Package

Upon completion of the SIF verification and validation, MCTSSA will forward the following documentation to the Accreditation Agent or designee:

a. VII MEF System Integration Facility Architecture Design Description, SIF-ADD-001-V3

- b. Configuration Management Plan for the MCTSSA Systems Integration Facility, SIF-CMP-001-V2
- c. MCTSSA SE&ISD Systems Integration Facility Standard Operating Procedures/Handbook, SIF-SOP-001-V2
- d. VII MEF Systems Integration Facility Verification and Validation Plan, SIF-V&V PLAN-001-V3
- e. VII MEF Systems Integration Facility Verification and Validation Procedures, SIF-V&V PROC-001-V2
- f. VII MEF Systems Integration Facility Verification and Validation Report, SIF-V&V RPT-001-V1

5.3 Follow-on Verification and Validation

MCTSSA will continue to plan for the verification and validation of the remaining SIF elements. Follow-on verification and validation efforts should be based on USMC doctrinal architectures developed by MARCORSYSCOM and should have direct traceability to the MAGFT C4I Systems Technical Architecture Repository (MSTAR) database, reference (f), and the Marine Corps Combat Development Command (MCCDC) Command and Control Operational Architecture (C2OA), reference (g).

MARCORSYSCOM PMs or other agencies requiring subsequent verification and validation of the SIF, as a prerequisite to tests or assessments of new and existing C4ISR systems and capabilities, will complete an independent verification and validation on an “as needed” basis.



**Marine Corps
Tactical Systems Support Activity**

**VII MEF
Systems Integration Facility
Verification and Validation Procedures**

SIF-V&V PROC-001-V2

8 December 2003

**Prepared by:
Marine Corps Tactical Systems Support Activity
Program Support Division**

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1 SCOPE

1.1 Purpose

This document describes the activities and procedures used to perform the verification and validation of the Marine Corps Tactical Systems Support Activity (MCTSSA) Systems Integration Facility (SIF). The SIF employs the Command and Control, Communications, Computers, and Intelligence, Surveillance, and Reconnaissance (C4ISR) architecture of a notional Marine Air-Ground Task Force (MAGTF) designated the VII Marine Expeditionary Force (VII MEF). This document is limited to the VII MEF Command Element (CE) and Ground Combat Element (GCE) as described in reference (a), the VII MEF SIF Verification and Validation Plan.

The SIF verification and validation process will determine if the C4ISR and communications equipment/hardware included in the architecture of the VII MEF are accurate representations of reference (b), the Marine Corps Integrated Architecture Picture (MCIAP). Completion of these activities will demonstrate that the SIF implementation is traceable to the MCIAP.

1.2 Personnel and Issue Reporting

MCTSSA Quality Assurance (QA) personnel will conduct the verification and validation activities. The Commanding Officer, MCTSSA, assigned the Systems Engineering & Integration Support Division (SE&ISD) Technical Lead as the V&V Action Officer (V&V AO). Throughout the verification and validation effort, QA personnel will report the status of the activities performed and any noted issues to the V&V AO. The V&V AO, in coordination with QA personnel, will prioritize and determine the actions necessary to correct/resolve the noted issues. QA personnel will verify the adequacy of the corrective action taken, such as updates to reference (c), the VII MEF Systems Integration Facility Architecture Design Description.

The VII MEF SIF Verification and Validation Report will summarize the findings of the verification and validation effort. The report will document issues that could not be resolved prior to the completion of the verification and validation effort and the operational impacts. The report will describe any conclusions or recommendations resulting from the verification and validation activities.

2 REFERENCES

- a. VII MEF Systems Integration Facility Verification and Validation Plan, SIF-V&V PLAN-001-V3
- b. MAGTF C4ISR Integrated Architecture Picture, of 12 Jun 02
- c. VII MEF Systems Integration Facility Architecture Design Description, SIF-ADD-001-V3
- d. MAGTF C4I Systems Technical Architecture Repository (MSTAR)
<http://www.marcorssyscom.usmc.mil/sites/sei/Mstar.asp>
- e. Command and Control Operational Architecture (C2OA)
<http://www.c2oa.mccdc.usmc.mil>

3 VERIFICATION AND VALIDATION ACTIVITIES

3.1 Develop MCIAP Traceability Matrix

This activity identifies each of the notional MEF CE and GCE elements (i.e., operational facilities), communications systems, C4ISR systems, and the communications connectivity identified on the MCIAP. The MCIAP represents the conceptual model and serves as the authoritative reference that defines what the expected architectural framework should be.

3.1.1 Inputs/Prerequisites

- a. MAGTF C4ISR Integrated Architecture Picture (MCIAP)
- b. MCIAP/SIF Traceability Matrix (see Figure 1)

3.1.2 Personnel

- a. Quality Assurance

3.1.3 Procedure

Step 1 From the MCIAP, enter each Operational Facility, Radio and COMM system (Row B), SIPRNet System (Row C), NIPRNet system (Row D), and SCI system (Row E) into the MCIAP/SIF Traceability Matrix (i.e., Microsoft® Excel worksheet) for the MEF CE (Column 4).

Step 2 Repeat the above step for the Marine Division (Column 8), Infantry Regiment (Column 11), Infantry Battalion (Column 13), and the Rifle Company (Column 18), generating separate worksheets for each element.

Element: _____ **Date Completed:** _____ **QA Initials:** _____

12 Jun 02 MCIAP	MCIAP System/Title	Within SIF	Description Appendix B	P/FE	Qty	Deviation	Physical Layout Verified	Hardware Model Verified	Software Version Verified	Connectivity Verified	Notes
OP FAC											
COMMS ROW B											
SIPRNET ROW C											
NIPRNET ROW D											
SCI ROW E											

Figure 1: Sample MCIAP/SIF Traceability Matrix for VII MEF CE

MCIAP System/Title: Short title/nomenclature of operational facility, radio, COMM/C4ISR system

Within SIF: Yes = within the MCTSSA SIF, No = not part of the MCTSSA SIF (see paragraph 3.2)

Description: Reference to applicable VII MEF SIF ADD paragraph(s) (see paragraph 3.2)

P/FE: P = fielded (production) system, FE = functional equivalent (see paragraph 3.2)

Qty: Quantity of radios and COMM/C4ISR systems within the element (see paragraph 3.2)

Deviation: Brief description of architecture and/or equipment deviation (see paragraph 3.2)

Physical Layout Verified: Date physical layout verified (see paragraph 3.3)

Hardware Model Verified: Date hardware configuration verified (see paragraph 3.4)

Software Model Verified: Date software configuration verified (see paragraph 3.4)

Connectivity Verified: Date connectivity verified (see paragraph 3.5)

Notes: Outstanding issues and/or comments on resolution/closure

3.2 Map VII MEF CE and GCE components to MCIAP Traceability Matrix

This activity demonstrates traceability of the VII MEF CE and GCE components implemented in the SIF to the notional architecture and systems of the MCIAP. Results of the mapping provide the foundation for the subsequent verification and validation activities.

For the MEF CE, perform paragraph 3.2.3 one time.

For the GCE, perform paragraph 3.2.3 four times (i.e., once each for the Division, Regiment, Battalion, and Company).

3.2.1 Inputs/Prerequisites

- a. MAGTF C4ISR Integrated Architecture Picture (MCIAP)
- b. VII MEF SIF Architecture Design Description, Appendix A: SIF Elements
- c. VII MEF SIF Architecture Design Description, Appendix B: MEF CE
- d. VII MEF SIF Architecture Design Description, Appendix C: GCE
- e. MCIAP/SIF Traceability Matrix (see Figure 1)

3.2.2 Personnel

- a. SE&ISD Technical Lead
- b. SE&ISD MEF CE & GCE Node Manager
- c. Quality Assurance

3.2.3 Procedure

Step 1 Review the VII MEF SIF Architecture Design Description and Appendices and verify that it is internally consistent, complete and accurately describe the systems that comprise the “as built” SIF architecture and communications connectivity, including:

- (a) The architecture deviations between the SIF and the MCIAP,
- (b) The deviations between the SIF equipment and the actual fielded (production) systems,
- (c) The operational impacts for each deviation, and
- (d) The risk level (high, medium, low or none) for each operational impact.

Step 2 Ensure the results of Step 1 are accurately reflected in Appendix A, SIF Elements.

Step 3 Enter results into the MCIAP/SIF Traceability Matrix.

Accepted **Accepted pending resolution of issue** **Not Accepted**

Element: _____ **Date Completed:** _____ **QA Initials:** _____

3.3 Verify physical layout of VII MEF CE and GCE

This activity verifies that the physical layout of the operational facilities, C4ISR systems, and the communications equipment/systems included in the VII MEF CE and GCE is accurate and internally consistent with the diagrams included in the VII MEF Systems Integration Facility Architecture Design Description.

For the MEF CE, perform paragraph 3.3.3 one time.

For the GCE, perform paragraph 3.3.3 four times (i.e., once each for the Division, Regiment, Battalion, and Company).

3.3.1 Inputs/Prerequisites

- a. VII MEF SIF Architecture Design Description, Appendix B, Figure 2 - MEF CE Layout
- b. VII MEF SIF Architecture Design Description, Appendix C, Figure 2 – Division Layout, Figure 4 – Regiment Layout, Figure 6 – Battalion Layout, and Figure 8 – Company Layout
- c. MCIAP/SIF Traceability Matrix (see Figure 1)

3.3.2 Personnel

- a. MEF CE and GCE Component Manager
- b. Quality Assurance

3.3.3 Procedure

Step 1 Within the respective knockdown shelters, verify that each OpFac, system, and phone is labeled and physically located consistent with the corresponding physical layout. Redline drawings or record issues below.

Step 2 Enter results into the MCIAP/SIF Traceability Matrix.

_____ **Accepted** _____ **Accepted pending resolution of issue** _____ **Not Accepted**

Element: _____ **Date Completed:** _____ **QA Initials:** _____

3.4 Verify C4ISR systems and communications equipment/systems configuration

This activity verifies that the equipment/hardware and software included in the SIF master baseline for the VII MEF CE and GCE is accurately identified, categorized (i.e., actual fielded (production) system or functional equivalent), tracked, and is consistent with the VII MEF Systems Integration Facility Architecture Design Description.

For the MEF CE, perform paragraphs 3.4.3 and 3.4.4 one time. Note “N/A” for those systems that are not included in the CE element.

For the GCE, perform paragraphs 3.4.3 and 3.4.4 four times (i.e., once each for the Division, Regiment, Battalion, and Company). Note “N/A” for those systems that are not included in the GCE.

3.4.1 Inputs/Prerequisites

- a. VII MEF SIF Architecture Design Description, Appendix B: Table 1 - MEF CE System Configurations
- b. VII MEF SIF Architecture Design Description, Appendix C: Table 1 - Division System Configurations, Table 2 - Regiment System Configurations, Table 3 - Battalion System Configurations, and Table 4 – Company System Configurations
- c. Promina/FCC MUX Network Architecture with assigned node numbers (VII MEF ADD Figure 6)
- d. Equipment/System Configuration Data Sheets (i.e., cut sheets)
- e. Configuration Status Accounting and Reporting (CSAR) database report
- f. MCIAP/SIF Traceability Matrix (see Figure 1)

3.4.2 Personnel

- a. SE&ISD Technical Lead
- b. SE&ISD MEF CE & GCE Node Manager
- c. SE&ISD Configuration Manager
- d. SE&ISD SIF NOC Wire Chief
- e. SE&ISD SIF NOC Network Engineer or Data COMM Chief
- f. Quality Assurance

3.4.3 Procedure to verify C4ISR systems configuration

3.4.3.1 AFATDS

Step 1 Log onto system

Step 2 Select Help → On Version

Step 3 Verify hardware/software matches Table. Note differences: _____

3.4.3.2 IOS (V1)

Step 1 Log onto system

Step 2 Version is displayed on background screen

Step 3 Verify hardware/software matches Table. Note differences: _____

3.4.3.3 IOS (V2)

Step 1 Log onto system

Step 2 Version is displayed on background screen

Step 3 Verify hardware/software matches Table. Note differences: _____

3.4.3.4 IOW

Step 1 Log onto system

Step 2 Version is displayed on background screen

Step 3 Verify hardware/software matches Table. Note differences: _____

3.4.3.5 IOS (V1) Client

Step 1 Log onto system

Step 2 Version is displayed on background screen

Step 3 Verify hardware/software matches Table. Note differences: _____

3.4.3.6 GCCS

Step 1 Log onto system

Step 2 Version is displayed on background screen

Step 3 Verify hardware/software matches Table. Note differences: _____

3.4.3.7 JDIICS-D

Step 1 Log onto system

Step 2 Version is displayed on background screen

Step 3 Verify hardware/software matches Table. Note differences: _____

3.4.3.8 Verify equipment/system Configuration Data Sheets (i.e., cut sheets)

Step 1 For any differences noted above, compare the actual hardware model and/or software version in use to the corresponding equipment/system Configuration Data Sheets (i.e., cut sheets), reference (d), and the CSAR database report, reference (e).

Step 2 Resolve differences with the SIF Configuration Manager and the MEF CE & GCE Node Manager.

3.4.3.9 Enter results into the MCIAP/SIF Traceability Matrix.

Accepted Accepted pending resolution of issue Not Accepted

Element: _____ Date Completed: _____ QA Initials: _____

3.4.4 Procedure to verify communications equipment/systems configuration

3.4.4.1 TDN DDS NIPRNet

3.4.4.1.1 TDN DDS NIPRNet workstation software:

Step 1 Log onto DDS workstation

Step 2 Select Start-->About DTC/TDN install

Step 3 Verify hardware/software matches Table. Note differences : _____

3.4.4.1.2 TDN DDS NIPRNet router IOS version:

Step 1 Patch workstation serial port to router console port

Step 2 Log onto the router and enable

Step 3 At the router command prompt; type: "show version"

Step 4 Verify hardware/software matches Table. Note differences: _____

Step 5 Log out (exit)

3.4.4.1.3 TDN DDS NIPRNet switch IOS version:

Step 1 Patch workstation serial port to switch console port

Step 2 Log onto the switch and enable

Step 3 At the switch command prompt; type: "show version"

Step 4 Verify hardware/software matches Table. Note differences: _____

Step 5 Log out (exit)

3.4.4.2 TDN DDS SIPRNet

3.4.4.2.1 TDN DDS SIPRNet workstation software:

Step 1 Log onto DDS workstation

Step 2 Select Start-->About DTC/TDN install

Step 3 Verify hardware/software matches Table. Note differences : _____

3.4.4.2.2 TDN DDS SIPRNet router IOS version:

Step 1 Patch workstation serial port to router console port

Step 2 Log onto the router and enable

Step 3 At the router command prompt; type: "show version"

Step 4 Verify hardware/software matches Table. Note differences: _____

Step 5 Log out (exit)

3.4.4.2.3 TDN DDS SIPRNet switch IOS version:

Step 1 Patch workstation serial port to switch console port

Step 2 Log onto the switch and enable

Step 3 At the switch command prompt; type: "show version"

Step 4 Verify hardware/software matches Table. Note differences: _____

Step 5 Log out (exit)

3.4.4.3 TDN Gateway NIPRNet

NOTE: Software versions should match for NIPRNet and SIPRNet

3.4.4.3.1 TDN Gateway NIPRNet Workstation Software

Step 1 Log onto ISP Workstation

Step 2 Select Start-->About DTC/TDN install

Step 3 Verify hardware/software matches Table. Note differences: _____

Step 4 Switch KVM to NMS

Step 5 Log onto NMS Workstation

Step 6 Select Start-->About DTC/TDN install

Step 7 Verify hardware/software matches Table. Note differences: _____

3.4.4.3.2 TDN Gateway NIPRNet Router IOS version:

Step 1 Patch workstation serial port to router console port

Step 2 Log onto the router and enable

Step 3 At the router command prompt; type: "show version"

Step 4 Verify hardware/software matches Table. Note differences: _____

Step 5 Log out (exit)

3.4.4.3.3 TDN Gateway NIPRNet Switch IOS version:

Step 1 Patch workstation serial port to switch console port

Step 2 Log onto the switch and enable

Step 3 At the switch command prompt; type: "show version"

Step 4 Verify hardware/software matches Table. Note differences: _____

Step 5 Log out (exit)

3.4.4.4 TDN Gateway SIPRNet

NOTE: TDN Gateway Promina will be verified as part of DTC verification

3.4.4.4.1 TDN Gateway SIPRNet Workstation Software

Step 1 Log onto ISP Workstation

Step 2 Select Start-->About DTC/TDN install

Step 3 Verify hardware/software matches Table. Note differences: _____

Step 4 Switch KVM to NMS

Step 5 Log onto NMS Workstation

Step 6 Select Start-->About DTC/TDN install

Step 7 Verify hardware/software matches Table. Note differences: _____

3.4.4.4.2 TDN Gateway SIPRNet Router IOS version:

Step 1 Patch workstation serial port to router console port

Step 2 Log onto the router and enable

Step 3 At the router command prompt; type: "show version"

Step 4 Verify hardware/software matches Table. Note differences: _____

Step 5 Log out (exit)

3.4.4.4.3 TDN Gateway SIPRNET Switch IOS version:

Step 1 Patch workstation serial port to switch console port

Step 2 Log onto the switch and enable

Step 3 At the switch command prompt; type: "show version"

Step 4 Verify hardware/software matches Table. Note differences: _____

Step 5 Log out (exit)

3.4.4.5 DTC**3.4.4.5.1 DTC Admin PC:**

Step 1 Log onto DTC Admin PC

Step 2 Select "About DTC" from Desktop

Step 3 Verify hardware/software matches Table. Note differences: _____

Step 4 Log out

3.4.4.5.2 DTC Workstation:

Step 1 Log onto DTC workstation

Step 2 Select System->Version

Step 3 Verify hardware/software matches Table. Note differences: _____

3.4.4.5.3 DTC Promina:

NOTE: Verification can be accomplished from the DTC workstation as described below, or from one of the TDN Gateway workstations. If using the TDN Gateway workstation, replace Step 1 with Patch workstation to TRC (Promina).

Step 1 From the DTC workstation: Select System->Serial Port Adapter->Internal->TRC

Step 2 Log onto Promina

Step 3 Type "que node"

Step 4 Verify hardware/software matches Table for P800. Note differences: _____

3.4.4.5.4 Gateway Promina

Step 1 Type "que node"

Step 2 Type the Gateway Promina node number

Step 3 Verify hardware/software matches Table for P400. Note differences: _____

3.4.4.5.5 DTC CDS

Step 1 Select Workstation Options->Utilities->File Maintenance

Step 2 Find SPU and double click

Step 3 Verify hardware/software matches Table for CSOLOP Note differences: _____

3.4.4.5.6 DTC Redcom

Step 1 Log on ADMIN PC

Step 2 Bring up HyperTerm

Step 3 Log onto Redcom

Step 4 Verify hardware/software matches Table. Note differences: _____

3.4.4.5.7 FCC 100

Step 1 Turn on system (version will display during initialization)

Step 2 Verify hardware/software matches Table. Note differences: _____

3.4.4.6 TDMS**3.4.4.6.1 LDSA NIPRNet (Local Directory System Agent)**

Step 1 Log onto system

Step 2 Select Start → Run, type “DMSVER”

Step 3 Verify hardware/software matches Table. Note differences: _____

3.4.4.6.2 DMDS NIPRNet (Defense Message Dissemination System)

Step 1 Log onto system

Step 2 Select Start → Run, type “DMSVER”

Step 3 Verify hardware/software matches Table. Note differences: _____

3.4.4.6.3 PGWS NIPRNet (Primary Groupware Server)

Step 1 Log onto system

Step 2 Select Start → Run, type “DMSVER”

Step 3 Verify hardware/software matches Table. Note differences: _____

3.4.4.6.4 BGWS NIPRNet (Backup Groupware Server)

Step 1 Log onto system

Step 2 Select Start → Run, type “DMSVER”

Step 3 Verify hardware/software matches Table. Note differences: _____

3.4.4.6.5 LDSA SIPRNet (Local Directory System Agent)

Step 1 Log onto system

Step 2 Select Start → Run, type “DMSVER”

Step 3 Verify hardware/software matches Table. Note differences: _____

3.4.4.6.6 DMDS SIPRNet (Defense Message Dissemination System)

Step 1 Log onto system

Step 2 Select Start → Run, type “DMSVER”

Step 3 Verify hardware/software matches Table. Note differences: _____

3.4.4.6.7 PGWS SIPRNet (Primary Groupware Server)

Step 1 Log onto system

Step 2 Select Start → Run, type “DMSVER”

Step 3 Verify hardware/software matches Table. Note differences: _____

3.4.4.6.8 BGWS SIPRNet (Backup Groupware Server)

Step 1 Log onto system

Step 2 Select Start → Run, type “DMSVER”

Step 3 Verify hardware/software matches Table. Note differences: _____

3.4.4.7 AN/MRC-142 (Digital Wideband Transmission System)

Step 1 Verify hardware matches Table. Note differences: _____

3.4.4.8 FCC 100

Step 1 Turn on system (version will display during initialization)

Step 2 Verify hardware/software matches Table. Note differences: _____

3.4.4.9 EPLRS

Step 1 From the URO, Press→ -q, press SEND

Step 2 Push RECV 3 times and verify 1 - SP 1032 [xxxx], 2 - NP 1032 [xxxx], 3 - BC 1032 [xxxx]

Step 3 Verify hardware/software matches Table. Note differences: _____

3.4.4.10 SINGARS

Step 1 Verify hardware matches Table. Note differences: _____

3.4.4.11 AN/TTC-42 (Automatic Telephone Central Office)

Step 1 Press IDX, 3, 2, 1, ADV, ADV

Step 2 Version is displayed

Step 3 Verify hardware/software matches Table. Note differences: _____

3.4.4.12 SB-3865 (Automatic Telephone Switching)

Step 1 Press IDX, 3, 2, 1, ADV, ADV

Step 2 Version is displayed

Step 3 Verify hardware/software matches Table. Note differences: _____

3.4.4.13 SB-3614 (Telephone Switchboard)

Step 1 Verify hardware matches Table. Note differences: _____

3.4.4.14 Verify equipment/system Configuration Data Sheets (i.e., cut sheets)

Step 2 For any differences noted above, compare the actual hardware model and/or software version in use to the corresponding equipment/system Configuration Data Sheets (i.e., cut sheets), reference (d), and the CSAR database report, reference (e).

Step 3 Resolve differences with the SIF Configuration Manager and the MEF CE & GCE Node Manager.

3.4.4.15 Enter results into the MCIAP/SIF Traceability Matrix.

____ Accepted ____ Accepted pending resolution of issue ____ Not Accepted

Element: _____ Date Completed: _____ QA Initials: _____

3.5 Verify C4ISR systems and communication equipment/systems connectivity

This activity verifies the connectivity capabilities of the C4ISR systems and communications equipment/systems included in the VII MEF CE and GCE and demonstrates that the systems are an accurate representation of the MCIAP.

For the MEF CE, perform paragraphs 2.5.3 and 2.5.4 one time. Note “N/A” for those systems that are not included in the CE element.

For the GCE, perform paragraphs 2.5.3 and 2.5.4 four times (i.e., once each for the Division, Regiment, Battalion, and Company). Note “N/A” for those systems that are not included in the GCE element.

3.5.1 Inputs/Prerequisites

- a. MEF CE Internet Protocol Architecture diagram or VII MEF SIF Architecture Design Description, Appendix B, Figure 1 – MEF CE Architecture showing IP addresses assigned by the NOC Engineer.
- b. GCE Internet Protocol Architecture diagram or VII MEF SIF Architecture Design Description, Appendix C, Figure 1 – Division Architecture, Figure 3 – Regiment Architecture, Figure 5 – Battalion Architecture, and Figure 7 – Company Architecture showing IP addresses assigned by the NOC Network Engineer
- c. Phone book (or the Phone numbers need to be noted on the applicable Architecture Figures noted above)
- d. Voice Network diagram with assigned switch codes (see VII MEF ADD Figure 7)
- e. Promina/FCC MUX Network Architecture with assigned node numbers (VII MEF ADD Figure 6)
- f. MCIAP/SIF Traceability Matrix (see Figure 1)
- g. All applicable systems powered on.

3.5.2 Personnel

- a. SE&ISD SIF NOC Wire Chief
- b. SE&ISD SIF NOC Elec Switch Tech
- c. SE&ISD SIF NOC Technical Controller
- d. SE&ISD SIF NOC Network Engineer
- e. Quality Assurance

3.5.3 Procedure to verify C4ISR systems and communication systems connectivity

3.5.3.1 Connectivity between C4ISR NIPRNet systems and communication systems

The following steps verify the physical and logical connection of the C4ISR systems to the network and Step 5 verifies:

- (a) Network connection between TDN DDS and TDN Gateway,
- (b) Network connection between TDN Gateway and external Router,
- (c) Promina connection between TDN Gateway and DTC, and
- (d) Promina connection between DTC and external Promina.

Step 1 Verify physical cable is connected from workstation to wall plate.

Step 2 Log onto the DDS workstation.

Step 3 Bring up a DOS prompt Start-->Run-->Command

Step 4 Ping each local C4ISR system by IP Address

Hosts/ID pinged: _____

Step 5 Ping external host system (For MEF CE use the Root DNS, for Div use MEF CE system or Root DNS)

External Hosts/ID pinged: _____

____Accepted ____Accepted pending resolution of issue ____Not Accepted

Element: _____ Date Completed: _____ QA Initials: _____

3.5.3.2 Connectivity between C4ISR SIPRNet systems and communication systems

The following steps verify the physical and logical connection of the C4ISR systems to the network and Step 5 verifies:

- (a) Network connection between TDN DDS and TDN Gateway,
- (b) Network connection between TDN Gateway and external Router,
- (c) Promina connection between TDN Gateway and DTC, and
- (d) Promina connection between DTC and external Promina.

Step 1 Verify physical cable is connected from workstation to wall plate

Step 2 Log onto the DDS workstation

Step 3 Bring up a Dos prompt Start-->Run-->Command

Step 4 Ping each local C4ISR system by IP Address

Hosts/ID pinged: _____

Step 5 Ping external host system (For MEF CE use the Root DNS, for Div use MEF CE system or Root DNS)

External Hosts/ID pinged: _____

____Accepted ____Accepted pending resolution of issue ____Not Accepted

Element: _____ Date Completed: _____ QA Initials: _____

3.5.4 Procedure to verify voice connectivity

The following steps verify:

- (a) Phones are connected to DTC (CDS or Redcom), TTC-42, SB-3865, and SB-3614
- (b) Voice DTG is connected to external Voice switch (DTC, TTC-42 or SB-3865)
- (c) Promina connection between DTC and external Promina.

Step 1 From KY-68, place secure call to local phone.

Call From: _____ Call To: _____

Call From: _____ Call To: _____

Step 2 From KY-68, place secure call to external phone.

Call From: _____ Call To: _____

Call From: _____ Call To: _____

Step 3 From DNVT, place non-secure call to local phone.

Call From: _____ Call To: _____

Call From: _____ Call To: _____

Step 4 From DNVT, place non-secure call to external phone.

Call From: _____ Call to: _____

Call From: _____ Call to: _____

____ Accepted ____ Accepted pending resolution of issue ____ Not Accepted

Element: _____ Date Completed: _____ QA Initials: _____

3.6 Review SIF supporting documentation

This activity will ensure that the SIF Configuration Management Plan and SIF Standard Operating Procedures/Handbook are consistent with the VII MEF Systems Integration Facility Architecture Design Description, and that the necessary activities for operating and maintain the SIF are identified, internally consistent, and accurately described. This activity will ensure that the process for recording and reporting all the information needed to change or manage the hardware and software included in the SIF master baseline is controlled according to a documented procedure.

3.6.1 Inputs/Prerequisites

- a. Configuration Management Plan for the MCTSSA Systems Integration Facility, SIF-CMP-001-V2
- b. MCTSSA SE&ISD Systems Integration Facility Standard Operating Procedures/Handbook, SIF-SOP-001-V1
- c. VII MEF System Integration Facility Architecture Design Description

3.6.2 Personnel

- a. SIF Configuration Manager(s)
- b. SIF Branch Head
- c. Quality Assurance

3.6.3 Procedure

Step 1 Review the Configuration Management Plan for the MCTSSA SIF and ensure that the:

- a. Roles of all organizational units that participate in or are responsible for configuration management activities are defined.
- b. Activities and procedures for identifying and controlling changes to the hardware, software, and documents that make up the SIF master base are explained or referenced.
- c. Recording and reporting of all information needed to change or control the configuration effectively and establish the SIF master baseline is explained or referenced.
- d. Configuration management activities are internally consistent with the VII MEF Systems Integration Facility Architecture Design Description

Step 2 Review the SIF Standard Operating Procedures/Handbook and ensure that the:

- a. Roles of all organizational units that participate in or are responsible for SIF activities are defined.

- b. Activities and procedures for maintaining SIF facility readiness and physical security are explained or referenced.
- c. Activities and procedures for requesting and scheduling events are explained or referenced.
- d. SIF operational activities are internally consistent with the VII MEF Systems Integration Facility Architecture Design Description.

Accepted **Accepted pending resolution of issue** **Not Accepted**

Date Completed: _____ **QA Initials:** _____