



CHAIRMAN OF THE JOINT CHIEFS OF STAFF INSTRUCTION

J-8
DISTRIBUTION: A, B, C, S

CJCSI 8510.01C
17 August 2012

MANAGEMENT OF MODELING AND SIMULATION

References: See Enclosure C.

1. Purpose. This instruction:

a. Implements policy guidance established in DoD Directive 5000.59, 8 August 2007, "DOD Modeling and Simulation (M&S) Management" (reference a).

b. Establishes the policy for the management of modeling and simulation (M&S) and assigns responsibilities.

2. Cancellation. CJCSI 8510.01B, 17 March 2010, "Management of Modeling and Simulation," is canceled.

3. Applicability

a. This instruction applies to the Joint Staff, joint activities reporting to the Chairman of the Joint Chiefs of Staff, and the Combatant Commands (hereafter collectively referred to in this instruction as "DoD Components"); and to their use, management, sponsorship, or resourcing (reference b) of M&S activities.

b. This instruction is distributed to the Services and Defense agencies to foster cooperation and sharing of M&S resources and capabilities. It is distributed to the multinational combined commands for information only; however, they are encouraged to use it as a guide in developing their own M&S management processes.

4. Policy

a. In coordination with the DoD Components, the Joint Staff will develop M&S policies and guidance and act as a proponent for M&S use. It shall provide oversight, expertise, and requirements management for all M&S. Component leads for M&S development (e.g., Joint Staff/J-7 for joint training) will act in accordance with appropriate directives and instructions (references m through o).

b. The DoD Components will formulate and implement M&S programs and activities to satisfy their assigned missions.

c. M&S used to support major DoD decision-making organizations and processes (e.g., the Defense Planning and Resources Board, the Joint Requirements Oversight Council, and the DoD Planning, Programming, Budgeting, and Execution System) will be accredited for that use by the study sponsor (reference j).

d. M&S will:

(1) Comply with existing national, federal, DoD and, where practicable, international standards to facilitate interoperability between M&S and command, control, communications, computers, and intelligence (C4I) systems.

(2) Exploit connectivity and M&S interoperability to link existing M&S centers to support acquisition, analysis, experimentation, intelligence, planning, testing, and training requirements.

(3) Conform to the policies, practices, and standards for life-cycle management (LCM) and configuration management (CM) of automated information systems in references f through i.

e. A systematic plan for LCM is required for models, simulations, and associated data used to support DoD processes, products, and decisions. Verification, validation, and accreditation (VV&A) will be accomplished as an integral part of the overall LCM and use of each M&S (reference j).

(1) Owners of models, simulations, and associated databases that support major DoD decision making organizations and processes will ensure compliance current requirements governing LCM, verification and validation (V&V), and CM.

(2) M&S study sponsors will accredit models, simulations, and associated data to ensure appropriateness for each intended use. Each study

sponsor's accreditation process will ensure that the V&V level is sufficient to support the accreditation decision.

(3) M&S owners and developers will ensure that forces and capabilities represented in M&S have been verified and validated by the responsible Service, functional proponent, or DoD organization.

f. Data, information, and information technologies used in support of M&S will comply with information management policies contained in references h and i.

5. Definitions. See Glossary.

6. Responsibilities. See Enclosure A.

7. Summary of Changes

a. Accounts for the changes in M&S responsibility resulting from the disestablishment of U.S. Joint Forces Command.

b. Identifies Joint Staff/J-7 as the responsible component for joint training and joint force experimentation M&S.

c. Identifies Joint Staff/J-5 as the responsible component for joint planning M&S.

8. Releasability. This instruction/manual/notice is approved for public release; distribution is unlimited. DoD Components (to include the Combatant Commands), other Federal agencies, and the public may obtain copies of this instruction through the Internet from the CJCS Directives Home Page—http://www.dtic.mil/cjcs_directives.

9. Effective Date. This instruction is effective upon receipt.



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Director, Joint Staff

Enclosures:

- A - Responsibilities
- B - DoD and Joint Staff M&S Management Overview
- C - References
- GL - Glossary

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DISTRIBUTION

Distribution: A, B, and C, plus the following:

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Commander, U.S. Forces Korea.....	2

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ENCLOSURE A

RESPONSIBILITIES

1. The Joint Staff, under the direction of the Vice Director of the Joint Staff will:

a. Establish a management structure for oversight, coordination, and communication of component M&S issues and activities.

(1) The Director, J-8, will serve as the overall Joint Staff M&S focal point and will coordinate simulation policy for joint acquisition, analysis, and testing. The J-8 will serve as the primary interface with the DoD Components to support activities regarding M&S, with the exceptions noted below. The J-8 will represent the interests and integrate M&S requirements of the DoD Components at the DoD Modeling and Simulation Steering Committee (M&S SC) and at working groups that support the activities of the M&S SC.

(2) The Director, J-7, will coordinate simulation policy for joint training and joint force experimentation.

(3) The Director, J-6, will coordinate simulation policy for C4 and Cyber M&S and act as the primary interface with the Defense Information Systems Agency (DISA) and Joint C4 Intelligence, Surveillance, and Reconnaissance (C4ISR) Decision Support Center.

(4) The Director, J-5, will coordinate simulation policy for joint planning.

b. Promote and manage M&S efforts in support of operational needs and the acquisition process; develop common tools, methodologies, and databases; and comply with current national, federal, DoD and, where practicable, international standards and protocols promoting the interoperability, data exchange, open system architecture, and software reusability of M&S.

c. Foster involvement in M&S development, integration, use, and interface with operational C4I systems, per references c through e. This will require that M&S programs and activities support the DoD Global Information Grid as required (reference h).

d. Establish, maintain, and program resources to provide user-responsive life-cycle management of Joint Staff M&S capabilities (i.e., manage planning, resourcing, programming, development, acquisition, operation, maintenance, accountability, and phase-out).

2. The heads of DoD Components will:

a. Establish and implement a management structure for M&S oversight, internal coordination, and communication of M&S issues. Each component's management structure will reflect its unique M&S requirements while complying with all DoD and Joint Staff M&S, information management, life-cycle management (LCM), data administration, and C4I policies, directives, and instructions (references a and f through i).

b. Identify an M&S focal point and advise the Joint Staff M&S focal point, J-8. These focal points will:

(1) Represent component requirements and activities in M&S forums.

(2) Act as the central point of contact within their organization for coordination of M&S matters.

c. Ensure that each model, simulation, and associated database used by the component to support major decision making organizations and process has a designated owner, with requisite technical expertise, responsible for its configuration and LCM. Establish configuration and LCM policies and procedures for M&S and databases for which they are the owner (references f through i).

d. Comply with VV&A policies, procedures, and guidelines for models, simulations, and associated data support major decision making organizations and process as required by DoD policy (reference j).

(1) Establish V&V procedures for models, simulations, and associated databases for which they are the proponent.

(2) Establish procedures to accredit the M&S and associated data for which the component is the study sponsor (i.e., uses the results or products from a specific use of the M&S).

3. The Commander, U.S. Transportation Command, as the designated distribution process owner by the Secretary of Defense, in coordination with the Joint Staff, Director for Logistics, J-4; Director, CAPE; Director, Defense Logistics Agency; and the Service Components, shall develop, manage, and provide transportation-related deployment and distribution data standards for DoD M&S (reference l).

ENCLOSURE B

DoD AND JOINT STAFF M&S MANAGEMENT OVERVIEW

1. DoD Directive 5000.59, “DoD Modeling and Simulation (M&S) Management” (reference a) provides a governance approach centered on existing DOD communities that are DoD activity areas, enabled by M&S, that have established executive-level management structures, as illustrated in figure B-1.

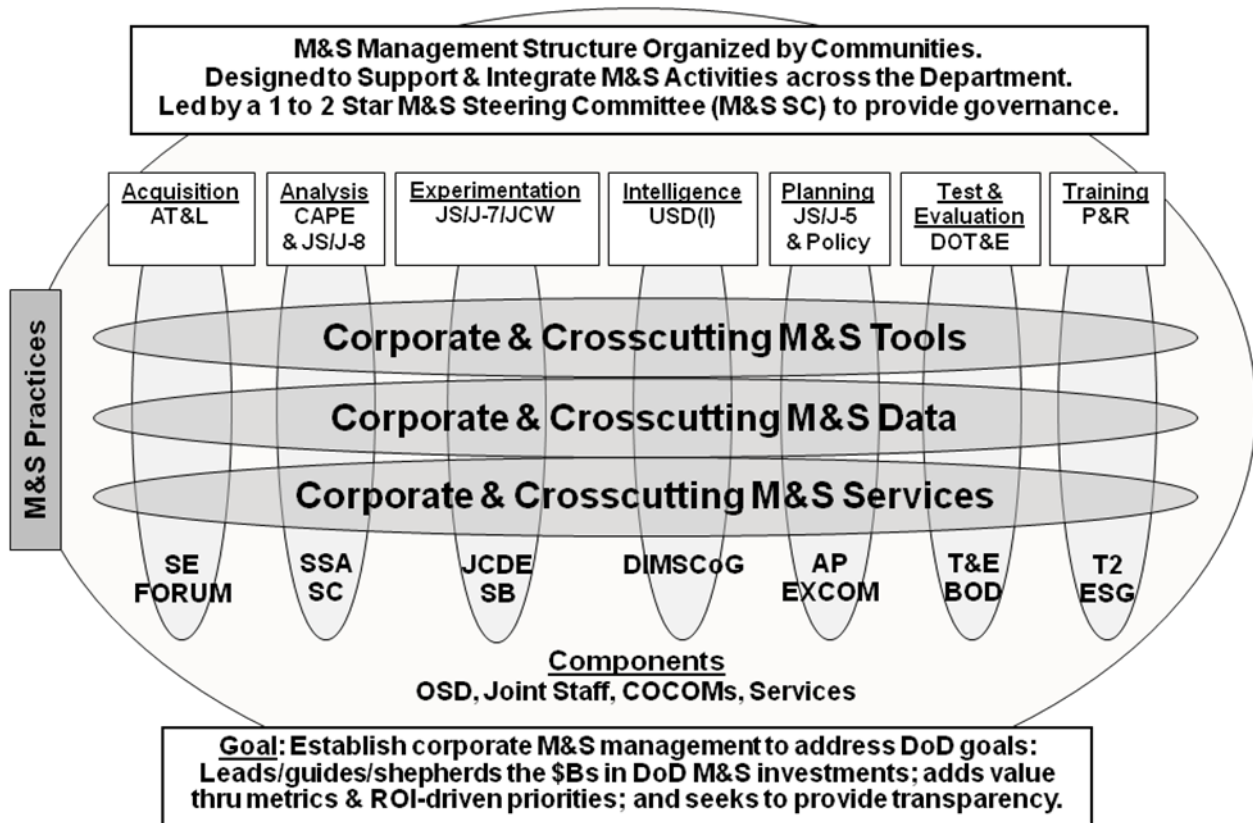


Figure B-1. DoD M&S Management Structure

a. Communities enabled by M&S that have been accepted by the M&S SC are: Acquisition, Analysis, Experimentation, Intelligence, Planning, Test and Evaluation, and Training. Some communities have an M&S strategic plan that addresses the community vision, current capabilities and initiatives, management, gaps, and future needs. The M&S SC has developed a corporate and cross-cutting business plan (reference k), which contains the strategic vision for DoD M&S. The USD(AT&L) establishes and maintains the DoD management for M&S and chairs the M&S SC, which is an executive-level DoD committee that advises and assists the USD(AT&L) in all matters pertaining to

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DoD M&S. Membership of M&S SC includes the seven community leads (i.e., OSD(AT&L) for Acquisition; OSD(CAPE) for Analysis; Joint Staff /J-7/JCW for Experimentation; Joint Staff/J-5 for Planning; DASD(DT&E) for Test and Evaluation; OUSD(I) for Intelligence; and OSD(P&R) for Training), and representation from each of the Services. Active participation from other organizations' general officers/flag officers/senior executive services (GO/FO/SEs) at this forum is welcome.

b. The M&S SC's primary objective is to enable the DoD to effectively manage and influence the resources the Department spends annually on M&S. The key focus areas of the M&S SC are to maximize critical technology by providing a common technical framework of architecture and data standards, and common services which promote reuse, interoperability, and efficiency.

c. At the M&S SC, the Joint Staff/J-8 represents the DoD Components perspectives unless otherwise directed. The Joint Staff/J-7/JCW as the lead for the Experimentation Community and the Joint Staff/J-5 as the lead for the Planning Community, represent all the interests of those two M&S communities. The M&S SC is supported by the M&S Integrated Process Team (IPT) with the Joint Staff/J-8 serving as the DoD Components representative at the M&S IPT.

2. The Joint Staff/J-8 Models and Analysis Support Division (MASD) is the DoD Component focal point for M&S. As such, MASD forwards M&S items of interest to DoD Component M&S points of contact. DoD Component M&S POCs should coordinate within their directorates or divisions on DoD M&S-level issues and provide perspective to influence Joint Staff M&S GO/FO/SES representation on the M&S SC. Figure B-2 illustrates the interactions of the various focal points.

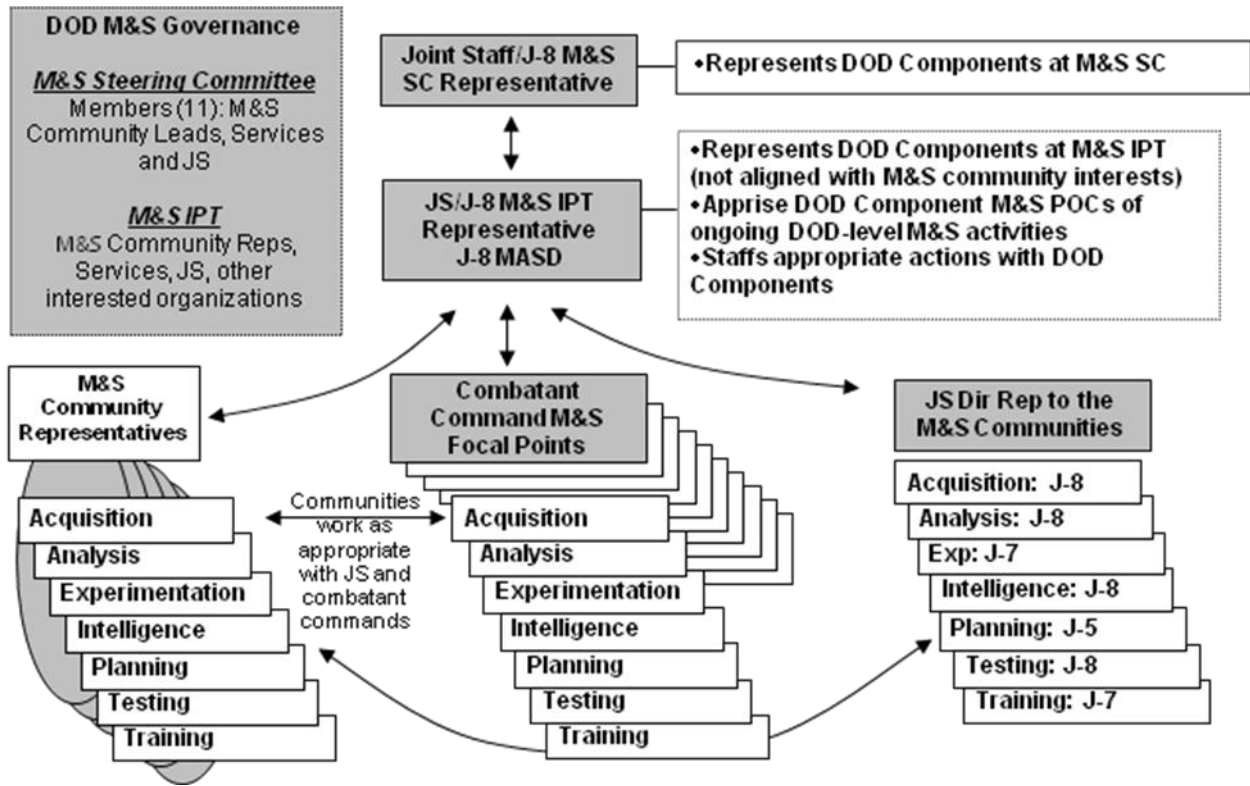


Figure B-2. M&S Focal Points Interactions

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ENCLOSURE C

REFERENCES

- a. DoD Directive 5000.59, 8 August 2007, "DOD Modeling and Simulation (M&S) Management"
- b. JSI 7200.01 series, "Joint Staff Resource Management"
- c. CJCSI 6212.01 series, 21 March 2012, "Net Ready Key Performance Parameter"
- d. DoD Directive 4630.05, 5 May 2004, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)"
- e. DoD Instruction 4630.8, 30 June 2004, "Procedures for Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)"
- f. DoD Directive 5000.01, 12 May 2003, "The Defense Acquisition System"
- g. DoD Instruction 5000.02, 8 December 2008, "Operation of the Defense Acquisition System"
- h. DoD Directive 8000.01, 10 February 2009, "Management of the Department of Defense Information Enterprise"
- i. DoD Directive 8320.02, 2 December 2004, "Data Sharing in a Net-Centric Department of Defense"
- j. DoD Instruction 5000.61, 9, December 2009, "DoD Modeling and Simulation (M&S) Verification, Validation, and Accreditation (VV&A)"
- k. DoD, 23 February 2009, "The 2008 Modeling and Simulation Corporate and Crosscutting Business Plan"
- l. DoD Instruction 5158.06, 30 July 2007, "Distribution Process Owner (DPO)"
- m. CJCSI 3500.01 series, "Joint Training Policy and Guidance for the Armed Forces of the United States"
- n. DoD Instruction 3305.14, 28 December 2007, "Joint Intelligence Training (JIT)"
- o. DoD Directive 1322.18, 13 January 2009, "Military Training"

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GLOSSARY

Part I: ABBREVIATIONS AND ACRONYMS

AIS	Automated Information System
AP EXCOM	Adaptive Planning Executive Committee
AT&L	Acquisition Technology & Logistics
C4I	Command, Control, Communications, Computers, and Intelligence
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance
CAPE	Cost Assessment and Program Evaluation
CM	Configuration Management
DIMSCoG	Defense Intelligence M&S Coordination Group
DISA	Defense Information Systems Agency
DOT&E	Director of Operational Test and Evaluation
IPT	Integrated Process Team
JCDE SB	Joint Concept Development & Experimentation Synchronization Board
JCW	Joint Coalition Warfighting
LCM	Life-Cycle Management
MASD	Models and Analysis Support Division
M&S	Modeling and Simulation
M&S SC	M&S Steering Committee
P&R	Personnel and Readiness
SE Forum	Software Engineering Forum

SSA SC	Support for Strategic Analysis Steering Committee
T&E BOD	Test and Evaluation Board of Directors
T2 ESG	Training Transformation Executive Steering Group
USTRANSCOM	United States Transportation Command
VV&A	Verification, Validation, and Accreditation

Part II: TERMS AND DEFINITIONS

accreditation. The official certification that a model, simulation, or federation of models and simulations, and its associated data are acceptable for use for a specific purpose.

Combatant Command. A unified or specified command with a broad continuing mission under a single commander established and so designated by the President, through the Secretary of Defense, and with the advice and assistance of the Chairman of the Joint Chiefs of Staff. Combatant Commands typically have geographic or functional responsibilities.

community. DoD activity areas, enabled by M&S, which have established executive-level management structures.

Configuration Management (CM). The application of technical and administrative direction and surveillance to identify and document the functional and physical characteristics of a model or simulation, control changes, and record and report change processing and implementation status.

DoD Components. The Joint Staff, joint activities reporting to the Chairman of the Joint Chiefs of Staff, and the Combatant Commands. For clarity, this also includes: U.S. Element; North American Aerospace Defense Command; and U.S. Forces Korea.

DoD Modeling and Simulation Steering Committee. An executive-level DoD committee that advises and assists the Under Secretary of Defense for Acquisition Technology & Logistics (USD(AT&L)) in all matters pertaining to M&S. Membership is determined by the USD(AT&L) and is at the GO/FO/SES level (reference a).

information management. The creation, use, sharing, and disposition of data or information as corporate resources critical to the effective and efficient operation of functional activities consistent with information management guidance issued by the Office of the Secretary of Defense. It includes the structuring of functional management improvement processes by the OSD principal staff assistants to produce and control the use of data and information in functional activities, information resources management, and supporting information technology and information services.

life-cycle management (LCM) of automated information systems. A management process applied throughout the life of an automated information system (AIS) that bases all programmatic decisions on the

anticipated mission-related and economic benefits derived over the life of the AIS.

Military Services. For the purpose of this instruction, the Military Services are the U.S. Army, Navy, Air Force, and Marine Corps.

model. A physical, mathematical, or otherwise logical representation of a system, entity, phenomenon, or process.

modeling and simulation (M&S). The use of models -- including emulators, prototypes, simulators, and stimulators -- either statically or over time to develop data as a basis for making managerial and technical decisions. The terms “modeling” and “simulation” are often used interchangeably.

M&S developer. The agency that actually develops a model or simulation or the agency that oversees the M&S development by a contractor or federally funded research and development center.

M&S interoperability. The ability of models or simulations to provide services to and accept services from other models and simulations, and to use the services so exchanged to enable them to operate effectively together.

M&S owner. The component responsible for LCM of a model, simulation, or an associated database.

open system. A system in which the components and their composition are specified in a non-proprietary environment, enabling competing organizations to use these standard components to build competitive systems. There are three perspectives on open systems: portability -- the degree to which a system component can be used in various environments; interoperability -- the ability of individual components to exchange information; and integration -- the consistency of the various human/machine interfaces between an individual and all hardware and software in the system.

simulation. A method for implementing a model over time. Also a technique for testing, analysis, or training in which real-world systems are used or real-world and conceptual systems are reproduced by a model.

study sponsor. The component that utilizes the results or products from a specific use of a model or simulation.

validation. The process of determining the degree to which a model or simulation and its associated data are accurate representations of the real world from the perspective of the intended uses of the model or simulation.

verification. The process of determining that a model or simulation implementation and its associated data accurately represent the developer's conceptual description and specifications.

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