



CHAIRMAN OF THE JOINT CHIEFS OF STAFF INSTRUCTION

J-6

DISTRIBUTION: A, B, C, J

CJCSI 6271.01B

19 August 2002

JOINT STANDARD AIR OPERATIONS SOFTWARE CONFIGURATION MANAGEMENT

References: See Enclosure C.

1. Purpose. To establish policy for joint configuration management (CM) of joint standard air operations software (JSAOS), assign responsibilities to various organizations, and define procedures to be used for CM of JSAOS.
2. Cancellation. CJCSI 6271.01A, 15 June 1997, is canceled.
3. Applicability. Provisions of this instruction apply to affected theater combatant command, Services, and/or Defense agencies (C/S/As) that develop or use JSAOS and to all software agreed as being JSAOS. Current lists of approved JSAOS are available at either <http://cafc2.hanscom.af.mil/Private/tbmcs/index.htm> or <http://cactusaf.org>. (Note: These are password-protected sites; follow posted instructions for password.) JSAOS provides US forces the functionality to:
 - a. Plan and control air operations including airspace control, offensive operations, and air and missile defense.
 - b. Produce, generate, disseminate, and monitor execution of air tasking orders.
 - c. Produce, generate, and disseminate air defense plans.
 - d. Produce, generate, and disseminate master air attack plans.
 - e. Produce, generate, and disseminate target nomination lists and joint integrated prioritized target lists.
 - f. Produce, generate, and disseminate airspace control orders.

4. Policy

a. A JSAOS Configuration Management Board (JCMB) shall be established to manage development and deployment of JSAOS. The JCMB shall consider and deliberate specifically over software components nominated to become or determined to be the joint standard. All software designated as JSAOS by JCMB majority vote shall be governed by this instruction. The JCMB shall not deliberate over non-JSAOS components, but will maintain cognizance of them to provide a context for their primary deliberations. Similarly, the JCMB does not eliminate requirements for basic CM and configuration control processes of other systems such as the Advanced Field Artillery Tactical Data System or Air and Space Operations Center. Additionally, the JCMB shall not attempt to affect other systems development except as and unless they relate to joint air operations planning and execution monitoring or interface with existing JSAOS. The JCMB shall convene, as required, to review and approve all specific version development and version release plans of JSAOS and any other changes to currently fielded software.

(1) JCMB Membership. The JCMB is chaired by Joint Staff/J-6V and is comprised of one O-6 voting member from the Army, Navy, Air Force, and Marine Corps. Voting representatives are responsible for describing, for the record of JCMB proceedings, positions of their Services on all matters considered. Voting representatives commit their Services to JCMB decisions.

(2) JCMB Secretary. The JCMB secretary is a nonvoting member. Joint Staff/J-6V and the Services will keep the JCMB secretary apprised of names of their JCMB voting members and alternates.

b. The air operations software development process shall be composed of five phases: (1) requirement identification; (2) version planning; (3) software development; (4) testing; and (5) software release for operational use.

(1) JSAOS Requirement Identification. IAW Enclosure C, reference a.

(2) Version Planning. A Version Planning Document (VPD) shall be created as a result of the requirement identification process. The VPD shall provide a rough order of magnitude estimate with regard to version functional content (to include System Problem Report fixes), fielding issues, schedule, cost, and technical risk drivers. System maintainers and developers shall use this version plan as the basis to complete the system-level design, the version specification, and version fielding plan. The VPD (and proposed changes to a previously approved VPD) shall be presented to the JCMB for approval.

(3) Software Development. Currently, all JSAOS-designated segments and applications are integrated or being integrated into USAF's Theater Battle

Management Core System (TBMCS). All TBMCS software shall be controlled by the Battle Management Command, Control, and Communications (BMC3) System Program Office (SPO) of the Electronic Systems Center. The BMC3 SPO shall control individual application development efforts and integration of those efforts within TBMCS. TBMCS applications designated as JSAOS shall be under joint oversight to the maximum extent practical via joint participation in all phases of software development.

(4) Testing. The joint test community, composed of all Service test components, shall determine test procedures to fully assess requirements identified in TBMCS Operational Requirements Document (ORD) or other applicable ORDs. Prior to a system of record determination, the joint test community shall report on operational effectiveness and operational suitability for each tested version of JSAOS. Additionally, in instances where dissimilar versions may be concurrently fielded, the joint test community shall report on interoperability between fielded versions.

(5) Fielding. In coordination with combatant commanders and their components, Services shall determine and publish fielding plans for all software released by the JCMB. There are two distinct types of software fielding: global release to all theaters and theater-unique release.

(a) For global releases of JSAOS, every version shall be uniquely identified as version number X.Y.Z where:

1. X = Corresponding number determined IAW reference A or application baseline. (Example: If TBMCS Spiral Development Integrated Product Team's designated increment 2.0 is currently in development, then software releases should be numbered TBMCS 2.Y.Z. until development begins on increment 3.0)

2. Y = Any interim increase or decrease in fielded baseline capability (may be in conjunction with fixes of previously fielded software). (Example: If TBMCS 1.0.1 was previously fielded and software to be released adds capability to access air tasking order (ATO) data via web login, then software release should be numbered TBMCS 1.1.)

3. Z = Any fixes to previously fielded baseline software with no increase in capability. (Example: If TBMCS 1.0.1 was previously fielded and software to be released only fixes problems associated with fielded segments and/or applications fielded, then software release should be numbered TBMCS 1.0.2.)

(b) In instances where individual combatant commanders require theater-specific software that produces theater-specific capability, the add-on

software packages to the currently fielded version of JSAOS shall be identified by theater name, "Service Pack," and ordinal number. (Example: The first Service Pack required to satisfy a US Central Command-unique requirement would be designated "USCENTCOM Service Pack 1.")

5. Definitions. See Glossary.

6. Responsibilities. Joint Staff, J-6 Global C2 Applications Division (J-6V), is the office responsible for initiating and reviewing this instruction. Other responsibilities are outlined in Enclosure A.

7. Summary of Changes

a. Renames JSAOS Configuration Control Board as the JSAOS Configuration Management Board, resetting the tone from control to management.

b. Adds required entry criteria for C/S/A-developed mission applications for JCMB consideration and required JCMB exit criteria for operational fielding.

c. Updates procedures currently used for JSAOS requirement generation, testing, and fielding.

d. Defines a version release identification scheme.

8. Releasability. This instruction 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/doctrine>. Copies are also available through the Government Printing Office on the Joint Electronic Library CD-ROM.

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



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Enclosures:

- A -- Responsibilities
- B -- Procedures

C -- References
GL -- Glossary

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ENCLOSURE A

RESPONSIBILITIES

1. General Responsibilities. All CM participants must consider the effect they have on the joint environment. The JCMB is responsible for assessing and minimizing impact consistent with program objectives, requirements, and fiscal constraints.

2. Funding Responsibilities

a. US Air Force (USAF) is the executive agent for ATO Interoperability and shall program funds for future development and improvements of JSAOS that it produces and fields. When another C/S/A's software is accepted as the joint standard, the sponsoring C/S/A shall similarly incur this responsibility. The USAF BMC3 SPO shall provide resource cost estimates during the CM process for Software Problem Reports (SPRs) and Baseline Change Requests (BCRs). If other Services provide program oversight of software accepted as JSAOS, they shall similarly be responsible to provide these estimates.

b. Each C/S/A using JSAOS is responsible to fund for or purchase their own hardware, firmware, commercial off-the-shelf (COTS) software, and licenses as required.

c. All testing (to include temporary additional duty or temporary duty of test participants), as determined by the Test and Evaluation Integrated Product Team, will be funded by the C/S/A sponsoring the software.

d. C/S/A-unique requirements, or maintenance of JSAOS, may require funding provided individually by the C/S/A requesting the change. (A requirement is considered a joint requirement when the majority of the voting members of the Joint Requirements Planning Team vote and declare it to be a joint requirement.) Items believed by a Service to be joint that the review deems "Service- or theater-unique" may be identified as substantive in accordance with the review process detailed in this instruction.

3. Joint Staff

a. Establishes and convenes the JCMB, provides the JCMB chairperson, and acts as spokesperson for Joint Staff interests.

b. Coordinates JCMB agenda items and issues with Services and combatant commands, as required.

c. Establishes joint application user groups (JUGs), as required or requested. JUGs shall report, as required, to the JCMB on status of efforts.

d. Presents issues, declared substantive by C/S/As, to the Military Communications-Electronics Board (MCEB) or global command and control (GCC) management structure, as appropriate, for resolution.

e. Ensures latest JCMB positions reflect MCEB and Global Command and Control System (GCCS) management structure guidance.

f. Presents JCMB results to GCCS Integration Working Group, if required.

4. Combatant Commands, Services, and Defense Agencies

a. Identify designated voting representative and alternate to JCMB (Services only).

b. Designate representatives and/or points of contact to ensure SPRs and BCRs are reviewed for accuracy, completeness, and validity before transmission to the TBMCS Configuration Management Office (CMO) or other Service's CMO.

c. Generate and submit SPRs and BCRs using formats and procedures IAW TBMCS SPR/BCR Reporting and Processing Procedures Instruction.

d. Participate in JSAOS CM processes and in preparation and coordination of documents necessary to ensure deployment and sustainment of JSAOS on their respective platforms.

e. Review, comment, and vote (Services only) upon SPRs, BCRs, VPDs, fielding, and other issues, as appropriate.

f. Identify, program, budget, and provide for resources to support JCMB attendance by members and others as may be required.

g. Support Joint Interoperability Test Center (JITC) certification test planning and participate in JSAOS testing, as required, during development process.

h. Generate and submit air operations application and system requirements using procedures outlined in reference A.

5. BMC3 SPO

a. Ensures configuration control of JSAOS.

b. Conducts technical assessments to review, evaluate, and discuss JSAOS SPRs, BCRs, and requirements to determine cost, schedule, fiscal restraints, and impact. Provide this information to JCMB so informed decisions can be made.

c. Participates in and support JUGs, as required.

d. Prepares the VPD, or any changes to VPD, including prioritized JSAOS SPRs and/or BCRs, as required, and present relevant VPD items to JCMB.

e. Identifies, organizes, and executes near- and long-term software lifecycle management of JSAOS, to include documentation for all hardware, software, and system configurations.

f. Ensures SPRs and BCRs classified as joint (vice Service-unique or multi-Service) are clearly identified in all documentation.

g. Communicates with Services, Defense agencies, and program offices to identify, document, and evaluate software performance or interface problems.

h. Establishes a test environment for software testing and evaluation of all Service configurations to include:

(1) Participating in certification test planning led by JITC.

(2) Supporting the JITC certification process, including GCCS integration test environments and test executions, if required.

i. Distributes JCMB-approved software releases, as appropriate.

j. Coordinates with individual Service or agency SPOs on interoperability and testing issues.

k. Acts as Secretariat for the JCMB. This includes:

(1) Maintaining current list of voting representatives.

(2) Preparing agendas for meetings.

(3) Ensuring JCMB meeting support materials are prepared and distributed.

(4) Preparing minutes of JCMB for chairperson and distributing same within 30 days of meeting adjournment.

(5) Reviewing substantive issues and providing recommendations to chairperson.

(6) Monitoring status of all JSAOS SPRs and BCRs. Ensuring each SPR's and BCR's status (open or closed) is accurate.

(7) Coordinating and distributing items necessary for successful development and deployment of JSAOS in C/S/A systems by the BMC3 SPO.

(8) Administering JCMBs under the direction of Joint Staff, J-6V.

1. Determines configuration control of all COTS products and licenses that are common among the joint modules of TBMCS to ensure optimum purchase prices are provided to all.

6. Joint Interoperability and Engineering Organization. Conduct independent reviews and provide recommendations, as required.

ENCLOSURE B

PROCEDURES

1. General. The joint air operations software CM process provides for C/S/A JCMB representation. It also provides for a decision appeal process by which a voting member (including the chairperson) may nonconcur in the JCMB decision and declare that decision as a substantive issue. Appeals are forwarded to the chairperson of the GCC Review Board or Secretariat, MCEB for action, and/or decision, as appropriate. JCMBs shall be convened after coordination with Service voting members as described in the following paragraphs.

2. Planning. Participation in CM requires planning and preparation on the part of the JCMB membership. Services should ensure JCMB representation by personnel who are knowledgeable on JSAOS issues and familiar with their respective Service positions. JCMB agendas shall be disseminated as far in advance of each JCMB meeting as practical, normally a minimum of 10 days, consistent with factors bearing on JCMB issues.

3. JSAOS SPR and BCR Process. The JSAOS SPR and BCR process, as documented in the TBMCS Supplement to the Deficiency Report Entry and Mail System for TBMCS Problem Report/Baseline Change Request Reporting, starts with an assessment by USAF Major Command Software Support Facilities (or Service equivalents) of SPRs and BCRs received from their units and continues through JCMB-approved release of a JSAOS version or Service Pack by the SPO. Specific SPR and BCR reporting and processing procedures for TBMCS and/or JSAOS software, to include information field instructions, sample worksheets and submittal instructions, SPR priority definitions, and testing category definitions, can be downloaded from the TBMCS homepage (<https://cafc2.hanscom.af.mil/private/tbmcs/sprbcr/index.htm>).

a. CM Office. Once SPRs and/or BCRs are received, the TBMCS CMO will forward a compiled list and description of the SPRs and/or BCRs to the TBMCS Joint Requirements Planning Team and to other C/S/A representatives, as required, for their information and review. This information may be necessary for C/S/A representatives to prepare for their participation in TBMCS Application User Groups, as required.

b. Joint Application User Groups. If chartered by the JCMB, JUGs shall serve as joint forums between all TBMCS application managers and users of those applications determined to be joint. JUGs shall provide open forums in which all users have a voice by which to discuss issues of mutual concern, reach a consensus on those issues, and provide guidance and insight into the user's perspective (for the developers and implementers) with the objective of

improving the operational capabilities and utility of applications. Other specific JUG objectives include:

(1) Suggesting, coordinating, and evaluating changes and functional enhancements to applications to meet users' evolving operational requirements.

(2) Prioritizing open SPRs and BCRs for their particular application.

(3) Identifying information exchange requirements for their application.

c. JITC Certification Testing. JITC is responsible for any required test planning IAW ORD-defined objectives, controlling test execution, test analysis and reporting, and certification.

4. JSAOS Configuration Management Board

a. Nonmember Participants. Other participants, as designated by the chairperson or other JCMB members, may attend JCMB meetings to provide technical support and assistance. However, only voting members will state their organization's position and/or vote on JCMB decisions.

b. Taskings

(1) Review and approve all proposed software plans (VPDs, proposed emergency software fix, and Service Packs). In instances requiring emergency fixes, this may be accomplished via telephone. Every effort shall be made to forward pertinent hard-copy materials to voting members prior to start of emergency meetings.

(2) Review and approve operational test community data prior to recommendation of system of record or operational fielding of all software.

(3) Provide forum for members to address joint issues not adequately resolved at lower levels.

c. Agenda. The Secretariat will prepare and distribute an agenda and any C/S/A or allied issues prior to each JCMB meeting. Information regarding the JSAOS-specific SPRs and BCRs will be provided in advance by the BMC3 SPO to primary JCMB members.

d. Decisions

(1) Each Service will have one vote in the decision of each issue.

(2) The chairperson may vote to break ties.

(3) Decisions are determined by majority vote. An abstaining member casts no vote and is not counted either in the decision or in determining what constitutes a majority. If a voting member will not be attending, that member's vote may be submitted by letter, message, or other electronic means to arrive prior to the meeting to be considered. Decisions are reached by a tally of votes cast (in person or by letter or message from absent members). If an absentee vote becomes the deciding vote on issues where substantive new information is presented, the issue may be deferred to the next JCMB meeting. Should there be a decision to defer action because of substantive new information, all votes shall be recast when the issue is again on the agenda for another JCMB meeting. If a deferred item is vital to the release of software, a JCMB meeting, via phone or video teleconference, may be used to decide (after further analysis) the issue.

(4) Any JCMB voting member, including the chairperson, may declare a JCMB decision a substantive issue. This must be done before the end of the meeting, unless a voting member requests a delay period because of significant new information presented at the meeting. In this instance, a member has 5 working days to designate, in writing to the JCMB chairperson and other members, the decision as a substantive issue. Additionally, USAF Program Executive Office for Battle Management may designate a JCMB decision as substantive and has 5 working days to notify the JCMB chairperson and other JCMB members.

(a) The chairperson, JCMB, will forward substantive issues to the Secretariat, MCEB, or chairperson of the GCC Review Board (whichever forum is deemed more appropriate by the chairperson), along with a complete explanation of the substantive issue, within 10 working days of receipt. Forwarded details will include full rationale for the decision made by the JCMB, contrary views, and the specific recommendation of the chairperson, JCMB. Information copies will be provided to all voting JCMB members.

(b) Notification of decisions on issues forwarded to the MCEB, or GCC Review Board, will be disseminated to JCMB members by the Secretariat, JCMB, once their decisions are announced.

5. Procedures for JSAOS-Related SPRs and BCRs -- Origination of SPRs and BCRs. When problems are detected or new requirements are established, C/S/A or host system managers of systems using JSAOS, shall submit SPRs and BCRs to their respective C/S/A representatives for review prior to forwarding to the BMC3 SPO's CMO. This review ensures SPRs and BCRs are clear, complete, consistent, and are not duplicated.

6. Characterization of SPRs. SPRs shall be characterized by the sponsor IAW the following prior to submission:

a. If the problem is a C/S/A-unique requirement (i.e., Service-unique function, interface, or capability) the sponsor must prepare the necessary documents and provide funding to the BMC3 SPO.

b. If the problem is determined to be with the United States Message Text Format (USMTF) Standard (MIL-STD 6040), the sponsor will convert the SPR to an interface change proposal (ICP) and forward it according to Enclosure C, reference b.

c. Priority 1-2 SPR(s). An SPR that is validated as a Priority 1 or 2 shall be handled IAW emergency procedures in the TBMCS Supplement to the Deficiency Report Entry and Mail System for TBMCS Problem Report/Baseline Change Request Reporting. An emergency meeting of the computer software configuration item functional manager(s) is convened and results are presented to an emergency JCMB meeting. The JCMB shall be conducted by telephone, teleconference, or other electronic means with the voting membership of the JCMB. The JCMB shall provide direction for maintainers and developers to deliver the SPR fix.

d. Priority 3-5 SPR(s). SPRs validated as Priorities 3 through 5 shall also be handled IAW normal procedures in the TBMCS Supplement to the Deficiency Report Entry and Mail System for TBMCS Problem Report/Baseline Change Request Reporting.

7. Characterization of BCRs. BCRs are prepared to request enhancement of a system when although the system works as it should, the submitter is proposing changes to add new efficiency, effectiveness, or capability. Except for instances outlined below, BCRs shall be submitted and processed IAW the TBMCS Supplement to the Deficiency Report Entry and Mail System for TBMCS Problem Report/Baseline Change Request Reporting.

a. If a BCR is a C/S/A-unique requirement (i.e., Service-unique function, interface, or capability), the sponsor must prepare necessary documents and provide funding to BMC3 SPO.

b. If a BCR is determined to be a USMTF Standard (MIL-STD 6040) change, the sponsor will convert the BCR to an ICP and forward it according to Enclosure C, reference b.

8. C/S/A-Developed Mission Applications. C/S/A-developed mission applications may be proposed as candidates to become JSAOS. Proposals

should be made through applicable Service component to the JCMB. Minimum criteria for consideration of any proposals for entry to JSAOS CM processing are as follows:

- a. Application satisfies a validated JSAOS requirement.
- b. Application is Defense Information Infrastructure Common Operating Environment Level 7 compliant.
- c. Application has an identified executive and/or product agent who shall be responsible for lifecycle maintenance.
- d. Application has an identified subject matter expert.
- e. Application has a documented program cost, schedule, and performance baseline.
- f. Application's data must comply with DOD directives outlined in Enclosure C, reference c.
- g. Application has necessary documentation for lifecycle support. C/S/As will provide to BMC3 SPO hard copy and electronic documentation. Minimum documentation requirements are:
 - (1) User's manuals.
 - (2) System administrator manuals.
 - (3) Installation procedures.
 - (4) Software version description.
 - (5) Interface design and control document.
 - (6) Software test plan, description, and report.
 - (7) Training materials.

9. Product Release Criteria. Besides complying with entrance criteria outlined above, a product shall only be released after the JCMB has received positive results from evaluations in the following areas and deemed a product ready for release.

- a. Security.

- b. Interoperability.
- c. Functional user assessment (effectiveness and suitability).
- d. Operational test (effectiveness and suitability).

10. Configuration Audits. Configuration audit responsibilities (e.g., functional configuration audits) remain with developing C/S/As. Audit results shall be provided to the JCMB, when requested.

ENCLOSURE C

REFERENCES

- a. Theater Battle Management Core Systems Requirements Planning Team (RPT) Charter, 1 April 2002
- b. USMTF Configuration Control Board Charter and Joint Interoperability and Engineering Organization Circular 9153, Implementation Procedures for the USMTF Configuration Control Board, March 1995
- c. DOD Directive 8320.1, DOD Data Administration, 26 September 1991

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GLOSSARY

PART I -- ABBREVIATIONS AND ACRONYMS

ATO	air tasking order
BCR	Baseline Change Request
BMC	Battle Management Command, Control, and Communications
C2	command and control
CM	configuration management
CMO	Configuration Management Office
COTS	commercial off-the-shelf
C/S/A	combatant command, Service, and/or Defense agency
GCC	global command and control
GCCS	Global Command and Control System
IAW	in accordance with
ICP	interface change proposal
JCMB	Joint Configuration Management Board
JITC	Joint Interoperability Test Center
JSAOS	joint standard air operations software
JUG	joint application users group
MCEB	Military Communications Electronics Board
ORD	Operational Requirements Document
SPO	System Program Office
SPR	Software Problem Report
TBMCS	Theater Battle Management Core System
USAF	United States Air Force
USMTF	United States Message Text Format
VPD	Version Planning Document

PART II -- TERMS AND DEFINITIONS

baseline. The description of a configuration. It is essentially a parts list, stating precisely and unambiguously which components (software and hardware) make up a given configuration. Since baselines also change, they are configuration items in their own right. More important, baselines serve as a reference point in the development of a system. Once a baseline is established, all subsequent changes are described relative to it until the next baseline is recorded. All software and hardware associated with a version release, once released, is **the** baseline.

Baseline Change Request. A request or suggestion for adding a function not currently documented as a system requirement or a suggested change to improve the way an existing feature operates. Also called BCR.

software application. A piece or bundle of software that a user executes to accomplish a stated capability.

Software Problem Report. A deficiency to a documented functional requirement of a system; i.e., something within the scope of the existing software and/or documentation is not functioning as specified. Also called SPR.