



Department of Defense **INSTRUCTION**

NUMBER 8420.02
September 15, 2016

DoD CIO

SUBJECT: DoD Satellite Communications (SATCOM)

References: See Enclosure 1

1. **PURPOSE.** Pursuant to the authority in DoD Directive (DoDD) 5144.02 (Reference (a)), this instruction:

a. Establishes policy, assigns responsibilities, and provides direction for the planning, acquisition, fielding, allocation, management, and use of SATCOM resources as a component of the DoD information enterprise.

b. Cancels References (b) through (g).

2. **APPLICABILITY.** This instruction applies to:

a. OSD, the Military Departments (MILDEPs), the Office of the Chairman of the Joint Chiefs of Staff (CJCS) and the Joint Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities within the DoD (referred to collectively in this instruction as the "DoD Components").

b. DoD SATCOM resources, as defined herein, to include DoD-owned and -operated SATCOM resources, DoD-owned SATCOM resources operated by non-DoD entities, SATCOM resources acquired by the DoD from commercial providers, and DoD's use of SATCOM resources allocated for DoD use by the U.S. Government (e.g., federal, civil), international partners, or allied partners.

c. Nothing in this instruction alters or supersedes the existing authorities and policies of the Director of National Intelligence regarding the protection of sensitive compartmented information or timely transmission of critical intelligence as directed by Executive Order 12333 (Reference (h)) and other laws and regulations.

3. POLICY. It is DoD policy that:

a. DoD SATCOM resources constitute the SATCOM segment of the DoD information networks (DODIN) and, within the cyberspace domain, must be operated and protected as part of the DoD information enterprise.

b. DoD SATCOM matters will be addressed collaboratively through the policy guidance and oversight framework for the DoD information enterprise and the DoD space enterprise.

c. DoD SATCOM resource management comprises the requirements management, architecture planning, acquisition and fielding, resource allocation, and service management functional areas, as defined herein. Operational aspects of DoD SATCOM resource management are encompassed within the resource allocation and service management functional areas.

d. DoD SATCOM user requirements (referred to in this instruction as “user requirements”), including associated CJCS priority for communications service, will provide detailed insight into current and future warfighter needs.

(1) Approved user requirements will inform, and constitute a basis for, architecture planning and resource allocation decisions.

(2) The SATCOM Database (SDB) will serve as the authoritative, comprehensive repository of approved user requirements for:

(a) SATCOM resource access by any DoD user.

(b) DoD SATCOM resource access by any non-DoD user.

e. DoD SATCOM architecture planning will: be informed by user requirements and current system Functional Availability Reports (FARs); inform replenishment decisions; help synchronize acquisition and fielding of DoD SATCOM resources; and maximize operational utility for authorized users.

(1) The DoD SATCOM architecture will describe and foster an interoperable, secure, resilient, joint DoD information enterprise that utilizes shared information technology (IT) infrastructure, enterprise services, and single security architecture to achieve full-spectrum superiority. It will realize IT and National Security Systems (NSS) efficiencies, increase security, and improve mission effectiveness through seamless and integrated connectivity.

(2) DoD SATCOM resources must be sized to satisfy those user requirements that cannot be satisfied via terrestrial means or that must be transported via SATCOM for operational reasons.

(3) Architecture planning will determine the optimum mix of SATCOM resources on the basis of cost effectiveness and mission needs.

(4) Technologies that support or enable spectrum agility and efficiency will be identified, assessed, fostered, and incorporated into DoD SATCOM architectures as applicability and technological maturity warrant.

f. DoD SATCOM resources must be acquired and fielded consistent with architecture planning activities and resulting decisions.

(1) The DoD must pursue cost savings where practical.

(2) The DoD must proactively mitigate DoD SATCOM supply risks when it is anticipated that constrained supply may negatively impact military operations.

(3) DoD SATCOM resource acquisition and fielding must include testing and certification activities, as necessary, to comply with DoD Instructions (DoDIs) 5000.02, 8330.01, 4630.09, 4650.01, and 3222.03 (References (i) through (m)), to demonstrate compliance with performance specifications, ensure interoperability and electromagnetic compatibility, and satisfy additional testing and certification, as necessary, to demonstrate readiness for operational use as intended.

(4) Satellite orbital slots, spectrum, host nation agreements (HNAs), and other access agreements established through international engagement forums or government-to-government negotiations must be defended, preserved and, where necessary, expanded.

(5) Acquisition and fielding must include provisions for usage monitoring and situational awareness information, as necessary, to provide visibility of SATCOM resource usage relative to allocation and support validated service management requirements.

g. DoD SATCOM resources must be allocated to authorized users in conformance with approved user requirements and CJCS priority for communications service.

h. DoD SATCOM service management must be integrated into all levels of DODIN management to ensure operational responsiveness, flexibility, and resiliency.

(1) Situational awareness information (e.g., fault, configuration, accounting, performance, and security information) must inform DoD SATCOM service management decisions and actions including, but not limited to, fault detection, correlation, and resolution.

(2) Management mechanisms such as policy-based management (PBM), dynamic reallocation, and positive terminal control must be employed to improve resiliency and maximize DoD SATCOM resource usage efficiency.

(3) Electromagnetic interference (EMI) detection, geolocation, and mitigation capabilities will be employed to meet validated service management requirements and foster the resilience goal of operating through EMI, whether intentional, inadvertent, or environmental.

4. RESPONSIBILITIES. See Enclosure 2.

5. PROCEDURES. See Enclosure 3.

6. INFORMATION COLLECTION REQUIREMENTS. The Commercial SATCOM (COMSATCOM) usage and expenditure annual report, referred to in paragraphs 1.l., 2.b., and 4.c. of Enclosure 2 of this instruction, has been assigned report control symbol DD-CIO(A)2623 in accordance with the procedures in Volume 1 of DoD Manual 8910.01 (Reference (n)).

7. RELEASABILITY. **Cleared for public release**. This instruction is available from the DoD Issuances Website at <http://www.dtic.mil/whs/directives>.

8. EFFECTIVE DATE. This instruction is effective September 15, 2016.



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ENCLOSURE 1

REFERENCES

- (a) DoD Directive 5144.02, "DoD Chief Information Officer (DoD CIO)," November 21, 2014
- (b) Office of the Assistant Secretary of Defense For Networks and Information Integration, "Policy for the Planning, Acquisition, and Management of Commercial Satellite Communications Fixed Satellite Services (FSS)," December 14, 2004 (hereby cancelled)
- (c) Assistant Secretary of Defense For Command, Control, Communications, and Intelligence, "Department of Defense (DoD) Policy on Procurement of Mobile Satellite Services (MSS)," August 29, 2001 (hereby cancelled)
- (d) Office of the Assistant Secretary of Defense For Networks and Information Integration, "Amendment to the Department of Defense (DoD) Policy on Procurement of Mobile Satellite Services (MSS)," May 9, 2006 (hereby cancelled)
- (e) Office of the Assistant Secretary of Defense For Networks and Information Integration, "Commercial Satellite Communications (SATCOM) Task Orders and the Satellite Database (SDB)," December 19, 2008 (hereby cancelled)
- (f) Department of Defense Chief Information Officer, "Department of Defense Policy for Transmission of Internet Protocol Over DoD-Leased and DoD-Owned Transponded Satellite Communications Systems," February 10, 2006 (hereby cancelled)
- (g) Assistant Secretary of Defense For Command, Control, Communications, and Intelligence, "Acquisition Guidance for the Teleport Program," July 10, 2001 (hereby cancelled)
- (h) Executive Order 12333, "United States Intelligence Activities," December 4, 1981, as amended
- (i) DoD Instruction 5000.02, "Operation of the Defense Acquisition System," January 7, 2015
- (j) DoD Instruction 8330.01, "Interoperability of Information Technology (IT), Including National Security Systems (NSS)," May 21, 2014
- (k) DoD Instruction 4630.09, "Wireless Communications Waveform Development and Management," July 15, 2015
- (l) DoD Instruction 4650.01, "Policy and Procedures for Management and Use of the Electromagnetic Spectrum," January 9, 2009
- (m) DoD Instruction 3222.03, "DoD Electromagnetic Environmental Effects (E3) Program," August 25, 2014, as amended
- (n) DoD Manual 8910.01, Volume 1, "DoD Information Collections Manual: Procedures for DoD Internal Information Collections," June 30, 2014, as amended
- (o) DoD Instruction 8100.04, "DoD Unified Capabilities (UC)," December 9, 2010
- (p) DoD Directive 8000.01, "Management of the Department of Defense Information Enterprise (DoD IE)," March 17, 2016
- (q) DoD Directive 5105.79, "DoD Senior Governance Councils," May 19, 2008
- (r) DoD Directive 5105.19, "Defense Information Systems Agency (DISA)," July 25, 2006
- (s) DoD Directive 3000.06, "Combat Support Agencies (CSAs)," June 27, 2013, as amended
- (t) DoD Directive 5000.01, "The Defense Acquisition System," May 12, 2003
- (u) DoD Directive 5134.01, "Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L))," December 9, 2005, as amended

- (v) DoD Instruction 8580.1, "Information Assurance (IA) in the Defense Acquisition System," July 9, 2004
- (w) Title 10, United States Code
- (x) DoD Instruction 8115.02, "Information Technology Portfolio Management Implementation," October 30, 2006
- (y) DoD Instruction 8410.02, "NetOps for the Global Information Grid (GIG)," December 19, 2008
- (z) DoD Directive 5100.01, "Functions of the Department of Defense and Its Major Components", December 21, 2010
- (aa) DoD Instruction 3100.12, "Space Support," September 14, 2000
- (ab) DoD Directive 5101.02E, "DoD Executive Agent (EA) for Space," January 25, 2013
- (ac) Office of the Deputy Secretary of Defense, "Designation of the Principal DoD Space Advisor," October 5, 2015
- (ad) Office of the Deputy Secretary of Defense, "Management Process for the Deputy Secretary of Defense," October 6, 2011
- (ae) Chairman of the Joint Chiefs of Staff Instruction 5123.01G, "Charter of the Joint Requirements Oversight Council (JROC)," February 12, 2015
- (af) Office of the Deputy Secretary of Defense, "Department of Defense Information Technology Governance Process," November 10, 2014
- (ag) Office of the President of the United States, "Unified Command Plan," April 6, 2011, as amended
- (ah) Office of the President of the United States, "National Security Strategy," May 2010
- (ai) National Security Directive 42, "National Policy for the Security of National Security Telecommunications and Information Systems," July 5, 1990
- (aj) Committee on National Security Systems Policy No. 12, "National Information Assurance Policy for Space Systems Used to Support National Security Missions," November 28, 2012¹
- (ak) DoD Instruction 8500.01, "Cybersecurity," March 14, 2014
- (al) DoD Instruction 8581.01, "Information Assurance (IA) Policy for Space Systems Used by the Department of Defense," June 8, 2010
- (am) DoD Instruction 8410.03, "Network Management (NM)," August 29, 2012
- (an) Defense Information Systems Agency (DISA) Security Technical Implementation Guides for U.S. DoD Information Technology systems, current edition
- (ao) Radio Regulations of the International Telecommunications Union (ITU), current edition
- (ap) Joint Publication 1-02, "Department of Defense Dictionary of Military and Associated Terms," current edition
- (aq) Title 40, United States Code
- (ar) Title 44, United States Code

¹ <https://www.cnss.gov/CNSS/issuances/Policies.cfm>

ENCLOSURE 2

RESPONSIBILITIES

1. DoD CHIEF INFORMATION OFFICER (DoD CIO). The DoD CIO:

a. Provides strategy and policy on the operation and protection of the SATCOM segment of the DODIN in the cyberspace domain, including:

(1) Development and promulgation of communications architecture requirements and technical standards.

(2) Enforcement, operation, and maintenance of systems, interoperability, collaboration, and interface between DoD and non-DoD systems.

b. Provides guidance and oversight for DoD SATCOM network operations, including:

(1) Standards for defense and protection.

(2) Support to military and joint missions.

(3) Standards for resiliency and reliability.

c. Establishes policy and provides oversight for all DoD SATCOM networks that support unified capabilities (UC) consistent with DoDI 8100.04 (Reference (o)).

d. Assesses, in coordination with the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)), the integration and synchronization of DoD SATCOM activities and resources within the DoD information enterprise, in accordance with DoDD 8000.01 (Reference (p)). Identifies integration and synchronization issues, and provides communications architecture planning guidance incorporating change actions, as necessary, to the Secretary of Defense, Deputy Secretary of Defense, heads of Components, and senior decision and advisory forums, as defined in DoDD 5105.79 (Reference (q)).

e. Defines, in coordination with the USD(AT&L) and the CJCS, synchronization criteria, including the metrics required to gain insight into DoD SATCOM resource synchronization, and provides guidance for the measurement, analysis, and reporting of those metrics.

f. Defines standards for developing and maintaining enterprise-level communications architecture and roadmap products (including, but not limited to, a DoD SATCOM enterprise architecture), as necessary, for effective DoD SATCOM resource planning.

g. Coordinates with and assists the Under Secretary of Defense for Intelligence (USD(I)), USD(AT&L), CJCS, and members of the Intelligence Community in producing SATCOM architectures, common standards, and policies for support of Intelligence Community

communications requirements and priorities for the timely transmission of critical intelligence in accordance with Secretary of Defense responsibilities under Reference (h).

h. Incorporates into communications architecture products those capabilities necessary to satisfy user requirements (including, but not limited to, interoperability requirements) and achieve efficiencies.

i. Conducts communications architecture analyses to determine sufficiency of DoD SATCOM resources to meet user demand (considering approved requirements in the SDB, demand modeling, operational resource commitments, and, for near-term analyses, resource allocation projections provided by the CJCS).

j. Develops the DoD SATCOM enterprise architecture and architecture planning guidance in coordination with the USD(AT&L) to inform acquisition and fielding decisions.

k. Establishes mechanisms, including business case analyses, to review investments for compliance with DoD SATCOM enterprise architectures, standards, and policy.

l. In coordination with the CJCS, provides guidance to DoD Components for reporting COMSATCOM usage and expenditures.

m. Provides DoD SATCOM enterprise architecture and architecture planning guidance, including an Annual Wideband SATCOM Plan, to the Principal DoD Space Advisor (PDSA) to inform space architecture activities that support and enable the SATCOM segment of the DODIN.

n. Reviews and approves the consolidation and establishment of new enterprise gateways and transfer of enterprise gateways and associated strategic SATCOM terminals between MILDEPs and Defense Agencies.

o. In coordination with the USD(AT&L), the Director of Cost Assessment and Program Evaluation, and the CJCS, reviews approved user requirements associated with programs of record (PORs) and the DoD SATCOM enterprise architecture to inform program decisions.

p. In coordination with the USD(AT&L) and the CJCS, defines DoD-wide standards for a terminal certification process that integrates terminal certification, to the maximum degree practical, into the regulatory framework for interoperability assessment. Standards will provide cost visibility, ensure timely and efficient certification, avoid duplicative testing activities, and establish criteria to minimize recursive testing due to terminal configuration changes.

q. Leads DoD SATCOM international cooperation efforts in coordination with the Under Secretary of Defense for Policy. In cooperation with international partners, coordinates DoD SATCOM activities including, but not limited to, serving as the lead for North Atlantic Treaty Organization (NATO) SATCOM activities and participating in standardization agreements development and interoperability efforts through representational functions at NATO committees and working groups.

r. Reviews requests from DoD Components for waiver of the provisions in this instruction and provides disposition on such requests.

s. Provides policy guidance, in consultation with the USD(I), to the National Security Agency (NSA) regarding network operations and cybersecurity matters in support of the SATCOM enterprise.

2. DIRECTOR, DEFENSE INFORMATION SYSTEMS AGENCY (DISA). Under the authority, direction, and control of the DoD CIO, in addition to the responsibilities in section 4 of this enclosure, and in accordance with DoDD 5105.19 (Reference (r)), the Director, DISA:

a. Administers the SDB of current and future user requirements for the CJCS.

b. Through direction from the DoD CIO, supports CJCS with COMSATCOM data collection and operational usage, bandwidth, and expenditure reports, in accordance with DoDD 3000.06 (Reference (s)).

c. Pursuant to DoD CIO guidance and in coordination with the CJCS and Commander, United States Strategic Command (CDRUSSTRATCOM), performs DoD SATCOM user demand modeling to inform architecture planning activities.

d. In coordination with DoD Components, performs systems engineering and provides systems engineering support for the SATCOM segment of the DODIN to ensure DoD SATCOM resources are planned, operated, maintained, managed, and improved effectively and efficiently to satisfy interoperability and mission requirements.

e. In accordance with command and control responsibilities assigned in Reference (r), provides enterprise-level SATCOM development, integration, and management services and support for interagency, strategic, allied, multinational, coalition, joint, and combined command and control capabilities.

f. Helps the CJCS identify DoD SATCOM situational awareness information necessary for effective DODIN operational management, including, but not limited to, the configuration and operational status of DoD SATCOM resources.

g. Serves as the lead for acquisition of COMSATCOM services to meet the needs of DoD Components, consistent with approved user requirements and funding provided by the requesting DoD Component.

h. Helps DoD Components specify and document their technical requirements for COMSATCOM resources to inform acquisition and fielding.

i. Ensures that COMSATCOM resource acquisition includes provisions requiring COMSATCOM resource providers to help the DoD detect, geolocate, and mitigate EMI.

j. In coordination with the CJCS and Services, leads development and maintenance of an enterprise gateway architecture and implementation plan that complies with SATCOM architecture planning guidance and serves as a basis for planning, programming and budgeting for enterprise gateway SATCOM resources by all DoD Components. Submits the plan and updates to the DoD CIO and USD(AT&L) for approval.

k. Develops and maintains the Approved Products List of certified products that provide UC over the SATCOM segment of the DODIN.

l. Processes and submits, to the appropriate DoD CIO governance forum, letters of DODIN standards compliance for DoD SATCOM systems, and coordinates with the CJCS in issuing waivers, as appropriate.

m. Maintains and directs a major field independent operational test capability through the Joint Interoperability Test Command (JITC) for operational test and evaluation to ensure compliance with approved DoD SATCOM standards, Reference (i), and DoDD 5000.01 (Reference (t)).

n. Through the JITC, serves as the interoperability certification authority for products that support UC over the SATCOM segment of the DODIN and as the information assurance certification authority for products that support UC over the SATCOM segment of DISA-owned or -operated networks.

o. Establishes security requirements in the development of Security Technical Implementation Guides (STIGs) for products that provide UC over the SATCOM segment of the DODIN, and verifies compliance with such STIGs during assessments or inspections.

p. Establishes requirements for, and oversees and maintains the approval processes related to, the connection of SATCOM resources to the Defense Information Systems Network (DISN).

q. Conducts actions to obtain, defend, and renew HNAs for all strategic SATCOM terminals at enterprise gateways.

r. Helps DoD Components coordinate actions to obtain, defend, and renew HNAs for tactical terminal use.

s. Provides technical expertise to ensure that SATCOM-DODIN integration technical considerations are fully incorporated into overall DODIN planning, management, and engineering.

t. In coordination with the CJCS and Services, performs configuration management of all enterprise gateway SATCOM resources acquired and sustained under responsibilities herein, and leads coordination of enterprise gateway configuration management actions by all DoD Components.

3. USD(AT&L). As the Defense Acquisition Executive in accordance with DoDD 5134.01 (Reference (u)), the USD(AT&L):

a. Ensures that DoD SATCOM resource acquisition conforms to References (i), (t), (u), and DoDI 8580.1 (Reference (v)).

b. Provides procedures, guidance, and program direction on DoD SATCOM resource acquisition through acquisition decision memorandums.

c. As co-chair of the Council on Oversight of the National Leadership Command, Control and Communications System (CONLC3S), as established by section 171a of Title 10, United States Code (Reference (w)), evaluates all SATCOM programs that contribute to the National Leadership Command Capability (NLCC) and addresses any related critical gaps.

d. Oversees all acquisition category I – Defense Acquisition Board (ACAT ID) SATCOM programs to ensure that those programs deliver to their required capabilities.

e. Assesses synchronization and funding for the acquisition and delivery of operational components necessary to achieve SATCOM programs' full operational capability, and identifies instances of non-synchronized programs.

f. In coordination with DoD CIO, provides reports to congressional defense committees on integration of acquisition and fielding schedules for segments of major SATCOM acquisition programs (i.e., satellites, ground equipment, and user terminals, including those provided by related programs, necessary to fully exploit capabilities enabled by satellites) and funding for such programs.

g. Provides acquisition oversight of ACAT 1D DoD SATCOM resources, as defined herein, and inter-program dependencies on DoD SATCOM resources to ensure the maximum practical degree of synchronization and timely acquisition and fielding to meet warfighter needs.

h. Designates lead for acquisition of SATCOM resources designated as major defense acquisition programs or major automated information systems, in accordance with the authorities in Reference (i).

4. DoD COMPONENT HEADS. The DoD Component heads:

a. Submit current and future user requirements in accordance with the CJCS-defined process for formulation, submission, review, and approval of user requirements in the SDB.

b. Request SDB waivers in accordance with the CJCS-defined process to address urgent or short-duration DoD SATCOM access needs.

c. Prepare and submit to the Director, DISA, COMSATCOM usage and expenditure information in accordance with content guidance provided by the DoD CIO.

d. Ensure that the DoD SATCOM resource acquisition and fielding activities under their purview include:

(1) Alignment to the DoD SATCOM enterprise architecture developed and maintained by DoD CIO in coordination with the USD(AT&L).

(2) Development and maintenance of applicable documentation, including concepts of operations (CONOPS), initial capabilities documents, capability development documents, and capability production documents, to include development and certification of the Net Ready Key Performance Parameter (NR KPP) for DoD Component IT, in accordance with Reference (j).

(3) Provisions for systems' regular reporting of situational awareness information consistent with CJCS guidance.

e. Plan, program, and budget for development, acquisition, and sustainment of enterprise gateway resources, in accordance with the enterprise gateway architecture and implementation plan.

f. Budget and provide funding for COMSATCOM services (including, but not limited to, acquisition of COMSATCOM services to meet well-defined, long-term demand). Report acquisition of COMSATCOM services as an IT investment and provide a business case analysis for acquisition approach in accordance with Reference (p) and DoDI 8115.02 (Reference (x)).

g. In coordination with the Director, DISA, prepare and submit to the Director, DISA, for approval all COMSATCOM resource acquisition requests, citing the applicable approved user requirement(s).

h. In coordination with the Director, DISA, or as alternatively provided for in COMSATCOM services contracts, prepare and submit to the Director, DISA, for approval all COMSATCOM contract modification requests.

i. Perform actions to obtain, defend, and renew HNAs for tactical terminal use.

j. Ensure that DoD SATCOM resource allocation and service management activities include timely reporting of situational awareness information consistent with CJCS guidance.

k. Operate allocated DoD SATCOM resources consistent with access authorizations and respective user requirements, establishing access and restoral priorities for all subordinate units in accordance with appropriate strategic plans as defined herein, including, but not limited to, operation plan (OPLAN), concept plan (CONPLAN), functional plan (FUNCPLAN), operation order (OPORD), or mission requirements.

l. Plan, develop, implement, and execute NetOps functions across DoD Component-operated portions of the DODIN, in accordance with DoDI 8410.02 (Reference (y)).

m. Designate, in coordination with the CJCS, types of configuration changes or operational sustainment actions that will or are likely to impact DoD SATCOM resource allocation or service management. Coordinate with the CJCS and other impacted DoD Components, including DISA in respect to enterprise gateways, to inform the planning for and execution of these types of actions. This includes, but is not limited to, equipment fielding, site modifications, significant funding or manning decrements, or other actions that might impact DoD SATCOM operations.

n. Submit requests for waiver of provisions in this instruction to the DoD CIO.

5. SECRETARIES OF THE MILDEPS. In addition to the responsibilities in section 4 of this enclosure, the Secretaries of the MILDEPs:

a. Develop Service-level SATCOM operational concepts, procedures, and architectures.

b. Prepare and submit Service-specific projected SATCOM user requirements to the SDB in accordance with the CJCS-defined process for formulation, submission, review, and approval of user requirements.

c. Identify to the USD(AT&L), DoD CIO, CJCS, and PDSA, through the planning, programming, budgeting, and execution process, the details and effects of budget decrements, fiscal shortfalls, and funding redistributions on current and future SATCOM resources.

d. Allocate COMSATCOM services acquired by the DoD Component that are not enterprise DoD SATCOM resources, and ensure timely reporting of situational awareness information for those resources consistent with CJCS guidance.

e. Perform operations and maintenance and, in coordination with the CJCS and DISA in respect to enterprise gateways, perform facility configuration management of MILDEP-controlled facilities that host SATCOM gateways, in accordance with authorities in sections 3062, 5062, 5063, and 8062 of Reference (w).

6. SECRETARY OF THE ARMY. In addition to the responsibilities in sections 4 and 5 of this enclosure, the Secretary of the Army:

a. Organizes, trains, equips, and provides forces, as directed, consistent with DoDD 5101.01 (Reference (z)), for:

(1) Systems comprising the communications satellite payload control segment of DoD-owned and -operated wideband SATCOM resources.

(2) Army ground SATCOM terminals (including Service-specific SATCOM gateways) and Army airborne SATCOM terminals. Coordinates with designated satellite acquisition components and terminal installation offices to ensure implementation of all user capability requirements those terminals are intended to provide.

b. In coordination with DISA, develops tools and planning processes that manage user access to communications satellite payloads of narrowband and wideband DoD SATCOM resources.

7. SECRETARY OF THE NAVY. In addition to the responsibilities in sections 4 and 5 of this enclosure, the Secretary of the Navy:

a. Organizes, trains, equips, and provides forces, as directed, consistent with Reference (z), for:

(1) DoD-owned and -operated narrowband SATCOM space-segment resources.

(2) Systems comprising the communications satellite payload control segment of DoD-owned and -operated narrowband SATCOM resources.

(3) Navy shipborne, submarine, shore (including Service-specific SATCOM gateways), and naval aircraft SATCOM terminals. Coordinates with designated satellite acquisition components and terminal installation offices to ensure implementation of all user capability requirements those terminals are intended to provide.

b. Develops annual FARs, using assumptions based on architecture planning guidance issued by DoD CIO, detailing the status of narrowband SATCOM space segment components, including availability status and end-of-life projection, and provides the resulting product to the DoD CIO, USD(AT&L), and CJCS.

8. SECRETARY OF THE AIR FORCE.

a. In addition to the responsibilities in sections 4 and 5 of this enclosure, the Secretary of the Air Force:

(1) Organizes, trains, equips, and provides forces consistent with Reference (z), for:

(a) DoD-owned and -operated protected SATCOM space-segment resources.

(b) DoD investment (through procurement and capital lease) in enterprise DoD SATCOM resources comprising wideband SATCOM space-segment resources that operate in federal and non-federal frequency bands.

(c) Systems comprising the communications satellite payload control segment of DoD-owned and -operated protected SATCOM resources.

(d) Air Force ground and airborne terminals, strategic ground command post, and strategic nuclear command, control, and communications SATCOM terminals (including Service-specific SATCOM gateways). Coordinates with designated satellite acquisition components and terminal installation offices to ensure implementation of all user capability requirements those terminals are intended to provide.

(e) Space support mission functions, as defined in DoDI 3100.12 (Reference (aa)), pertaining to all DoD-owned SATCOM resources.

(2) In coordination with DISA, develops tools and planning processes that manage user access to communications satellite payloads of protected DoD SATCOM resources.

(3) Develops annual FARs, using assumptions based on architecture planning guidance issued by DoD CIO, detailing the status of protected SATCOM space segment and wideband SATCOM space segment components, including availability status and end-of-life projection, and provides the resulting product to the DoD CIO, USD(AT&L), and CJCS.

b. In accordance with DoDD 5101.02E (Reference (ab)) and the Deputy Secretary of Defense Memorandum (Reference (ac)), in his or her capacity as the PDSA, the Secretary of the Air Force:

(1) Oversees all DoD space matters, including policies, strategies, plans, programming, and architecture assessment across the DoD space enterprise.

(2) Acts as primary advisor on space matters to senior DoD Officials, including the Secretary and Deputy Secretary of Defense, the OSD Principal Staff Assistants, and the Chairman and Vice Chairman of the Joint Chiefs of Staff, as well as to the Deputy's Management Action Group (DMAG), as established by the Office of the Secretary of Defense Memorandum (Reference (ad)), the Joint Requirements Oversight Council (JROC), as established by Chairman of the Joint Chiefs of Staff Instruction 5123.01G (Reference (ae)), and the Defense Acquisition Board, as established by Reference (i).

(3) Reviews the DoD SATCOM enterprise architecture, including the Annual Wideband SATCOM Plan, and collaborates with and supports the DoD CIO with defining aspects of space architecture that support and enable the SATCOM segment of the DODIN.

(4) Serves as chair of the Defense Space Council (DSC), as established by Reference (ab), and advises the DoD CIO as Principal Staff Assistant for communications in regard to space matters that affect or involve DoD SATCOM. Coordinates with DoD CIO SATCOM governance structures, in accordance with the Deputy Secretary of Defense Memorandum (Reference (af)).

9. CJCS. In addition to the responsibilities in section 4 of this enclosure and in coordination with the other DoD Component heads, the CJCS:

- a. Defines processes and procedures for the formulation, submission, review, and approval of user requirements, including mechanisms to address urgent or short-duration needs.
- b. Provides near-term resource allocation projections to the DoD CIO for use in architecture planning (spanning the current year through the Future Years Defense Program (FYDP)) based on evolution of approved user requirements in the SDB, operational resource commitments, current and projected operational DoD SATCOM resources, CJCS Capability Gaps Assessment, and other applicable authoritative guidance and studies.
- c. Validates operational requirements for strategic SATCOM terminals, including high-demand, limited-quantity theater-deployable SATCOM assets.
- d. In coordination with DISA, performs operational impact assessments for enterprise gateway architectures and provides recommendations to the DoD CIO.
- e. As co-chair of the CONLC3S, evaluates and certifies SATCOM programs that contribute to the NLCC.
- f. Helps the DoD CIO and PDSA review approved user requirements associated with PORs against the DoD SATCOM enterprise architecture to inform program decisions.
- g. Provides specific guidance on preparation, format, content, timelines for submission, and review of the NR KPP for SATCOM terminals to ensure that testing required by acquisition and interoperability regulations minimizes time and cost of additional certification processes. Serves as NR KPP certification authority and manages the waiver process for certification for operational use of SATCOM terminals that have not received certification by means of interoperability assessment, in accordance with Reference (j).
- h. Identifies DoD SATCOM situational awareness information requirements, including network management data priorities, necessary for effective DODIN management, including, but not limited to, the configuration and operational status of all DoD SATCOM resources. Provides such information as guidance to DoD Components responsible for DoD SATCOM resource acquisition and fielding, resource allocation, and service management.
- i. Obtains situational awareness information related to the configuration and operational status of DoD SATCOM resources, and makes this information available to authorized users and other stakeholders in near real-time to support the planning, implementation, and sustainment of SATCOM resources.
- j. Defines processes and procedures for the allocation of enterprise DoD SATCOM resources to authorized users consistent with approved user requirements (or SDB waivers).

- k. Defines the process for escalation and resolution of resource allocation contention arising between DoD SATCOM users, and acts as the final adjudication authority on such matters.
- l. Provides guidance for the content, preparation, and issuance of access authorizations (as well as changes authorizations and preemptions, as applicable).
- m. Assesses resource allocation metrics and, in coordination with DoD CIO, implements enforcement mechanisms to improve compliance with user requirements and transmission plans, correct deficiencies, and improve efficiency.
- n. Defines DoD SATCOM service management processes and procedures necessary to establish and maintain operational services consistent with resource allocation decisions and corresponding access authorizations.
- o. Defines processes and functional capabilities necessary to support EMI detection, geolocation, and mitigation affecting DoD SATCOM resources.
- p. Coordinates planned and emergent outages to support software uploads, SATCOM system reconfigurations, new capability development, satellite redeployments, countermeasures deployment, and any additional events that affect the ability to deliver DoD SATCOM resources efficiently and effectively.
- q. Maintains correlation between approved user requirements and corresponding allocated resources, accounting for potentially-dynamic changes to both the requirements set and the servicing media and allocation.
- r. Maintains oversight of operational SATCOM activities and resources supporting Presidential and DoD requirements at all levels of conflict.
- s. Establishes requirements for information sharing over SATCOM with coalition partners.
- t. Reviews and forwards recommendations to the DoD CIO regarding proposed international agreements or other formal arrangements between the DoD and non-DoD entities for SATCOM resource sharing.
- u. Ensures that CJCS instructions and publications addressing SATCOM are updated and consistent with the policy and guidance in this instruction and coordinated with the DoD CIO.

10. CDRUSSTRATCOM. In addition to the responsibilities in section 4 of this enclosure, the CDRUSSTRATCOM:

- a. Synchronizes planning for cyberspace operations, including, but not limited to, directing DODIN operations and defense in accordance with the Unified Command Plan (Reference (ag)).
- b. Plans and conducts space operations in accordance with Reference (ag).

c. Ensures that CDRUSSTRATCOM instructions addressing SATCOM are updated and consistent with the policy and guidance in this instruction and coordinated with the DoD CIO.

ENCLOSURE 3

PROCEDURES

1. GENERAL

a. Matters related to compliance with SATCOM policy guidance, IT implementation, or adherence to prescribed standards that cannot be resolved within lower level forums or decision processes will be referred to the Command, Control, Communications, Computers and Cyber Leadership Board (C5LB) as the Department's designated principal governance forum for communications, including satellite-based communications, in accordance with Reference (af). The C5LB will elevate issues, as appropriate, to existing Defense Acquisition System, JROC, and planning, programming, budgeting and execution decision processes and senior advisory forums, including the DSC.

b. The procedures in this enclosure apply to all DoD SATCOM resources except where specifically noted.

2. REQUIREMENTS MANAGEMENT

a. The Joint Staff will direct and maintain the CJCS-defined processes and procedures for the formulation, submission, review, and approval of user requirements to inform architecture planning and resource allocation activities.

b. DISA will administer the SDB as the authoritative repository for approved user requirements. SDB content must include:

(1) Both current and future user requirements.

(2) CJCS-defined communications service priority information to inform resource allocation decisions.

(3) CONOPS, mission categories, user information, communications details, applicable media, and other content necessary to support the association of requirements with specific scenarios and analyses.

(4) To facilitate user demand modeling, all user requirements must be categorized on the basis of demand stability into one of three "layers," as defined in the Glossary.

c. The DoD Components must develop, review, and update user requirements in the SDB as necessary to maintain the accuracy of the requirements set and ensure mutually-consistent citation of reference documents that justify the need for SATCOM resources (e.g., OPLANs, CONPLANs, FUNCPLANs, OPORDs).

d. The Joint Staff will define and maintain an SDB waiver process.

(1) DoD Components may request SDB waivers for urgent or short-duration needs.

(2) SDB waivers must not be used in lieu of, or to circumvent, the normal SDB requirements process.

3. ARCHITECTURE PLANNING

a. DoD SATCOM resource usage and cost information will be collected by DoD Components and reported by DISA annually to provide visibility into usage patterns over time (e.g., usage by mission, frequency bands of operation, regions) and to inform DoD CIO spend analyses and other architecture planning activities in pursuit of IT efficiencies.

b. DISA will develop and employ modeling capabilities comprising scenario-based analyses and stochastic user demand modeling, separately or in combination, as necessary to inform DoD SATCOM architecture planning. User demand modeling will reflect:

(1) Historical DoD SATCOM resource usage.

(2) Planned DoD SATCOM resource fielding (e.g., quantities and schedules for fielding of satellites, SATCOM gateways, and user terminals).

c. In coordination with the Office of the USD(AT&L) and the CJCS, the Office of the DoD CIO will:

(1) Conduct analyses, as necessary, to provide insight into, and enable the timely planning and fulfillment of, DoD SATCOM resource modernization, replenishment, and replacement needs. Analyses will assess:

(a) Interoperability among DoD SATCOM resources and between SATCOM resources and the broader communications infrastructure.

(b) SATCOM enterprise resiliency to identify risks and shortcomings and recommend mitigation approaches, as appropriate.

(c) The synchronization of planned SATCOM acquisition and fielding to provide timely insight and identify shortcomings.

(2) Scope, develop, and maintain enterprise-level communications architecture and roadmap products (including, but not limited to, a DoD SATCOM enterprise architecture), as necessary, for effective DoD SATCOM resource planning. DoD SATCOM architecture and roadmap products will:

(a) Provide timely visibility into the DoD SATCOM resource functions, performance, and interface criteria necessary for efficient, standards-based, interoperable, resilient, secure communications.

(b) Provide timely visibility into the synchronization of SATCOM resources. Synchronization analysis will address:

1. The evolution of regional and worldwide demand and capacity over time.
2. Investment efficiency in terms of depreciation of SATCOM assets that cannot be utilized fully under defined operational conditions due to non-synchronization.
3. Operational constraints resulting from inter-dependencies with non-synchronized SATCOM resources.

(c) Provide timely visibility into DoD SATCOM mission support needs and capabilities to support those needs.

(d) Address DoD interoperability requirements in accordance with Reference (j), accounting for existing and planned DoD SATCOM resources and the equipment of joint, combined, and coalition forces, other U.S. Government departments and agencies, and non-governmental organizations.

(e) Account for DoD SATCOM standardization and interoperability with other segments of the DODIN.

(f) Account for DoD SATCOM resource sharing and interoperability with NATO and other international commitments.

(3) Develop and issue architecture planning guidance and action plans. This will be done at least annually in support of the program budget review process. Architecture planning guidance and action plans:

(a) Will assess resiliency and security in determining suitability of candidate SATCOM resources relative to mission needs, including, but not limited to: foreign ownership of service providers by designated nations of concern; command link encryption; and degree of U.S. control over communications satellite payloads and SATCOM gateway landing sites.

(b) Will propose “inventory” targets for DoD SATCOM resources sufficient to meet projected demand (as informed by the DoD SATCOM enterprise architecture, comprising well-defined, long-term demand (layer 1) as well as flexible-capacity demand related to the execution of DoD strategic plans (layer 2)).

(c) Must include a time component to support re-balancing of planning and programming for DoD SATCOM resources through the FYDP, informed by resource allocation projections provided by the CJCS.

(d) Will inform SATCOM Governance Framework forums, such as the DMAG, DSC, and CONLC3S for nuclear command and control communications related activities.

4. ACQUISITION AND FIELDING

a. The DoD Components must:

(1) Conduct DoD SATCOM acquisition and fielding in accordance with DoD acquisition policy, as provided in References (i), (t), and (v).

(2) Conduct DoD SATCOM acquisition and fielding in accordance with national and DoD security policy, strategy, and guidance, in accordance with the National Security Strategy (Reference (ah)), National Security Directive 42 (Reference (ai)), Committee on National Security Systems Policy 12 (Reference (aj)), DoDI 8500.01 (Reference (ak)), and DoDI 8581.01 (Reference (al)).

(3) Conduct DoD SATCOM acquisition and fielding in accordance with the DoD policy for network management outlined in DoDI 8410.03 (Reference (am)) and the DoD policy for spectrum management outlined in Reference (l).

b. Acquisition of DoD SATCOM resources by DoD Components should be informed by the DoD SATCOM enterprise architecture and architecture planning guidance formulated as a product of architecture planning.

(1) DoD SATCOM acquisition and fielding approaches and methodologies will include a business case analysis based on assumptions for utilization and balance cost, operational benefit, and risk.

(2) Use of mobile satellite services (MSS) to satisfy DoD user requirements will conform to the following:

(a) DoD Components with a requirement for MSS must:

1. Use contract vehicles prescribed by the Director, DISA, for procurement of MSS equipment and services. Requests for exception to this requirement must be submitted to the DoD CIO for consideration.

2. Leverage DoD's Enhanced Mobile Satellite Services (EMSS) infrastructure and capability investments by procuring DoD-approved EMSS user equipment through DISA's procurement process. Use of alternative MSS solutions (i.e., MSS that does not leverage the EMSS infrastructure and capability investments) will be permitted only when EMSS cannot satisfy the user requirement.

3. For non-EMSS solutions, procure equipment and services from MSS providers that can be secured by cryptography designed for the processing and transmission of classified information and evaluated and approved by the NSA, in accordance with References (ai), (aj), (ak), and (al).

(b) DISA will track and report MSS usage and costs annually to the DoD CIO. DoD Components authorized, by a DoD CIO-approved exception, to contract for MSS other than through DISA must track and report usage and expenditure information to DISA for inclusion in COMSATCOM usage and expenditure annual reporting.

c. DoD Components will ensure that DoD SATCOM acquisition and fielding includes provisions for monitoring, as necessary, to support validated resource allocation and service management requirements (within, or in conjunction with, all DoD SATCOM resource acquisition contracts) to:

(1) Provide visibility into bandwidth usage (relative to transmission plans) and reporting of such information.

(2) Support DODIN end-to-end service management functions, including fault detection and correlation and EMI detection, geolocation, and mitigation.

(3) Inform architecture planning activities and decisions.

d. DoD SATCOM acquisition and fielding decisions will consider the need for equipment certifications, registrations, and licensing.

(1) DoD SATCOM resources will be assessed and certified as compliant with applicable standards and specifications, including, but not limited to, waveform standards, performance specifications, and interoperability standards.

(2) DoD Components will ensure that testing programs in support of acquisition and product improvement of SATCOM terminals and other DoD SATCOM resources, including Component-sponsored commercial products, are planned in accordance with Reference (i) to accomplish efficiently all certifications required and specified under the regulatory framework of the acquisition and fielding process. The DoD CIO, in coordination with the USD(AT&L) and the CJCS, will ensure that requirements for terminal certification are integrated to the extent practical with interoperability assessment in accordance with Reference (j), and that objective criteria are defined and followed for determining the scope of terminal certification testing needs.

(3) DoD SATCOM equipment operating systems' configurations will be assessed and certified in accordance with the STIGs for U.S. DoD IT systems (Reference (an)).

(4) DoD-owned SATCOM resources will be registered and licensed to operate in accordance with the Radio Regulations of the International Telecommunications Union (ITU) (Reference (ao)).

(5) COMSATCOM resources that have not completed the ITU registration process successfully, or are licensed or registered by designated nations of concern, are precluded from acquisition consideration.

e. DISA will ensure that contractual provisions for acquisition of COMSATCOM services include designation of DoD Component responsibility for managing those resources.

5. RESOURCE ALLOCATION

a. The Joint Staff will:

(1) Conduct analyses (such as capability gap assessments), as necessary, to determine the sufficiency of DoD SATCOM resources to meet theater major OPLANs for normal and surge requirements.

(2) Define and maintain resource allocation projections iteratively to inform architecture planning activities, including development and maintenance of the DoD SATCOM enterprise architecture and associated architecture planning guidance.

(3) Define the processes and procedures for allocation to authorized users of operational DoD SATCOM resources.

(a) DoD SATCOM resource allocations must remain consistent with approved user requirements (or SDB waiver, as applicable).

(b) Requests for DoD SATCOM resource access absent citation of approved user requirements (or SDB waivers, as appropriate) will return to the DoD Component for correction and not be acted upon.

(4) Define the process for escalation and resolution of resource allocation contention arising between DoD SATCOM users and act as the final adjudication authority.

b. Resource allocation processes will yield a determination of supportability and, if supportable, an access authorization identifying the selected operational DoD SATCOM resource(s).

(1) DoD SATCOM access authorizations include technical and operational guidance for the management and use of allocated resources.

(2) Implementation and activation of DoD SATCOM resources must include verification of compliance with mission objectives (e.g., availability, performance).

6. SERVICE MANAGEMENT

a. The Joint Staff will define the DoD SATCOM situational awareness information necessary for effective management of the SATCOM segment of the DODIN so as to achieve the following outcomes:

(1) DoD SATCOM situational awareness information will inform resource allocation decisions, including issuance of access authorizations, preemption, and SATCOM resource reconfiguration, where applicable.

(a) Spectrum monitoring must include regular tracking and reporting of bandwidth usage as compared to respective transmission plans, across all operational DoD SATCOM resources.

(b) Traffic monitoring, implemented on a selective basis, as appropriate, will provide insights into resource usage (e.g., characterizing type of traffic relative to the respective allocation) and inform decision-making.

(2) DoD SATCOM situational awareness information and reporting to DODIN management systems will support performance management and timely communications fault correlation and resolution.

(3) Causes for DoD SATCOM resource outage or other performance non-compliance will be thoroughly investigated and corrective actions taken to prevent a recurrence.

b. DoD SATCOM service management activities conducted by DoD Components must establish and maintain operational services consistent with resource allocation decisions and corresponding access authorizations.

(1) DoD Components will implement and maintain a DoD SATCOM service management infrastructure, to include tools needed to manage diverse DoD SATCOM resources, in accordance with CJCS guidance.

(2) Upon detection of a DoD SATCOM resource outage or other performance non-compliance, service restoral must be accomplished in a timely manner, in accordance with CJCS guidance.

(3) DoD SATCOM service management will employ PBM solutions, where appropriate, to provide service restoral and dynamic reconfiguration, as necessary.

(4) Equipment maintenance and technology refresh will be conducted in a timely manner to ensure uninterrupted DoD SATCOM resource availability. For enterprise gateways, DISA and Joint Staff will ensure synchronization of refresh plans and other configuration changes through a collaborative coordination process, and elevate unresolved issues to the DoD CIO.

(5) DoD Components will implement clear and effective protocols for communications with DoD users throughout the DoD SATCOM resources' operational lifecycle—from resource allocation and initiation of services through service teardown and after-action reporting.

c. The Joint Staff will maintain correlation of approved user requirements to operational services, accounting for dynamic changes over the lifecycle of operational services to ensure that operational use remains consistent with approved user requirements.

GLOSSARY

PART I. ABBREVIATIONS AND ACRONYMS

ACAT ID	acquisition category I – Defense Acquisition Board
C5LB	Command, Control, Communications, Computers and Cyber Leadership Board
CC/S/A	Combatant Commands, Services, and Agencies
CDRUSSTRATCOM	Commander, United States Strategic Command
CJCS	Chairman of the Joint Chiefs of Staff
COMSATCOM	commercial satellite communications
CONLC3S	Council on Oversight of the National Leadership Command, Control and Communications System
CONOPS	concept of operations
CONPLAN	concept plan
DISA	Defense Information Systems Agency
DISN	Defense Information Systems Network
DMAG	Deputy’s Management Action Group
DoD CIO	DoD Chief Information Officer
DoDD	DoD Directive
DoDI	DoD Instruction
DODIN	DoD information networks
DSC	Defense Space Council
EMI	electromagnetic interference
EMSS	Enhanced Mobile Satellite Services
FAR	Functional Availability Report
FSS	fixed satellite services
FUNCPLAN	functional plan
FYDP	Future Years Defense Program
GHz	gigahertz

HNA	host nation agreement
IT	information technology
ITU	International Telecommunications Union
JITC	Joint Interoperability Test Command
JROC	Joint Requirements Oversight Council
MILDEP	Military Department
MSS	mobile satellite services
NATO	North Atlantic Treaty Organization
NLCC	National Leadership Command Capability
NR KPP	Net Ready Key Performance Parameter
NSA	National Security Agency
NSS	National Security Systems
OPLAN	operation plan
OPORD	operation order
PBM	policy-based management
PDSA	Principal DoD Space Advisor
POR	program of record
SATCOM	satellite communications
SDB	SATCOM Database
STIG	Security Technical Implementation Guide
UC	unified capabilities
USD(AT&L)	Under Secretary of Defense for Acquisition, Technology, and Logistics
USD(I)	Under Secretary of Defense for Intelligence

PART II. DEFINITIONS

Unless otherwise noted, these terms and their definitions are for the purpose of this instruction.

access authorization. The formal message sent to assign specific SATCOM resources to authorized users for a specific period of time. An access authorization message includes technical parameters and other information necessary to establish and maintain good order for resource usage.

acquisition and fielding. The process used to obtain and deliver DoD SATCOM resources for operational use, including those resources that enable associated resource allocation and service management capabilities.

adjudication. The appeal process employed as part of the resource allocation functional area that reviews a denied DoD SATCOM request for allocation.

allied partner. Those nations and international organizations (such as NATO) who participate in U.S.-led operations or exercises based on formal or ad-hoc agreements covering joint operations, including, but not limited to, coalition operations.

allocation projection. Expected DoD SATCOM resource allocation to DoD Components and other authorized users. Allocation projections inform architecture planning activities (e.g., resource sufficiency analyses). Allocation projections include a time component extending through the FYDP to account for projected changes in resource capacity and user demand, incorporating, for instance, all known and planned resource commitments for international partner and cooperation efforts.

architecture planning. The collaborative process by which SATCOM space segment, control segment, and terminal segment components are analyzed in relation to user requirements to inform engineering and business case decisions for SATCOM systems' acquisition, fielding, and use. The products of architecture planning include a DoD SATCOM enterprise architecture and architecture planning guidance to inform acquisition and fielding decisions and resource allocation.

commercial SATCOM gateway. A SATCOM transmission and receive capability owned by a commercial provider and equipped with SATCOM terminal(s), networking devices, baseband equipment, and transport devices that may be used to support DISN long-haul extension services.

communications satellite payload. Space segment SATCOM resource (i.e., communications mission package) that provides beyond-line-of-sight connectivity to provide communications and networking services to and from various points on and around Earth.

configuration management. The administration by a cognizant program manager or designated operations and maintenance lead of orderly and effective procedures, processes, assessments, and changes of hardware or software configuration baselines for SATCOM resources. Configuration management includes the planning, design, synchronization, integration, and implementation of

configuration changes to SATCOM resources, including facilities, infrastructure, and equipment layout, to achieve SATCOM and terrestrial network operational integrity and interoperability for authorized users. Configuration management excludes operational settings required specifically to execute operational tasks related to resource allocation and service management.

CONPLAN. Defined in Joint Publication 1-02 (Reference (ap)).

cyberspace. Domain characterized by the use of electronics and the electromagnetic spectrum to store, modify, and exchange data via networks, systems, and associated physical infrastructures.

cyberspace operations. The employment of cyber capabilities where the primary purpose is to achieve objectives in or through cyberspace. Such operations include computer network operations and activities to operate and defend the DODIN.

DISN. A composite of DoD-owned and -leased telecommunications subsystems, networks, and capabilities comprising facilities, personnel, and materiel under the management, control, and operational direction of DISA. The DISN provides the long-haul, point-to-point, and switched network telecommunications needed to satisfy the requirements of the DoD and certain other U.S. Government departments and agencies. DISN services interconnect the CJCS and the Combatant Commanders with general purpose networks. DISN assets are part of the Defense Communications System and are the DoD's national security emergency preparedness communications assets within the U.S. Government-wide national communications system.

DoD information. Defined in Reference (ak).

DoD information enterprise. Defined in Reference (p).

DoD IT. Defined in Reference (ak).

DoD SATCOM. DoD SATCOM comprises DoD-owned and -operated SATCOM resources, DoD-owned SATCOM resources operated by non-DoD entities, SATCOM resources acquired by the DoD from commercial providers, and SATCOM resources allocated by the U.S. Government (e.g., federal, civil SATCOM resources), international partners, or allied partners for DoD use. This definition is independent of any particular state of SATCOM resource allocation, be it to DoD Components or non-DoD entities. SATCOM resources set aside for international partners' use under the terms of a non-equivalent value exchange memorandum of understanding are excluded from this definition of DoD SATCOM.

DoD SATCOM enterprise architecture. A comprehensive federation of descriptions of current and planned DoD SATCOM resources and interface criteria to enable standards-based, interoperable SATCOM resources and integrated NetOps as part of the DODIN. These descriptions collectively define all DoD SATCOM resources in the current environment, provide a roadmap into the future, and include an assessment of how well DoD SATCOM resource deployment schedules are synchronized over time.

DODIN. The globally-interconnected end-to-end set of information capabilities and associated processes for collecting, processing, storing, disseminating, and managing information on-demand to warfighters, policymakers, and support personnel. DODIN includes owned and leased communications and computing systems and services, software (including applications), data, security services, other associated services, and NSS.

enterprise DoD SATCOM resources. DoD SATCOM resources acquired for joint use by DoD Components, to include resources acquired by Military Services pursuant to the authorities of sections 3062, 5062, 5063, and 8062 of Reference (w) and designated by the acquiring Military Service for joint use. Enterprise DoD SATCOM resources are allocated through CJCS-defined processes and procedures. Enterprise DoD SATCOM resources exclude, at the acquiring DoD Component's discretion, COMSATCOM services acquired: (1) via special acquisition authority, (2) under Combatant Commands, Services, and Agencies (CC/S/A) POR, (3) to support research and development initiatives, and (4) for rapid fielding of capabilities to mitigate current challenges and enhance support to CC/S/As.

enterprise gateway. A joint SATCOM transmission and receive capability installed within the boundary of the real property of a MILDEP or hosted user facility, equipped with SATCOM terminals, SATCOM modems, networking devices, baseband and encryption equipment, DISN services and transport devices that support the long-haul extension of the DISN, and special user transport and managed services to other strategic and tactical terminals. Not all enterprise gateways will have the entire complement of the aforementioned equipment.

FSS. Radio-communication service between earth stations at given positions, when one or more satellites are used; the given position may be a specified fixed point or any fixed point within specified areas. FSS communication satellites provide broadcast feeds to television stations, radio stations and broadcast networks and transmit information for voice, data, and telecommunications services. FSS also includes the radio communication associated with the operation of the satellite station (e.g., tracking, telemetry, and command functions). FSS operates in the C-, X-, Ku-, and Ka-bands.

FUNCPLAN. Defined in Reference (ap).

international partner. A nation that has a current, signed international agreement with the U.S. Government authorizing it to jointly produce, receive, provide, or exchange with the United States SATCOM resources in a particular SATCOM frequency band.

IT. Defined in section 11101 of Title 40, United States Code (Reference (aq)).

layering. Segmentation of user requirements by degree of demand stability:

layer 1 – Well-defined, long-term, stable requirements that are largely independent of crisis scenarios and changing OPLANs.

layer 2 – Flexible capacity requirements directly related to DoD strategic plans. This layer focuses on SATCOM capacity over critical geographic theaters and addresses DoD’s minimum requirements for intermittent users.

layer 3 – Surge requirements for capacity that might be needed to support crises. These requirements are dynamic, difficult to predict, and may be directly related to world events.

MSS. Radio communication between mobile or fixed earth stations and one or more mobile platforms. MSS satellites provide global service used to deliver communications services (voice or data, one- or two-way) to mobile users while moving or in remote locations. Terminals range in size from handheld to laptop-size units and can be mounted in a vehicle. MSS satellites operate at L- or S-band that encompasses several types of services delivered by satellite, including Maritime MSS, Aeronautical MSS, and Land MSS.

narrowband SATCOM. Narrowband SATCOM is defined as current, planned, and future SATCOM resources operating in the ultrahigh frequency, L-, and S-bands. Provides reliable, secure, fixed-site and mobile data and voice communications not subject to adverse weather conditions, dense foliage, terrain masking, distance limitations, and interoperability problems.

non-synchronized. Schedules and funding for the acquisition and delivery of program segments (i.e., space segment, control segment, and terminal segment), or related program(s) necessary for end-to-end system operational capability fail to meet defined synchronization criteria.

NSS. Defined in section 3542 of Title 44, United States Code (Reference (ar)).

OPLAN. Defined in Reference (ap).

OPORD. Defined in Reference (ap).

positive terminal control. The continuous ability to oversee SATCOM access and coordinate necessary changes in the frequency, channel, power level, or network.

protected SATCOM. Protected SATCOM resources have the capability to negate or mitigate purposeful or inadvertent degradation, disruption, denial, unauthorized access, or exploitation attempts. Protected SATCOM resources operate at 20.2-21.2 gigahertz (GHz) (downlink), 43.5-45.5 GHz (uplink), and 60-61 GHz (crosslink). Provides the required levels of protection by using various protection methods both on space- and ground-segment components, (e.g., low probability of detection, low probability of intercept, low probability of exploitation, anti-jam, anti-scintillation, nuclear hardening). Protected communications may utilize a subset of these techniques depending on the threat to be overcome, meaning that all protected communications are not survivable communications (ability to operate in and through a nuclear environment).

requirements management. A process that yields detailed insight into current and future DoD SATCOM user requirements and documents those requirements in the SDB.

resiliency. The ability of an architecture to support the functions necessary for mission success in spite of hostile action or adverse conditions. An architecture is considered “more resilient” if it can provide these functions with higher probability, shorter periods of reduced capability, or across a wider range of scenarios, conditions, and threats. Resilience may leverage cross-domain or alternative interagency, commercial, or international capabilities.

resource allocation. The capabilities, processes, and tools that authorize operational use of DoD SATCOM resources consistent with approved user requirements.

SATCOM. The use of satellites to provide beyond-line-of-sight communications and networking services (including relay and amplification of data, messaging, video, and voice signals) to and from various points on or around the Earth.

SATCOM gateway. The collective set of enterprise, Service-specific, and commercial SATCOM gateways.

SATCOM resources. IT resources, including NSS, that collectively form and enable the SATCOM segment of the DODIN. SATCOM resources are deployed in all physical warfighting domains (land, sea, air, and space) and perform communications functions through the cyberspace domain. SATCOM resources include: communications satellite payloads; SATCOM gateways and terminals; communications satellite payload and terminal control systems; and all communications-related systems, capabilities, services, networks, applications, personnel, and funds. When applied to the space segment, the term “SATCOM resources” applies to components that provide communications capabilities (i.e., satellite communications payload) and excludes other spacecraft equipment and systems.

scenario-based analysis. An analysis addressing fixed operational scenarios to determine the sufficiency of SATCOM resources relative to user requirements.

SDB. A comprehensive repository of current and future user requirements for DoD SATCOM resources. The SDB is a key information source for communications scenario development, sufficiency analyses, user demand modeling, and other analyses to support, for instance, satellite replenishment planning.

service management. The capabilities, processes, and tools that manage the operational use of allocated DoD SATCOM resources consistent with an access authorization. Service management includes monitoring, reporting, and control of the systems and equipment providing those services, including space segment and terminal segment SATCOM resources.

Service-specific SATCOM gateway. A SATCOM transmission and receive capability operating under the operational management and control of a Military Service, equipped with SATCOM terminal(s), networking devices, baseband equipment, and transport devices that may be used to support DISN long-haul extension services.

space systems. Defined in Reference (ap).

stochastic user demand modeling. Modeling based on historical usage data (segmented by user types, regions, and missions, as necessary, to gain essential insights) to characterize expected future usage and quantify demand uncertainty.

strategic plan. Defined in Reference (ap). As used herein, strategic plans include OPLANs, CONPLANs, FUNCPLANs, and OPORDs.

strategic SATCOM terminal. Large, fixed, ground terminal not shipboard or in direct support of ground transportable forces. This includes all large, fixed, ground terminals located at enterprise gateways. For the purpose of prioritizing strategic terminals, this definition also considers mission in the case of transportable terminals used as a contingency in lieu of large, fixed, ground terminals.

tactical SATCOM terminal. Transportable or mobile ground, airborne, or shipboard terminals in direct support of deployed forces.

terminal certification. An evaluation requirement established by the operational community, in coordination with DoD Components responsible for terminal acquisition and fielding, to augment, as necessary, the results of interoperability assessment and testing in accordance with Reference (j). The process provides the basis for a determination by the operational community and connection approval authorities that DoD SATCOM resources, primarily terminals and modems and associated antennas, radomes, and other radio frequency and intermediate frequency components, will operate with the intended operational SATCOM system in accordance with applicable military standards.

UC. The integration of voice, video, or data services delivered ubiquitously across an interoperable, secure, and highly-available network infrastructure, independent of technology, to provide increased mission effectiveness to the warfighter and business communities.

user requirement. Individual SATCOM connectivity needs applicable to postulated mission objectives. User requirements are submitted by the user community, recorded in the SDB, and used as a comprehensive catalog of demand that may be applied to specific operational scenarios to inform DoD SATCOM architecture planning and resource allocation.

wideband SATCOM. Wideband SATCOM resources provide substantial worldwide capacity for high-quality voice, imagery, video, and data transport, operating in the C-, X-, Ku-, and Ka-bands. Wideband SATCOM systems provide the primary transmission path for much of DoD's highest-priority communications.