

11 JANUARY 2008



Space, Missile, Command, and Control

**AIR FORCE NETWORK OPERATIONS
(AFNETOPS)**

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RELEASABILITY: There are no releasability restrictions on this publication.

OPR: SAF/XCTX

Certified by: HQ USAF/A3/5
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Pages: 9

The Air Force-provisioned portion of the Global Information Grid (AF-GIG) provides network-centric services to major commands (MAJCOM), warfighting commands, field operating agencies (FOA), and HQ USAF direct reporting units (DRU). The central role of the Air Force Network (AFNet and AF-GIG terms are used interchangeably) in warfighting, operations require network Command and Control (C2) and defense measures be applied in a coherent, disciplined fashion under the direction of a single commander. The Air Force needs to apply the same C2 discipline to the network that it applies to its weapons systems. This document implements DoD Directive (DoDD) 8100.1, *Global Information Grid (GIG) Overarching Policy*, and defines Air Force roles and responsibilities for protecting and maintaining the AF-GIG; and also encompasses terrestrial, space and airborne networks (networks are defined as all wired and wireless information [data/voice/video] exchange systems – even if not Internet Protocol [IP]-based). This policy applies to all military and civilian personnel, members of the Air Force Reserve, and Air National Guard (ANG). This publication shall be applied to contractors or other persons through the contract or other legally binding agreement with the Department of the Air Force. Air Force Network Operations (AFNetOps) C2 guidance currently found in 33-series Air Force instructions (AFI) will realign under this 13-series Air Force policy directive (AFPD). See **Attachment 1** for glossary references and supporting information.

This is an initial publication.

1. Air Force Network Operations (AFNetOps). AFNetOps is the operational construct the Air Force will use to command, control, and defend the AFNet (AF-GIG). This directive also establishes the foundation for Air Force policies employing the AFNet. Within the AFNetOps operational construct, the Air Force will:

- 1.1. Provide assured and timely network-centric services across (through and throughout) cyberspace to include: terrestrial, space, and airborne domains, at the strategic, operational and tactical levels in

support of the Department of Defense's (DoD) full spectrum of warfighting, intelligence, operational support, and business missions.

1.2. Provide the global connectivity and services, in addition to C2 of that connectivity and those services, to enable Air Force commanders to achieve optimal situational awareness, information and decision superiority in support of strategic, operational, and tactical objectives.

1.3. Support the doctrinal concept of centralized control and decentralized execution of AFNetOps assets, while still supporting joint network C2 requirements.

1.4. Organize, train, and equip to provide unit interoperability and interchangeability in all theaters of operation.

1.5. Provide the capability to plan and conduct AFNetOps on a 24 hours-a-day/7days-a-week (24/7) basis to achieve the highest degree of network availability, security, and C2 capability in support of Joint US operations and combined operations with Allied Forces.

1.6. Develop and provide a career path for AFNetOps personnel that flows from basic crew member, to instructor, to evaluator.

1.7. Assume responsibility for the Air Force Network Operations Center (AFNOC) to support Air Force Component Headquarters and their operational requirements.

1.8. Produce guidance for AFNetOps Training, AFNetOps Standardization/Evaluation, AFNetOps Operating Instructions and AFNet Surety.

2. Air Force Network (AFNet). AFNet, the Air Force provisioned portion of the Global Information Grid (GIG), is the global connectivity and services, in addition to C2 of that connectivity and those services, which enable Air Force commanders to achieve information and decision superiority in support of strategic, operational, and tactical objectives. The AFNet consists of fixed, mobile, and tactical facilities, equipment and trained personnel to effect tailored C2 for AFNetOps throughout the spectrum of operations.

2.1. The AFNetOps construct provides the Commander, Air Force Forces-Global Network Operations (COMAFFOR-GNO), dual-hatted as the Commander, Air Force Network Operations (AFNETOPS/CC), the capability to plan and conduct AFNetOps 24/7 to achieve the highest degree of network availability, security, and C2 capability in support of Joint US operations and/or Combined operations with Allied Forces. The AFNet supports the Air Force doctrinal concept of centralized control and decentralized execution of AFNetOps, while still supporting Joint Network Operations (NetOps) C2 requirements.

2.2. Deployed AFNet elements, fixed or tactical, are under the AFNETOPS/CC's area of responsibility and will contain standard manning and equipment as required to meet force projection tenets.

3. Roles and Responsibilities.

3.1. The Air Combat Command (ACC) as the lead MAJCOM. ACC is currently the lead command for AFNetOps and will transfer lead command responsibilities to Air Force Cyberspace Command (AFCYBER) when it is activated.

3.1.1. Organizes, trains, and equips AFNetOps forces to provide unit interoperability and interchangeability in all theaters of operation.

3.1.2. Designates the COMAFFOR-GNO, dual-hatted as the AFNETOPS/CC.

3.2. The COMAFFOR-GNO, dual-hatted as the AFNETOPS/CC:

3.2.1. As COMAFFOR-GNO, serves as the Air Force component commander and is subject to the direction of the Commander, United States Strategic Command (USSTRATCOM), through the Commander, Joint Task Force-Global Network Operations (JTF-GNO), and is responsible for ensuring Air Force Forces (AFFOR) perform the missions and task directed, as appropriate, by the JTF-GNO.

3.2.2. Exercises specific compliance enforcement and directive authorities over the AFNet, to include fixed, deployed, and tactical extensions.

3.2.3. Establishes the AFNOC as the strategic C2 tier element within the AFNetOps operational construct and executes C2 and defense of the AFNet (AF-GIG) on a continuous 24/7 basis.

3.2.4. Assumes full responsibility of the AFNOC in direct support of AFFOR and their operational requirements, regardless of location, or Joint/Allied/Coalition warfighters supported in addition to AFFOR. **Note:** GIG resources assigned to combatant commanders (CCDRs) operate under their combatant command (command authority) (COCOM) and are an integral part of their C2 system. CCDRs coordinate and direct NetOps activities consistent with USSTRATCOM guidance to ensure the availability and protection of the GIG. The CCDRs exercise oversight over their theater portion of the GIG through those forces assigned to them in the Forces for Unified Commands Memorandum, or as modified by deployment orders.

3.2.5. Performs Designated Approval Authority (DAA) functions over all Air Force collateral network connections to and within the AF-GIG in accordance with AFPD 33-2, *Information Assurance (IA) Program*. Reference paragraph 3.2.7. for space mission systems.

3.2.6. Coordinates and directs implementation of network C2 and defense requirements on behalf of Combat Air Forces/Mobility Air Forces with Secretary of the Air Force (SAF/AQI); SAF/XCT; SAF/USA, SAF/AA, HQ USAF/A3I; Air Force Communications Agency (AFCA); Aeronautical Systems Center (ASC); Space and Missile Systems Center (SMC); and Electronic Systems Center (ESC) on all collateral terrestrial, space, and airborne network issues (e.g., Tactical Data Link (TDL) networks and airborne extensions of the Non-Secure Internet Protocol Router Network (NIPRNET) and Secret Internet Protocol Router Network (SIPRNET), etc.).

3.2.7. Coordinates multi-component space systems network connections and defense requirements with Air Force Space Command (AFSPC) DAA on multi-component space systems assigned to AFSPC by USSTRATCOM.

3.2.8. Coordinates with the Air Force Frequency Management Agency (AFFMA), as necessary, on actions in support of network operations in all domains.

3.2.9. Ensures that AFNetOps provides for centralized remote management of Air Force Enterprise core Information Technology (IT) services coupled with regionally fielded units to perform data center processing, storage, and daily operational performance and “touch maintenance” of core IT services ensuring seamless, secure, and reliable delivery of information across the AFNet. The AFNETOPS/CC, using the AFNetOps construct, will serve as the sole provider of Air Force Enterprise core IT services.

3.2.10. Provides regional, physically consolidated Enterprise network core IT services for Air Force locations worldwide. The IT services include, but are not limited to, Directory Services, Domain Name Service, electronic mail (E-mail), Messaging Systems, Data Storage and Web Servers.

3.2.11. Ensures the AFNOC directs the actions of the Integrated-Network Operations and Security Centers (I-NOSCs), the operational-level tier element of AFNetOps, on a continuous 24/7 basis performing operations and defense of all terrestrial, space, and airborne networks, and near-real time situational awareness of the ability of those networks to support all required mission areas within all theaters of operations.

3.3. The I-NOSCs directs the actions of the Network Control Centers (NCCs), the tactical-level tier element of AFNetOps, to perform local network defense, operations, and touch maintenance as fielded at fixed and deployed sites.

3.4. The NCCs perform local network defense, operations, and touch maintenance at fixed and deployed sites. Additionally, NCCs provide the local commander with situational awareness of their ability to support all required mission areas at their fixed base or deployed location. As AFNetOps implementation expands, it will enable NCCs to be scaled down to minimal touch maintenance operations.

3.5. MAJCOM Communications Coordination Centers (MCCC) will provide for the operation of MAJCOM-unique applications and systems that run over the AF-GIG. MCCCs will provide situational awareness and report directly to their Component MAJCOM chain and/or HQ USAF DRUs/FOAs chain, as applicable. MCCCs will comply with directives issued by the AFNETOPS/CC through the AFNOC via the I-NOSCs. **Note:** MCCCs shall not provide Air Force Enterprise core IT services.

3.6. Air Force Forces Communications Control Centers (ACCC) will provide direct support to a Joint and/or Combined Forces Air Component Commander. The ACCC will perform as the primary focal point for situational awareness and operational availability of the AFNet in the theater of operations.

4. Publications Structure.

4.1. There will be a minimum standardized four-volume AFI set for each AFNetOps organizations (AFNOC, I-NOSC, MCCC, and ACCC) to provide overarching guidance to the AFNetOps organizations in preparing the specific versions of each level of operational capability.

4.1.1. Volume 1, AFNetOps Training. This is the basic training guidance, which creates a standardized program and form set for each type of AFNetOps organization.

4.1.2. Volume 2, AFNetOps Standardization/Evaluation (Stan/Eval) Program. Establishes the Stan/Eval Program that supports Air Force objectives. This instruction will provide guidance on how to structure and monitor a Stan/Eval program. It will also include a standard form set for all users.

4.1.3. Volume 3, AFNetOps Operating Instructions. This instruction prescribes the general rules that govern the development, management, and implementation of AFNetOps Operating Instructions. It will also provide the basic operational framework for all AFNetOps personnel.

4.1.4. Volume 4, AFNet Surety Program. This instruction establishes the AFNet Surety Program. This instruction will provide guidance on how to structure, monitor, and maximize an AFNet

Surety Program consistent with operational requirements for procurement, operations, and defense of the AFNet.

4.2. A lead operating command will be designated to author and coordinate organizational type-specific AFIs. The HQ USAF/A3/5 is the certifying and approving authority for all volumes of organizational type-specific AFIs.

4.3. Tactics, techniques, and procedures (TTP) will be incorporated into the appropriate Air Force TTP volume. If there is no appropriate volume, one will be created.

5. Developing personnel to operate within the Air Force Network (AFNet) and perform Air Force Network Operations (AFNetOps) functions.

5.1. Personnel performing duties in an AFNetOps organization will develop along a career path that flows from basic crew member, to instructor, to evaluator. Instructors will be chosen by the unit commander from the most highly qualified and experienced crew members. Evaluators will be chosen by the unit commander from the most highly qualified and experienced instructors.

MICHAEL W. WYNNE
Secretary of the Air Force

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

10 U.S.C. § 2513

44 U.S.C. § 3542(B)(2)

DoDD 3020.40, *Defense Critical Infrastructure Program (DCIP)*, August 19, 2005

DoDD 3230.2, *Data Sharing in a Net-Centric Department of Defense*, December 2, 2004

DoDD O-5100.30, *Department of Defense (DoD) Command and Control (C2)*, January 5, 2006

DoDD 8100.01, *Global Information Grid (GIG) Overarching Policy*, September 19, 2002 (certified current 21 November 2003)

DoDD 8500.01E, *Information Assurance (IA)*, October 24, 2002 (certified current April 23, 2007)

DoDD O-8530.1, *Computer Network Defense (CND)*, January 8, 2001

DoDD 8581.1, *Information Assurance (IA) Policy for Space Systems Used by the Department of Defense*, June 21, 2005

Joint Publication 6-0, *Joint Communications System*, 20 March 2006

AFDD 2-5, *Information Operations*, 1 January 2005

AFPD 33-4, *Enterprise Architecting*, 27 June 2006

AFPD 33-2, *Information Assurance (IA) Program*, 19 April 2007

Joint Concept of Operations for Global Information Grid NetOps, 4 August 2006

SAF/XC Memo, *Designated Approval Authority (DAA) for the Air Force Provisioned Portion of the Global Information Grid (GIG)*, 5 August 05 (https://wwwd.my.af.mil/afknprod/Database/Staging/2490801/AFCIO_DAA_MEMO.pdf)

Abbreviations and Acronyms

ACC—Air Combat Command

ACCC—Air Force Forces Communications Control Centers

AF-GIG—Air Force-Global Information Grid

AFCA—Air Force Communications Agency

AFCYBER—Air Force Cyberspace Command

AFFMA—Air Force Frequency Management Agency

AFFOR—Air Force Forces

AF-GIG—Air Force-Global Information Grid

AFI—Air Force Instruction

AFNet—Air Force Network (Interchangable with AF-GIG)
AFNetOps—Air Force Network Operations
AFNOC—Air Force Network Operations Center
AFPD—Air Force Policy Directive
AFSPC—Air Force Space Command
ANG—Air National Guard
ASC—Aeronautical Systems Center
C2—command and control
CAF—Combat Air Forces
CCDR—Combatant Commander
COCOM—Combatant Command
COMAFFOR—Commander, Air Force Forces
DAA—Designated Approval Authority
DoD—Department of Defense
DoDD—Department of Defense Directive
DRU—Direct Reporting Unit
E-mail—Electronic Mail
ESC—Electronic Systems Center
FOA—Field Operating Agency
GIG—Global Information Grid
HHQ—Higher Headquarters
HQ USAF—Headquarters United States Air Force
I-NOSC—Integrated-Network Operations and Security Center
IP—Internet Protocol
IT—Information Technology
JTF-GNO—Joint Task Force-Global Network Operations
MAF—Mobility Air Forces
MAJCOM—Major Command
MCCC—MAJCOM Communications Coordination Center
NCC—Network Control Center
NIPRNET—Non-secure Internet Protocol Router Network
NetOps—Network Operations

NOSC—Network Operations and Security Center

SAF—Secretary of the Air Force

SIPRNET—Secure Internet Protocol Router Network

SMC—Space and Missile Systems Center

Stan/Eval—Standardization/ Evaluation

TDL—Tactical Data Link

TTP—Tactics, Techniques, and Procedures

U.S.C.—United States Code

USSTRATCOM—United States Strategic Command

Terms

Air Force-Global Information Grid (AF-GIG)—The Air Force-provisioned portion of the Global Information Grid (GIG) that the Air Force has primary responsibility for the procurement, operations, and defense. It provides global connectivity and services, in addition to C2 of that connectivity and those services that enable Air Force commanders to achieve information and decision superiority in support of Air Force mission objectives. The AF-GIG consists of fixed, mobile, and deployable facilities, and equipment, as well as processes, trained personnel and information.

Air Force Network (AFNet)—See AF-GIG definition. AFNet and AF-GIG are interchangeable terms.

Air Force Network Operations (AFNetOps)—The operational construct the Air Force employs for command, control, and defense of the AF-GIG. It provides assured and timely network-centric services across (through and throughout) cyberspace to include: terrestrial, space, and airborne domains, at the strategic, operational and tactical levels in support of the DoD's full spectrum of warfighting, intelligence, operational support, and business missions. AFNetOps encompasses information assurance, system and network management, and information dissemination management. It includes the organizations, processes, procedures, and tasks required to plan, administer, monitor, and secure Air Force networks in support of operations and also to respond to warfighter requirements, outages and other operational impacts. AFNetOps' desired effects include: Assured Information, Assured System and Network Availability, and Assured Information Delivery.

AFNet Surety Program—The program to continuously evaluate the processes and procedures being performed to command, control, and defend the AFNet to ensure the availability, integrity, confidentiality, authentication, and non-repudiation of information to meet operational requirements. This includes the full range of procurement, sustainment and operational activities of the AFNet. This program shall include local and Higher Headquarters (HHQ) inspections to assess the capabilities, effectiveness, and compliance of the processes and procedures within the scope of the evaluation program.

Global Information Grid (GIG)—The globally interconnected, end-to-end set of information capabilities, associated processes, and personnel for collecting, processing, storing, disseminating and managing information on demand to warfighters, policy makers, and support personnel. The GIG includes all owned and leased communications and computing systems and services, software (including applications), data, security services, and other associated services necessary to achieve Information Superiority. It also includes National Security Systems as defined in section 3542(b)(2) of Title 44 United

States Code (U.S.C.). The GIG supports all DoD, National Security, and related Intelligence Community missions and functions (strategic, operational, tactical, and business), in war and in peace. The GIG provides capabilities from all operating locations (bases, posts, camps, stations, facilities, mobile platforms, and deployed sites). The GIG provides interfaces to coalition, allied, and non-DoD users and systems. It includes any system, equipment, software, or service that meets one or more of the following criteria: transmits information to, receives information from, routes information among, or interchanges information among other equipment, software, and services; provides retention, organization, visualization, information assurance, or disposition of data, information, and/or knowledge received from or transmitted to other equipment, software, and services; processes data or information for use by other equipment, software, or services. (10 U.S.C. 2513)

Network Defense (NetD)—The employment of network-based capabilities to defend friendly information resident in or transiting through networks against adversary efforts to destroy, disrupt, corrupt, or usurp it. (AFDD 2-5, *Information Operations*)

Network Operations (NetOps)—The integrated planning and employment of military capabilities to provide the friendly network environment needed to plan, control and execute military operations and conduct Service functions. NetOps provides operational planning and control. It involves time-critical, operational-level decisions that direct configuration changes and information routing. NetOps risk management and command and control decisions are based on a fused assessment of intelligence, ongoing operations, commander's intent, blue and gray situation, network health, and network security. NetOps provides the three operational elements of information assurance, network/system management, and information dissemination management. (AFDD 2-5)

Touch Maintenance—The maintenance that requires a person to physically manipulate a piece of equipment.