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WASHINGTON, DC

OFFICE OF THE SECRETARY

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28 October 2016

MEMORANDUM FOR DISTRIBUTION C  
MAJCOMs/FOAs/DRUs

FROM: SAF/CIO A6  
1800 Air Force Pentagon  
Washington DC 20330-1800

SUBJECT: Air Force Guidance Memorandum (AFGM) to Air Force Instruction (AFI) 33-115,  
AIR FORCE INFORMATION TECHNOLOGY (IT) SERVICE MANAGEMENT.

By Order of the Secretary of the Air Force, this Air Force Guidance Memorandum immediately changes Air Force Instruction 33-115, *Air Force Information Technology (IT) Service Management*, 16 September 2014. Compliance with this Memorandum is mandatory. To the extent its directions are inconsistent with other Air Force publications, the information herein prevails, in accordance with (IAW) AFI 33-360, *Publications and Forms Management*. Ensure that all records created as a result of processes prescribed in this publication are maintained IAW Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS).

As a result of the publication of AF Policy Directive (AFPD) 17-1 *Information Dominance and Cyberspace Governance and Management*, which supersedes AFPD 33-1, *Cyberspace Support*, dated 9 Aug 2012; AFI33-115 is hereby renumbered as AFI17-100. This Memorandum also renumbers AFI33-115; the title and the rest of the content remain unchanged. I hereby direct the Office of Primary Responsibility (OPR) for AFI33-115 to conduct a special review in accordance with AFI33-360 to align its content with AFPD17-1. This will result in a rewrite or rescind action of AFI33-115.

This Memorandum becomes void after one year has elapsed from the date of this Memorandum, or upon rescinding or rewrite of AFI33-115, whichever is earlier.

WILLIAM J. BENDER, Lt Gen, USAF  
Chief, Information Dominance and  
Chief Information Officer

**BY ORDER OF THE  
SECRETARY OF THE AIR FORCE**

**AIR FORCE INSTRUCTION 33-115**

**16 SEPTEMBER 2014**

*Incorporating Change 1, 15 September 2016*

***Communications and Information***

**AIR FORCE INFORMATION TECHNOLOGY  
(IT) SERVICE MANAGEMENT**



**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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Certified by: SAF/CIO A6S  
(Brig Gen Patrick C. Higby)

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Pages: 56

This Air Force Instruction (AFI) defines AF IT Service Management and assigns responsibilities for standardization and management of IT Services in the AF. This instruction implements AF Policy Directive (AFPD) 33-1, *Cyberspace Support*, Department of Defense (DoD) Instruction (DoDI) 8410.01, *Internet Domain Name Use and Approval*, DoDI 8410.02, *NetOps for the Global Information Grid (GIG)*, DoDI 8410.03, *Network Management (NM)* and DoDI 8550.01, *DoD Internet Services and Internet-Based Capabilities*. This instruction is consistent with AFPD 33-2, *Information Assurance (IA) Program*; AFPD 33-3, *Information Management*; AFPD 33-4, *Information Technology Governance*; and AFPD 10-17, *Cyberspace Operations*. This instruction provides guidance, direction and assigns responsibilities for the Air Force Information Networks (AFIN) as the Air Force provisioned portion of the DoD Information Networks (DoDIN). This directive applies to all military and civilian Air Force personnel, the Air Force Reserve (AFR), 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. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See AFI 33-360, *Publications and Forms Management*, [Table 1.1](#) for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance items. Send recommended changes or comments to the Air

Force Cyberspace Strategy & Policy Division (SAF/A6CS) using AF Form 847, *Recommendation for Change of Publication*.

Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). See [Attachment 1](#) for a glossary of references and supporting information.

### ***SUMMARY OF CHANGES***

This interim change revises AFI 33-115 by (1) incorporating cloud computing and storage guidance (2) removing references to DISA as the cloud broker throughout the document (3) including other hosting infrastructure types and (4) incorporating the AFGM from 29 Oct 2015. A margin bar (|) indicates changed material.

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**1. Purpose.** This instruction defines AF IT Service Management and assigns responsibilities for the configuration, provisioning, maintenance, and management of AFIN using an IT Service Management (ITSM) framework to further integrate capabilities and maintain configuration control of AF networks and data servers. This instruction serves as the single reference for AF IT Service Management policy and applies to all personnel who manage, configure, operate, maintain, defend, or extend any portion of the AFIN or provide support within the AF for the DoDIN and the Joint Information Environment (JIE).

1.1. Procedural guidance supporting this AFI is contained in Methods and Procedures Technical Orders (MPTOs) directing standard processes for management, standardization, and maintenance of AF IT Services applicable to all AF personnel, see [paragraph 7.3](#).

1.2. Cyberspace operational orders as defined in AFI 10-1701 (e.g., AF Cyber Tasking Orders, Cyber Control Orders, AF Time Compliance Network Orders) shall take precedence over information contained in this AFI and supporting MPTOs if there is a conflict.

**2. Objectives.** The primary objective of this AFI is to establish and define AF IT Service Management with roles and responsibilities to ensure the AFIN is designed, built, configured, secured, operated, maintained, and sustained to meet mission requirements. This AFI also provides guidance regarding migration of AF enterprise capabilities (core services, applications, and systems) to the JIE according to DoD guidance. AF IT Service Management integrates, secures, and manages the AFNET/AFNET-S with processes and capabilities to enable the seamless, secure, and reliable exchange of information across the AFIN and the DoDIN. The AFNET is the AF's underlying unclassified network that enables AF operational capabilities and lines of business. AFNET-S is the secure AFNET.

2.1. This AFI and supporting 00-33 series MPTOs shall not alter or supersede the existing authorities and policies of the Director of National Intelligence (DNI) regarding the protection of Sensitive Compartmented Information (SCI) systems or intelligence, surveillance, reconnaissance mission and mission support systems or higher authoritative guidance governing Special Access Program (SAP) systems. When DNI or SAP authorities fail to address areas covered by this AFI, this AFI and associated MPTOs will be followed. If there is conflict between this AFI and associated MPTOs with guidance issued by DNI or SAP authorities, DNI or SAP guidance will take precedence.

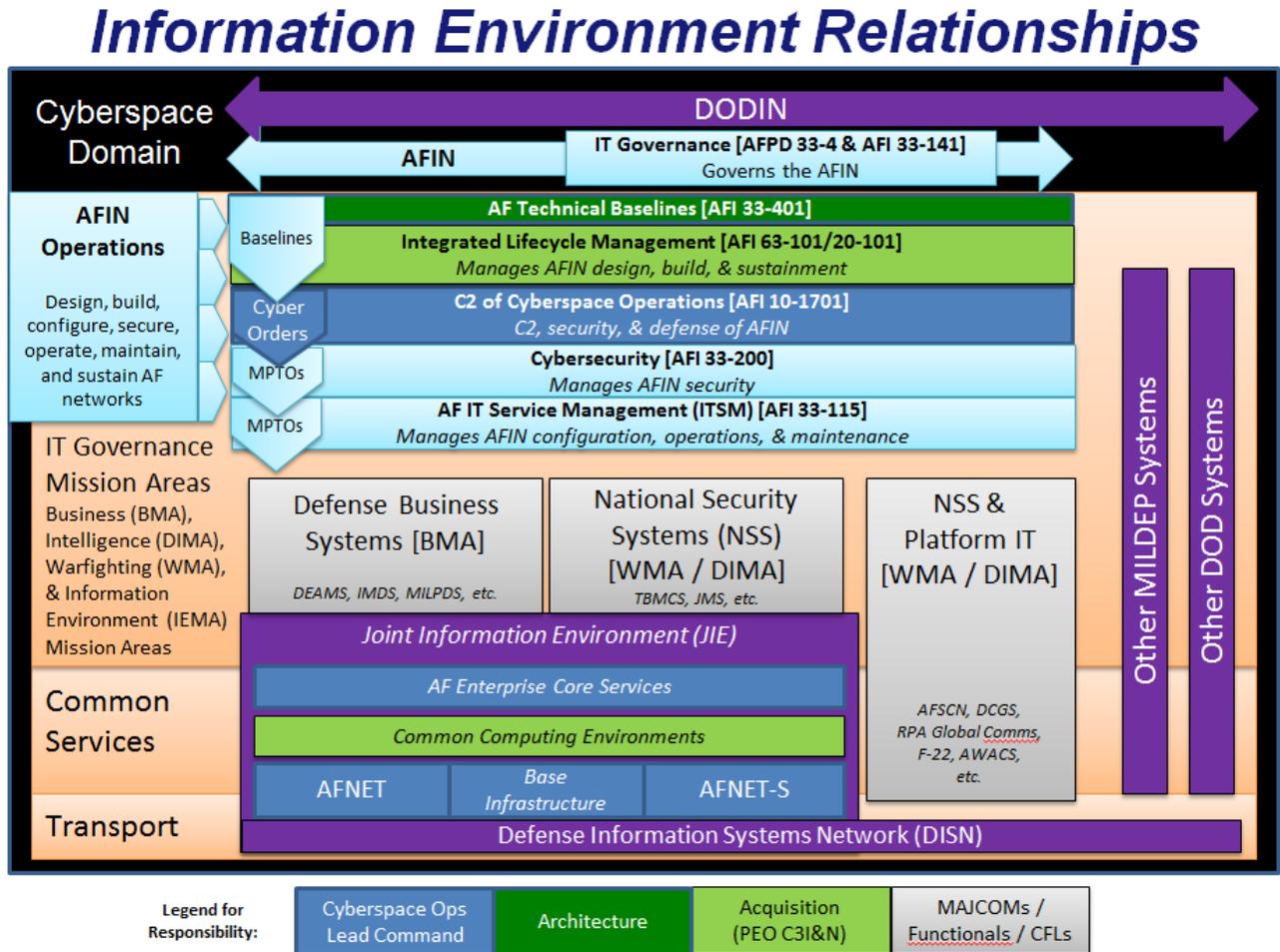
2.2. For this instruction, the term Major Command (MAJCOM) also applies to Numbered Air Force (NAF), Field Operating Agency (FOA) and Direct Reporting Unit (DRU) when not assigned to a MAJCOM.

2.3. All AF organizations will follow this policy when extending AF IT Services.

**3. Background.** The AF Information Environment consists of AF unique information capabilities across the IT Governance Mission Areas: Business (BMA), Warfighting (WMA), Defense Intelligence (DIMA) and Information Environment (IEMA). The AF Information Environment includes the IT systems, components and networks of the Defense Business Systems, National Security Systems (NSS), Platform IT, Enterprise Core Services and Common Computing Environments as depicted in [Figure 1](#). The AFIN is the globally interconnected, end-to-end set of AF unique information capabilities and associated processes for collecting, processing, storing, disseminating, and managing information on-demand to warfighters, policy makers, and support personnel, including owned and leased communications and computing

systems and services, software (including applications), data, and security. The AFIN can be considered the networked AF Information Environment. Where known, this AFI will depict the specific AF capabilities and services which will transition to DoD's secure joint information environment (JIE). JIE is comprised of shared IT infrastructure, enterprise services, and a single security architecture to achieve full spectrum superiority, improve mission effectiveness, increase security and realize IT efficiencies.

Figure 1. Information Environment Relationships.



3.1. AF IT Service Management enables a robust and resilient net-centric environment providing the means to establish and extend the AFIN. AF IT Service Management supports rapidly evolving mission processes and warfighter requirements which require an optimized, stable, and enterprise managed AFIN postured to integrate with and support the JIE. AF IT Service Management encompasses management of common IT functions, actions, and capabilities to provide Common Computing Environments, Application Support Services, and Enterprise Core Services. Additionally, AF ITSM standardizes select ITSM processes for all information systems (e.g., Vulnerability Management).

3.2. AF IT Service Management is aligned with the Defense Information Technology Infrastructure Library (ITIL) as it transitions to the Defense Enterprise Service Management Framework (DESMF), and DoD Directive (DoDD) 8000.01, *Management of the Department of Defense Information Enterprise*. These services and the standard methods and procedures in the supporting MPTOs will continue to evolve to support the AF's management of IT under the JIE construct. These services must align with high level guidance and strategic goals of the AF Enterprise Architecture. For more information on enterprise architecture, see AFI 33-401, *Air Force Architecting*.

3.3. AFI 10-1701 implements the C2 of Cyberspace Operations and while this AFI directs specific ITSM functions which support DoDIN Operations. Together, these two instructions direct operations and support of the AFIN for the business and warfighting mission areas including the Cyberspace Operations mission. Capabilities to secure and protect the AFIN must be integrated throughout AF networks and systems following Cybersecurity policy (previously known as IA). Cybersecurity inherent in AF networks and systems are further enhanced by Defensive Cyberspace Operations (DCO) under Cyberspace Operations. DCO may be integrated with or direct changes to cybersecurity in AF networks and systems under C2 of Cyberspace Operations as it directs AFIN operations and defense. Note: DoD defines DoDIN Operations as the actions taken to design, build, configure, secure, operate, maintain, and sustain DOD communications systems and networks in a way that creates and preserves data availability, integrity, confidentiality, as well as user/entity authentication and non-repudiation.

**4. Roles and Responsibilities.** Roles and responsibilities for AF IT Service Management are a coordinated effort between all organizations providing, supporting, and utilizing IT in the AFIN, the DoDIN, and the JIE. AF functional communities or DoD organizations such as Defense Information Systems Agency (DISA) or AFSPC will have primary or supporting roles when AF IT Services are consolidated at the DoD-enterprise level and JIE. Roles and responsibilities for C2 of Cyberspace within AFI 10-1701 provides clear command and control over these collaborative relationships and is to be used in conjunction with this AFI.

**4.1. Chief, Information Dominance and Chief Information Officer (SAF/CIO A6).** SAF/CIO A6 has overall responsibility for the AFIN, information technology (IT), IT Service Management responsibilities for National Security Systems (NSS), defense business systems, and information resource management matters according to AFD 33-1. SAF/CIO A6 will:

4.1.1. Provide strategy, policy, guidance, and oversight for the AF portion of the DoD information enterprise, including communications, spectrum management, network management, information systems, and cybersecurity.

4.1.1.1. Develop AF strategy and policy on the operation and protection of all AF IT and information systems within the AFIN as the AF provisioned portion of the DoDIN, including development and promulgation of enterprise-wide architecture requirements and technical standards, and enforcement, operation, and maintenance of systems, interoperability, collaboration, and interface between AF and non-AF systems, and investment and cost effectiveness of information system acquisition and sustainment.

- 4.1.1.2. Maintain a consolidated inventory of AF mission-critical and mission-essential information systems, identify interfaces between these systems, and ensure the development and test of contingency plans for responding to disruptions in the operation of any of these information systems.
- 4.1.1.3. Provide guidance and oversight for AF network management, including the standards for day-to-day security and protection of AF information networks; AF IT support to joint missions; and resilience and reliability of information and communication networks.
- 4.1.1.4. Provide guidance and oversight on the administration of AF Internet services, use of Internet-based capabilities, and all Internet domain-related functions.
- 4.1.1.5. Develop strategy, policy, and guidance for AF use of private and public cloud computing services in support of the AFIN. Review DoD Cloud Computing Security Requirements Guide (SRG) for commercial cloud services and coordinate any modifications needed for alignment between the DoD cloud security model and the AFIN technical architecture security controls provided in the Target Baseline according to AFPD 33-4, *Information Technology Governance*.
- 4.1.2. Provide governance of IT according to AFPD 33-4, *Information Technology Governance*, including oversight for compliance with the Target Baseline (TB), Implementation Baseline (IB), and Operational Baseline (OB).
- 4.1.3. Define the AF IT Service Management for the AFIN and ensure Enterprise Core Services for the AF are in-line with the DoD Enterprise Services under the DoDIN and/or JIE.
- 4.1.4. Provide oversight of the implementation status of AF IT Services on behalf of the Secretary of the Air Force (SECAF) and Chief of Staff of the Air Force (CSAF).
- 4.1.5. Fulfill AF CIO responsibilities of DoDI 8550.01, *DoD Internet Services and Internet-Based Capabilities*.
- 4.1.6. Provide oversight and guidance for personnel development, career field management, and training of AF Cyberspace career fields according to AFI 36-2640, *Executing Total Force Development*.
- 4.1.7. Deleted.
- 4.1.8. Coordinate with Air Force Office of the Judge Advocate General (AF/JA), the Air Force Office of Special Investigations (AFOSI), the Air Force Office of the Inspector General (SAF/IG), the Intelligence Community, and the Acquisition Division of the Air Force General Counsel (SAF/GCQ) to provide sensitive information protection requirements.
- 4.1.9. Coordinate with Air Force Legal Operations Agency (AFLOA), SAF/GC, AF/JAA and SAF/AQC to provide requirements to Cloud Service Providers (CSPs) for compliance with AF e-Discovery, FOIA, and investigative purposes IAW with AFI-33-364, AFMAN 33-363, DOD5400.7-R\_AFMAN33-302, and AFI 51-301.

4.1.10. Act as the approval authority for waiver requests to deviate from the requirements of this publication.

4.1.11. Act as the central AF approval authority for obligations to acquire servers, data centers, and IT technology therein, IAW AFI 33-150, *Management of Cyberspace Support Activities*, [Attachment 2](#).

4.1.12. Establish procedures to ensure compliance with the Privacy Act and the DoD privacy program. Appoint a Component Senior Official for Privacy (CSOP) with overall responsibility for the AF privacy program. Appoint an AF Privacy Officer with responsibility for implementing the AF privacy program. Ensure that all systems that contains personal identifiable information have an up to data privacy impact assessment and if the data is contained in a system or record (SOR) has a current System of Records Notice (SORN) that accurately reflects the data being collected, the purpose of collecting the data, how/ to whom the data is released, and the location where the data is located (AFI 33-332).

#### 4.2. **IT Governance Executive Board (ITGEB) will:**

4.2.1. Approve the data centers (Installation Processing Node [IPN], Installation Services Node [ISN], Special Purpose Processing Node [SPPN]) to serve as AF data center infrastructure. ITGEB-approved data centers are the only authorized data centers for the AF to employ application hosting and provisioning of private cloud services. See AFPD 33-4 for more information on the ITGEB.

4.2.2. Oversee the execution of application rationalization and migration across the AF to ensure compliance with DoD guidance regarding hosting within IPNs, Core Data Centers (CDCs), MilCloud, SPPNs, Tactical Processing Nodes (TPNs) and the commercial cloud environment. This includes directing the capture and reporting of metrics reflecting decommissioned servers and data centers in accordance with the Federal Data Center Consolidation Initiative (FDCCI).

4.2.3. The scope for the ITGEB includes the entire AF IT enterprise for business and mission capabilities, including business and national security systems (NSS), and excluding the embedded software in support of weapons platforms. This team shall focus on the commoditization and operational configuration management of a baseline IT infrastructure and the business practices to exploit that IT infrastructure for AF users. The details of membership and processes can be found in AFPD 33-4.

#### 4.3. **Secretary of the Air Force Office of Public Affairs (SAF/PA) will:**

4.3.1. Develop guidance for the integration of public web sites into the Air Force Public Web Program. Serve as chair of the Air Force Public Web Policy Board.

4.3.2. Develop guidance governing the public communication program.

4.3.3. Review and approve/disapprove waiver requests for AF public Web sites hosted outside the scope of the Air Force Public Web Program.

#### 4.4. **Assistant Secretary of the Air Force for Acquisition (SAF/AQ).** As the Senior Acquisition Executive, SAF/AQ will:

4.4.1. Oversee the acquisition and sustainment of capabilities that support the AFIN.

4.4.2. Work with SAF/CIO A6 and AFSPC to procure, develop, integrate and test the AFIN components and systems in accordance with the Implementation Baseline.

4.4.3. Collaborate with SAF/CIO A6 in developing the Implementation Baseline (IB) defined in AFPD 33-4. Ensure AF acquisition programs comply with the established IB requirements.

4.4.4. Ensure AF acquisition programs leverage, to the maximum extent possible, the use of JIE Enterprise Core Services, and promote sharing of data, information, and knowledge throughout the AF corporate structure.

4.4.5. Coordinate with SAF/CIO A6 to develop strategy, policy, and guidance to provide an AF enterprise approach for acquiring cloud computing services.

4.4.6. Ensure all Acquisition Category (ACAT) programs address the requirements of National Defense Authorization Act (NDAA) Fiscal Year 2012 Section 2867 and AFI 33-150, *Management of Cyberspace Support Activities*, [Attachment 2](#), in the acquisition of servers, data centers, and IT technology.

**4.5. Air Force Material Command (AFMC).** As the Implementing Command defined by AFI 63-101/20-101, AFMC has overall responsibility for supporting the design, build, and sustainment of the AFIN. AFMC will:

4.5.1. In coordination with AFSPC, provide technical assistance to SAF/CIO A6 to develop policy and guidance for the AFIN.

4.5.2. Provide integration and test capability for IT components to support the development environment of new capabilities and troubleshooting performance issues with fielded capabilities, as required.

4.5.3. Provide direction and guidance to ensure all Program Executive Offices (PEOs) comply with the single AF approach for cloud computing and establish the AF Cloud Service Lead according to [paragraph 4.6.5](#).

4.5.4. Oversee the work performed by PEO C3I&N on the commoditized infrastructure Implementation Baseline.

4.5.5. In coordination with AFSPC, oversee the deployment of all AF IT services.

4.5.6. Oversee the standup of the IT lifecycle integration and test capability.

**4.6. The Program Executive Office for Command, Control, Communications, Intelligence and Networks (PEO C3I&N).** PEO C3I&N will:

4.6.1. Perform Service Design and Development to include engineering, architecture, and provisioning support for AFNET, AFNET-S, and PEO C3I&N-provided systems within the AFIN and JIE in coordination with SAF/CIO A6 and AFSPC. Provides integration of AF IT across all systems centers (e.g., Air Force Life Cycle Management Center, Space and Missile Systems Center, Air Force Medical Support Agency, Air Force Nuclear Weapons Center).

4.6.2. Establish, publish, and maintain the commoditized infrastructure Implementation Baseline in accordance with AFPD 33-4.

4.6.3. Facilitate the standup and operation of an IT lifecycle integration and test capability supporting the development, test, and delivery of new warfighter capabilities utilizing the Implementation Baseline. Leverage existing DoD, AF and Contractor resources to establish a virtual, distributed system development, integration and test capability supporting the delivery of new warfighter capabilities.

4.6.4. Support mission capabilities offices in configuring and provisioning the Implementation Baseline to meet requirements. Support mission capabilities offices with transitioning their newly developed capabilities into the Implementation Baseline integration environment leading to deployment.

4.6.5. Managed Service Office (MSO) will serve as the lead for both the cloud and Application Rationalization and Migration Process:

4.6.5.1. Review and validate all customer cloud computing requirements.

4.6.5.2. Deleted.

4.6.6. Ensure a standardized AF process is adhered to for common computing environments and cloud services, including Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS), and Software-as-a-Service (SaaS) as detailed in paragraph 5.3 Fully leverage DoD efforts to provide a DoD Enterprise Cloud Environment under the JIE in accordance with DoD CIO Memorandum, DoD Cloud Computing Strategy Memorandum, 5 July 2012 and DoD CIO Supplemental Guidance Memo, 15 December 2014.

4.6.6.1. Review all AF cloud computing requirements for consistency with the AF IT Services framework to commercial cloud services.

4.6.6.2. Coordinate with SAF/AQ and AFMC organizations to ensure a clear, tailorable cost model is established for migration to commercial cloud services.

4.6.7. Implement Network Management (NM) data schemas and net-centric sharing mechanisms to support the development of Service Level Agreements (SLAs), and support the implementation of network management security according to DoDI 8410.03, *Network Management (NM)*.

4.6.8. Ensure that all AF Commercial Cloud Contracts address the additional issues in the DoD Cloud Issue Matrix according to DoD CIO Supplemental Guidance Memo, 16 December 2013.

**4.7. Commander, Air Force Space Command (AFSPC/CC).** In accordance with AFPD 10-17, AFSPC/CC is responsible for the overall command and control, security and defense of the AFIN. AFSPC/CC is responsible for the command, control, implementation, security, operation, maintenance, sustainment, configuration, and defense of the AFNET/AFNET-S. These day-to-day authorities may be delegated. In addition to those responsibilities outlined in 10-series AFIs, AFSPC will:

4.7.1. Assist SAF/CIO A6 to develop policy and guidance for the AFIN and AF adoption

of JIE capabilities.

4.7.2. Establish and maintain the Operational Baseline in accordance with AFPD 33-4.

4.7.3. Develop and submit to SAF/CIO A6 and HQ AETC requirements for initial, advanced, supplemental, and qualification training for cyberspace career field members.

4.7.4. Fulfill DoDIN Operations responsibilities for the AFNET/AFNET-S in support of DoDI 8410.02, *NetOps for the Global Information Grid (GIG)*, while remaining consistent with AFPD 10-17, *Cyberspace Operations*, and AFI 10-1701, *Command and Control for Cyberspace Operations*.

4.7.4.1. Establish and provide the necessary resources to ensure compliance with SLAs and memorandums of agreement (MOAs) among DoDIN and JIE service providers and users.

4.7.4.2. Participate in the DoDIN Operations Community of Interest (COI) to share information, promote standards, and resolve DoDIN Operations issues.

4.7.4.3. Participate in the DoD CIO and SAF CIO/A6 Enterprise Architecture (EA) efforts described in DoDI 8410.02 and AFPD 33-4.

4.7.4.4. Ensure all AF contractors and other entities operating AF-owned information systems and AF-controlled information systems on behalf of the Air Force that receive, process, store, display, or transmit AF information, regardless of classification or sensitivity, comply with DoDI 8410.02.

4.7.5. Provide Network Management for the AFNET/AFNET-S with automated Configuration Management and Policy Based Network Management (PBNM) according to DoDI 8410.03.

4.7.6. Ensure the operation of the AF's DoD Internet Services and official use of Internet-based Capabilities (IbC) according to DoDI 8550.01.

4.7.7. Ensure that all DoD Internet services and IbC used by the AF to disseminate unclassified DoD information are assessed at least annually for compliance with DoDI 8550.01.

4.7.8. Provide technical procedures, and standards for the AFIN.

4.7.8.1. Develop MPTOs for AF ITSM to configure, operate, and maintain AF IT established in **Section 5**, AF IT Services Framework.

4.7.8.2. Provide life cycle management of AF ITSM MPTOs with technical content management (TCM) by 24 AF, other subordinate units, AF Program Management Offices (PMOs), or System Program Offices (SPOs) as needed.

4.7.8.3. Serve as the Command Control Point for MPTOs supporting AF ITSM to include technical content management according to TO 00-5-1, *AF Technical Order System*, and TO 00-5-3, *AF Technical Order Lifecycle Management*.

4.7.9. Develop and implement metrics and measures of effectiveness for the AFNET/AFNET-S and AF IT Service Management.

4.7.10. Develop processes and implement policies including MPTOs to manage all AF-owned networks and platform IT interconnections behind appropriate cybersecurity boundaries as defined in the Baselines and according to AFI 33-210, *Air Force Certification and Accreditation Program*. Review and approve Service Level Agreements for non-AF owned networks on AF installations.

4.7.11. As the AF Authorizing Official (AO) (previously known as Designated Accrediting Authority [DAA]) in accordance with AFI 33-200, assess worthiness and serve as the waiver approval authority for web servers, services, applications, or capabilities supporting the AF to be hosted on commercial servers or services (including cloud computing services) outside of military or government cybersecurity boundaries. The AF AO has responsibility over AF networks, applications and systems as well as the connection approval authority for non-AF systems and applications that will integrate into the AFIN.

4.7.12. Prior to JIE transitions, manage all networks under a One AF-One Network policy by directing the operation, maintenance, and configuration of all AFNET and AFNET-S components (see [Chapter 7](#)). Serve as the waiver approval authority for allowing management of networks outside of the lead MAJCOM.

4.7.13. Support and facilitate management of the Standard Desktop Configuration (SDC)/Defense Server Core Configuration (DSCC) by Air Force Enterprise Configuration Management Office (AFECMO).

4.7.14. Ensure records management procedures are implemented and sustained for all enterprise storage services.

4.7.14.1. Ensure technology solutions meet requirements to support eDiscovery capabilities according to DoD 5012.02-STD, *Electronic Records Management Software Applications Design Criteria Standard* and the Federal rules of Civil Procedure.

4.7.14.2. Implement policy, advocate for resources, and organize, train, and equip cyberspace forces to identify, locate, protect, and produce electronically-stored information in response to litigation requirements.

4.7.14.3. Cooperate with Air Force Legal Operations Agency and the Air Force Records Office directing actions to locate and preserve electronic records as well as non-record electronically stored information which become subject to a litigation hold.

4.7.14.4. Cooperate with Air Force Office of Special Investigations (AFOSI) when an investigation requires the location, acquiring and or preservation of electronic records as well as non-record electronically stored information, IAW AFD 71-1.

4.7.15. Assist AFMC with the development, integration, testing, and fielding of new systems and services, as required (e.g., step 4 of the SDDP to be published or when requested to determine causes of and solutions to deployment and performance issues).

4.7.16. Incorporate AF IT Services into the Core Functions Support Plan (CFSP), as the CFL for Cyberspace Superiority.

4.7.17. Work with MAJCOM/A6s and Mission/Functional process owners to ensure technical consistency of IT solutions across the AFIN in accordance with AFSPC's roles and responsibilities as CFL for Cyberspace Superiority.

4.7.18. If a specific approval authority is not identified (see [paragraph 4.1.11](#)), act as the AFIN approval authority for:

4.7.18.1. System/equipment waiver requests (i.e., purchases, documentation, preventative maintenance inspections).

4.7.18.2. Proposed temporary modifications, known as T-1 modifications to the AFNET/AFNET-S system/equipment modifications according to AFI 63-131, *Modification Program Management*.

4.7.19. Manage and administer Domain Name Service (DNS) subdomains assigned to the AF by DISA or approved for AF use according to DoDI 8410.01.

4.7.19.1. Manage AF-level (af.mil and af.smil.mil) DNS and naming convention for the AF according to the MPTO for Directory Services. Maintain a Name Server (NS) record for all AF name servers in the af.mil zone and provide technical support for the af.mil and af.smil.mil domain and sub-domains.

4.7.19.2. Annually verify administrative and technical contact information is correct in the registrations maintained at the DoD Network Information Center/Secret Internet Protocol Router Network (SIPRNET) Support Center (DoD NIC/SSC) and at the General Services Administration's Government Domain Registration and Services Web site at <http://www.dotgov.gov>.

4.7.20. Review and update AF-level SLAs with external agencies and supported MAJCOMs as required.

4.7.21. Provide network integration and engineering services for the AFNET/AFNET-S and development of JIE capabilities.

4.7.21.1. Ensure operational systems do not introduce vulnerabilities to the AFNET/AFNET-S or disrupt existing functions, while creating a resilient network environment that preserves operational advantage.

4.7.21.2. Perform networthiness consultation, validation, compliance and assessments of risk to the AFIN to enforce standards for functional and cyberspace systems, applications, and products requiring connection to the AFIN.

4.7.21.3. Develop and implement the AFNET Integration Process to verify compliance with security, interoperability, supportability, sustainability, usability regulations of systems, applications, and/or products, and readiness review criteria.

4.7.21.4. Collaborate with organizations to integrate all AF-owned, contracted or developed systems into the AFNET/AFNET-S.

4.7.21.5. Develop integration and implementation plans for AFIN & AFNET evolution to current and future JIE capabilities.

4.7.22. Provide the AF's engineering center of excellence for developing and implementing technical solutions for the AFIN via subordinate organizations such as the 38th Cyberspace Engineering Installation Group (38 CEIG) and AF Network Integration Center (AFNIC).

4.7.22.1. Document Main Operating Base AFIN infrastructure, including system life-cycle information, via the Cyberspace Infrastructure Planning System (CIPS) (Reference MPTO 00-33D-3003, *Managing the Cyberspace Infrastructure with the Cyberspace Infrastructure Planning System*).

4.7.22.2. Provide AFIN network operations with enterprise engineering services according to AFI 33-150, *Management of Cyberspace Support Activities*.

4.7.22.3. Develop and analyze cyberspace requirements and associated impacts on operational architectures and capabilities, and convert AF and DoD technical specifications into standard AFIN and joint solutions to facilitate convergence on a single robust and defensible architecture.

4.7.22.4. Provide network health and vulnerability assessments as coordinated and directed by 24 AF/AFCYBER, including network security and optimization assistance as well as event-driven response action teams.

4.7.22.5. Develop and maintain the AFNET Infrastructure Roadmap and AFNET Concept of Operations to serve as an input to the Target Baseline and show how the Operational Baseline would evolve into the Target Baseline. The Roadmap and Concept of Operations will address Cyber, Situational Awareness of the network, and Network Management capabilities as well as operational roles and responsibilities. The Infrastructure Roadmap will contain the collected and prioritized set of requirements.

**4.8. 24th Air Force (24 AF (AFCYBER)).** 24 AF is the AF component to USCYBERCOM. AFSPC/CC may delegate certain authorities to 24 AF/CC IAW AFI 10-1701, Command and Control for Cyberspace Operations.

4.8.1. In coordination with AFSPC, maintain and administer the Operational Baseline including the AFNET/AFNET-S.

4.8.2. Serve as liaison between the AFECMO and the operational community to facilitate the development and implementation of the SDC/DSCC.

4.8.3. Direct the security, operations, and defense of cloud computing services operated for the AF outside of AF network boundaries but logically a part of the AFIN, using authorities designated by the Cyber C2 structure in AFI 10-1701.

4.8.4. Provide assessments of impact to the AFIN in response to requests for web servers, services, applications, or capabilities to be hosted on commercial servers or services outside of military or government cybersecurity boundaries.

4.8.5. In coordination with AFSPC, review and approve/disapprove MAJCOM unique applications, communications systems, and IT Services requests/needs to ensure compatibility with AF IT Services. Include recommended changes affected by use of commercial servers or services (including cloud computing services).

4.8.6. Provide enterprise-level management of AF IT Services.

4.8.7. Monitor subordinate units' compliance with orders issued and provide assistance on compliance issues when resolution is beyond their scope and/or resources.

4.9. **624th Operations Center (624 OC).** 624 OC is the operational-level C2 organization for 24 AF (AFCYBER), providing strategy, planning, execution monitoring and assessment of Air Force cyber operations. 624 OC directs AF cyber operations and the activities of subordinate 24 AF cyber units via the Cyber Tasking Order (CTO) and other cyber orders. In addition to duties specified in 10-series AFIs and applicable CYBERCOM orders, 624 OC is responsible for the following:

4.9.1. Develop options and directs operational configuration changes, Information Operations Condition (INFOCON) changes (see AFI 10-710, *Information Operations Condition (INFOCON)*), and changes to security postures in response to vulnerabilities and incidents, AF and CCMD operations, USCYBERCOM direction, and outages that cross MAJCOMs, affect the preponderance of the AFIN, or are time critical in nature.

4.9.2. Perform trend analysis and correlation of threat, performance, and compliance metrics as it relates to Vulnerability Management.

4.10. **Major Commands (MAJCOMs)/Functionals.** MAJCOMs/Functionals implement AF guidance concerning the operation and maintenance of mission specific MAJCOM/Functional unique applications, communications systems, and IT. MAJCOMs/Functionals will:

4.10.1. Manage and provide support for command/functional-unique programs and systems/IT. **(T-1).**

4.10.1.1. Ensure command/functional-unique programs and systems/IT integrate with, but do not conflict with applicable AF IT Services. **(T-1).**

4.10.1.2. Ensure command/functional-unique applications do not duplicate infrastructure, services or capabilities provided by the AFIN, AFNET, AFNET-S or JIE, by reviewing the Target, Implementation, and Operational Baselines for planned or existing services or capabilities. Exceptions must be approved by SAF/CIO A6. **(T-1).**

4.10.1.3. Conduct application rationalization within their portfolios for business and mission systems to eliminate duplicity and ensure proper alignment with their business process in accordance with AFI 33-141, *Air Force Information Technology Portfolio Management and IT Investment Review*. **(T-1).**

4.10.1.4. Ensure new applications and systems are fielded within IPNs, CDCs or the MilCloud, SPPNs, Tactical Processing Nodes TPNs, or the Commercial Cloud IAW AF and DoD guidance. **(T-0).**

4.10.2. Utilize only AFECMO produced standard configurations for command-unique systems. Cloning, repackaging, adding, or removing software from AFECMO standard images with the intent of producing a customized image is strictly prohibited except as waived by the AF AO (previously known as DAA) according to [paragraph 4.15.2](#). **(T-1).**

4.10.3. Submit requests to change an Operational Baseline Configuration Item (CI) such as new software or an equipment upgrade. **(T-1)**.

4.10.3.1. For non-program office fielded systems, follow the Change Management process by using the change request module of the Enterprise Information Technology Service Manager (EITSM), a.k.a. Remedy, or via AFTO Form 265, *Request for Change*, according to MPTO 00-33A-1100, *Change Management*,.

4.10.3.2. For program office fielded systems and equipment, submit AF Form 1067 according to AFI 63-131, *Modification Program Management*.

4.10.4. Plan, program, and budget for the capability to respond to orders released according to AFI 10-1701, that impact command/functional-unique programs and systems/equipment including end user workstations and/or network servers and localized infrastructure supporting command-unique requirements. **(T-1)**.

4.10.5. Designate a MAJCOM/AF Forces Communications Control Center (M/ACCC) or equivalent organization to function as the MAJCOM's advocate for mission impacts to the user community (MAJCOM only). **(T-1)**.

**4.11. MAJCOM/AF Forces Communications Control Centers (M/ACCCs) will:**

4.11.1. As an operational element of the MAJCOM Commander's staff, combine situational awareness of networks and information systems supporting the MAJCOM with an in-depth MAJCOM-unique understanding of how those networks and systems are used to accomplish the mission of the command. **(T-2)**.

4.11.2. Generate and disseminate near-real time situational awareness of how MAJCOM missions are being delayed, disrupted, degraded, or terminated due to events associated with the underlying communications networks critical to those missions. **(T-2)**.

4.11.3. Serve as the information dissemination point of contact to the Integrated Network Operations and Security Centers (I-NOSCs), Enterprise Service Units (ESUs), and AF Enterprise Service Desk (ESD) on mission impacts and/or degradation to the mission and its user community. **(T-1)**.

4.11.4. Elevate issues beyond the bases' responsibility or capability to the respective enterprise service support organization. **(T-2)**.

**4.12. Communications Focal Point (CFP) within the Communications Squadron or equivalent will:**

4.12.1. Serve as the conduit for the AF ESD to resolve communications systems and equipment issues at base level. The AF ESD is responsible for all AFNET users, but will delegate some of that responsibility to the CFPs via the Federated Administrative Rights (FAR). Tools such as Information Assurance Officer Express (IAO Express) and Virtual ESD (vESD) will automate certain functions, then re-route tickets that cannot be handled by the tool to either the CFP for Tier 1 or Tier 2 support, as appropriate and/or depending on the FAR authorized, or to the ESD backshop for further processing/support. Tickets that are routed to the CFP will then be routed (by the CFP) to the appropriate production work center for resolution. **(T-1)**.

- 4.12.2. Operate systems and the AFNET/AFNET-S in the IPN according to AFIN baseline management processes and AF IT Services MPTOs. **(T-1)**.
- 4.12.3. Maintain accountability of all AFIN components physically present on the installation regardless of the organization operating the equipment. **(T-1)**.
- 4.12.4. Execute control of production procedures prescribed by AFI 33-150 and MPTO 00-33A-1001, *General Cyberspace Support Activities Management Procedures and Practice Requirements*. Execute control of production on AFNET/AFNET-S components when requested by the operating organization, such as the 26 NOS, I-NOSCs or 33 NWS. Control of production includes planning and scheduling production, ordering and managing materials, and maintaining Automated Information Systems (AISs). **(T-2)**.
- 4.12.5. Serve as or assign a performing workcenter to provide preventive and touch maintenance on AFNET/AFNET-S, functional, and PMO equipment only as directed by the owning organization (e.g., I-NOSC, ESU, 26 NOS, 33 NWS, MAJCOM, PMO). **(T-1)**.
- 4.12.6. Utilize only AFECMO produced standard configurations (e.g., SDC, DSCC). Cloning, repackaging, adding, or removing software from AFECMO standard images with the intent of producing a customized image is strictly prohibited except as waived by the AF AO (previously known as DAA) according to [paragraph 4.15.2](#). **(T-1)**.
- 4.12.7. Provide detailed maintenance records in a transferable system such as Remedy for preventive and touch maintenance on AFNET/AFNET-S equipment when directed to execute such maintenance by the owning organization. Utilize Integrated Maintenance Data System (IMDS) for all maintenance data tracking and actions completed on the AISs within physical control of CFP, according to MPTO 00-33A-1001. **(T-2)**.
- 4.12.8. Elevate issues beyond the base's responsibility or capability to the respective enterprise service support organization. **(T-1)**.
- 4.12.9. Execute actions to comply with Cyber C2 orders according to [paragraph 7](#). **(T-1)**.
- 4.12.9.1. Identify information systems controlled by a PMO which will only be patched or modified upon approval of the PMO or system owner. **(T-1)**.
- 4.12.9.2. For command/functional systems, coordinate with Functional System Administrators (FSAs) to take action to comply with Cyber C2 orders. **(T-1)**.
- 4.12.10. Where remote administration/connectivity fails to resolve an end user service incident or fulfill a AF ITSM responsibility (e.g., Vulnerability Management), the CFP can be assigned network permissions and responsibilities to troubleshoot and resolve end user service incidents or fulfill AF ITSM responsibilities. Perform actions within local control requiring a touch labor solution as directed. **(T-1)**.
- 4.12.10.1. Document tasking and effort using Service Incident Management and Problem Management where appropriate.
- 4.12.11. Identify and resolve network threats, vulnerabilities, and attacks in coordination with the I-NOSCs, so as to minimize risks to operations. **(T-1)**.

- 4.12.12. Inform base leadership and base populace on network threats, vulnerabilities, and actions. **(T-2)**.
- 4.12.13. Notify/coordinate Authorized Service Interruptions (ASI) to minimize impact on base-level mission. **(T-1)**.
- 4.12.14. Maintain situational awareness of their portion of the AFIN. Notify I-NOSCs and M/ACCCs of any issues regarding equipment under CFP control or that may affect base users. **(T-1)**.
- 4.12.15. Report communications systems/equipment issues to MAJCOM and other higher headquarter functions as required. The CFP will provide situational awareness to the M/ACCC according to MAJCOM or Combatant Commanders guidance. **(T-1)**.
- 4.12.16. Coordinate, correlate, assess de-conflict and eradicate suspicious/malicious activity through appropriate authorities FSAs, M/ACCC, 561 NOS, 83 NOS, 299 NOSS and 33 NWS. **(T-2)**.
- 4.12.17. Perform information dissemination management. **(T-2)**.
- 4.12.18. Follow compliance reporting requirements as specified in each Cyber C2 order. Orders may require compliance-based, task-based, or asset-based reporting. **(T-1)**.
- 4.12.19. Develop and exercise COOPs. **(T-3)**. The Communications Squadron/equivalent Plans office will take lead on the development and maintenance of COOPs and/or Disaster Recovery Plan (DRP) for managed services. Work centers will assist the Plans office with the COOP/DRP development for services under their responsibility. COOP will focus on restoring an organization's mission-essential functions (MEF) at an alternate site and performing those functions for up to 30 days before returning to normal operations. See National Institute of Standards and Technology (NIST) Special Publication 800-34, Contingency Planning Guide for Information Technology Systems, for more details.
- 4.12.20. Up channel information that may help C2 of the AFIN. **(T-2)**.
- 4.13. AF Enterprise Configuration Management Office (AFECMO).
- 4.13.1. AFECMO will provide configuration management of the Standard Desktop Configuration (SDC), Defense Server Core Configuration (DSCC), Systems Center Configuration Manager (SCCM) and associated Group Policies, software components and TOs. **(T-1)**.
- 4.13.2. AFECMO is the only organization authorized to make changes to the SDC and DSCC installation image/configuration, baseline group policy, or the SCCM configuration baseline except as approved by the AFSPC Operational Baseline process or directed through orders released according to AFI 10-1701. Any organization cloning, repackaging, adding, or removing software from AFECMO standard images with the intent of producing a customized image is strictly prohibited except as waived by the AF AO (previously known as DAA). **(T-1)**.
- 4.14. Air Force Program Management Offices (PMOs), System Program Offices (SPOs), and Organizations Developing, and/or Managing, Operating non-core IT Services, Applications or Capabilities.** Note: In accordance with the acquisition chain of

authority and acquisition requirements specified in AFI 63-101/20-101, tiering of the acquisition requirements does not apply and waiver authority resides with the program execution chain. This does not relieve the program execution chain of complying with IT Services requirements specified in AFI 33-115. These organizations will:

4.14.1. Design, build, and sustain AFIN components and systems in accordance with the Implementation Baseline. Ensure infrastructure, services or capabilities are not duplicated from those provided by the AFIN or the JIE, by reviewing the Target, Implementation, and Operational Baselines for planned or existing services or capabilities. Exceptions must be approved by SAF/CIO A6. **(T-1)**.

4.14.2. Design, build, and sustain systems and associated IT according to IT baseline management processes, AF IT Services MPTOs, systems TOs, and guidance for Integrated Life Cycle Management (ILCM) provided by AFPD 63-1/20-1, *Integrated Life Cycle Management*. **(T-1)**.

4.14.2.1. Ensure information systems environments are developed and maintained consistent with the AFIN technical architecture published as the Target, Implementation, and Operational Baselines according to AFPD 33-4, where applicable, for AF capabilities built on cloud services.

4.14.2.2. Evaluate cloud computing solutions in accordance with [paragraph 5.3](#), as part of their planning process when developing new applications or evaluating changes to the hosting of existing applications. Rationalize existing application needs, virtualize, and migrate existing applications to approved data centers and/or cloud services to support AF data center consolidation goals. The requiring program office is responsible for the acquisition and funding of cloud computing as supporting infrastructure. **(T-0)**.

4.14.3. Comply with all Cyber C2 orders according to [paragraph 7](#). **(T-1)**.

4.14.4. Implement all actions required by Cyber C2 orders directing AF ITSM (e.g., Vulnerability Management) and report compliance/non-compliance according to the orders and applicable methods and procedures. **(T-1)**.

4.14.5. Host, tenant, and Geographically Separated Unit (GSU) organizations will coordinate all IT actions with potential impact on the network or other IT services or capabilities with their servicing CFP. **(T-1)**.

4.14.6. Utilize AFECMO produced standard configurations (e.g., SDC, DSCC). Cloning, repackaging, adding, or removing software from AFECMO standard images with the intent of producing a customized image is strictly prohibited except as waived by the AF AO (previously known as DAA) according to [paragraph 4.13.2](#). **(T-1)**.

4.14.7. Conform to a One AF-One Network policy (see [paragraph 7.6](#)) managed by AFSPC. All systems on the network must be configured to operate within this construct or possess a waiver from the lead MAJCOM. **(T-1)**.

4.14.8. Utilize base CFP, ESU, I-NOSC, DISA, or other government enterprise managed network services and Enterprise Core Services. IT capabilities or data servers residing outside the protections of government networks and data centers require a waiver from the lead MAJCOM. **(T-1)**.

- 4.14.8.1. Manage all data servers and associated computing infrastructure in the data center (IPN, SPPN) as approved by the ITGEB in support of federal and AF efforts to reduce operating costs by consolidating data centers. **(T-0)**.
- 4.14.8.2. Submit requirements for required approvals of data servers and associated IT using CIPS through the base level Cyberspace Systems Integrator (CSI) according to AFI 33-150, **Attachment 2**. Obligation requests must be submitted to [usaf.pentagon.saf-cio-a6.mbx.a3c-a6c-afdcc-workflow@mail.mil](mailto:usaf.pentagon.saf-cio-a6.mbx.a3c-a6c-afdcc-workflow@mail.mil) and approved by the servicing lead command or MAJCOM A6. **(T-1)**.
- 4.14.9. Provide Information Support Plans to AFIN Operations activities as required by AFI 63-101/20-101, *Integrated Life Cycle Management*, for any IT system that exchanges information external to itself, and/or is connected to the DoDIN.
- 4.15. Functional Systems Administrator (FSA) will:**
- 4.15.1. Ensure functional communities of interest systems, servers, workstations, peripherals, communications devices, and software are on-line and supported. **(T-2)**.
- 4.15.2. Manage and maintain their functional systems. Provide an interface between program representatives and the CFP, CDC, or IPN. **(T-1)**.
- 4.15.3. Create a SLA or MOA for any transfer of administrative responsibilities to an IPN. **(T-2)**.
- 4.15.3.1. Implement all actions required by Cyber C2 orders as approved by each system's configuration control authority according to **paragraph 7**. **(T-1)**. Coordinate order implementation with servicing CFP, I-NOSC, users, and external agencies.
- 4.15.3.2. Follow compliance reporting requirements as specified in each Cyber C2 order. Orders may require compliance-based, task-based, or asset-based reporting.
- 4.15.4. Work with the CFP to:
- 4.15.4.1. Eradicate malicious logic from networks, information systems, and stand-alone computing devices. **(T-1)**.
- 4.15.4.2. Assess the scope of unauthorized network activities or incidents. **(T-1)**.
- 4.15.4.3. Review and upchannel I-NOSC-run vulnerability reports to the owning PMO.
- 4.15.5. Utilize AFECMO produced standard configurations (e.g., SDC, DSCC). Cloning, repackaging, adding, or removing software from AFECMO standard images with the intent of producing a customized image is strictly prohibited except as waived by the AF AO (previously known as DAA) according to **paragraph 4.13.2**. **(T-1)**.
- 4.16. All Unit Commanders will:**
- 4.16.1. Ensure assigned personnel use government provided equipment, government IT services, or Internet-based Capabilities accessed from government equipment for official, authorized, or limited authorized personal use according to AFMAN 33-152 and DoDI 8550.01. **(T-0)**.

4.16.2. Maintain the security, integrity, and accountability of AF information on the Internet by establishing and maintaining public websites/capabilities inside the network demilitarized zone (DMZ) and private websites/capabilities inside the protections of government network security. Any AF website, servers, services, applications, or capabilities to be hosted on commercial servers or services outside of military or government cybersecurity boundaries requires AFSPC lead command approval. **(T-0)**.

4.16.3. Ensure all publically accessible DoD Internet Services managed by the organization comply with applicable cybersecurity controls, information security procedures, OPSEC measures, and DoDI 8550.01 requirements including registration and dissemination guidance. **(T-0)**.

4.16.4. Control content on public websites through the Public Affairs (PA) office according to AFI 35-107, *Public Web Communications* and AFI 35-102, *Security and Policy Review Process*. **(T-0)**.

4.16.5. Ensure all public websites and capabilities within the organization span of control are submitted to wing/base PA offices for review prior to their launch. ANG units will coordinate with their unit Public Affairs Officer (PAO) prior to their launch. ANG geographically separated units use their host wing for PAO support. **(T-0)**.

4.16.6. Obtain all Internet connectivity and web services through the supporting base CFP except as excluded by [paragraph 7.4](#) **(T-2)**.

**4.17. Air Force Office of Special Investigations Cyber Investigations and Operations (AFOSI CI&O).** AFOSI conducts cyber investigations and operations in, through, and beyond cyberspace to identify, exploit, and neutralize criminal, terrorist, and intelligence threats to the AF, DoD, and US Government (USG). Air Force Mission Directive (AFMD) 39, *Air Force Office of Special Investigations (AFOSI)*, and Air Force Policy Directive (AFPD) 71-1, *Criminal Investigations and Counterintelligence*, both implement DoDD O-5240.02, *Counterintelligence*, and define AFOSI's role as the Air Force's sole agency for conducting counterintelligence (CI) investigations, and offensive counterintelligence operations (OFCO) and as such is the only Air Force agency authorized to do so in cyberspace. AFOSI is also responsible for initiating and conducting independent criminal investigations per AFMD 39 and AFPD 71-1. The CI&O program is AFOSI's primary cybercrime investigative and operations capability. For the purposes of this paragraph, AFOSI is a DoD intelligence component as defined in DoD 5240.1-R, *Procedures Governing the Activities of DoD Intelligence Components That Affect United States Persons*. AFOSI CI&O will:

4.17.1. Be the focal point for Law Enforcement (LE) and Counterintelligence activities in cyberspace and the AFIN.

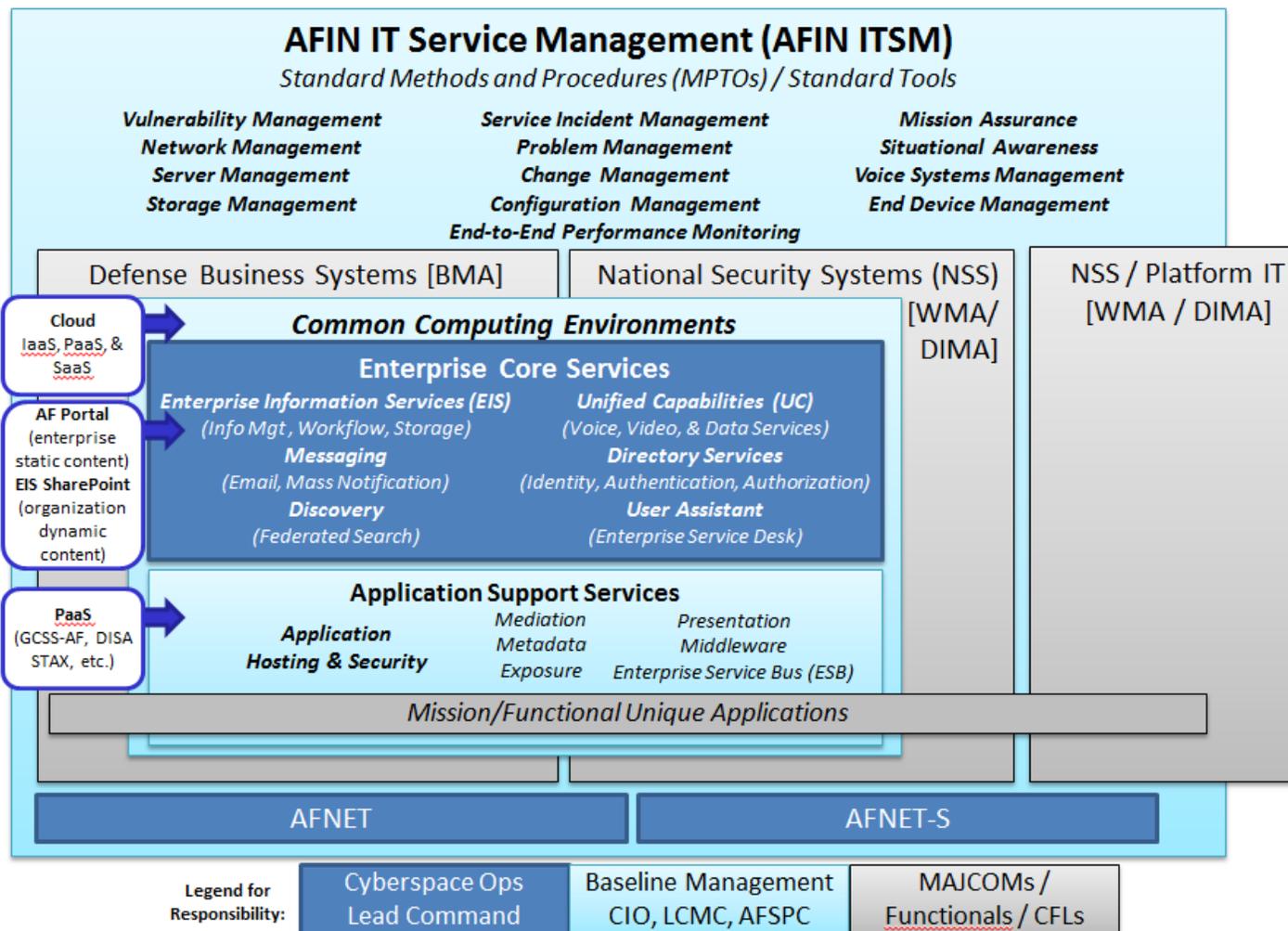
4.17.2. Provide Law Enforcement support to AFCYBER/CC for matters occurring in or impacting the AFIN.

4.17.3. Provide Cyber Counterintelligence support to AFCYBER/CC and the AF for matters occurring in or impacting the AFIN.

**5. AF IT Services Framework.** The AF IT Services Framework, as an ITSM framework, provides foundation which integrates and manages the AFIN, enterprise core services, and solutions to support the AF portion of the DoDIN and the DoD Information Enterprise as defined by DoDD 8000.01. AF IT Services are functionally aligned to the Defense Information Enterprise Architecture and its activities. AF IT Services may not be provided by a single entity but are instead a federated, shared capability among several organizations. The services will be developed, operated and maintained in accordance with the Target, Implementation, and Operational Baselines and the processes defined by this publication and supporting MPTOs. Mission/Functional Unique Applications may be supported and defined as a new AF IT Services as their usage and scope increases across the enterprise supporting the AF usage of a previously functional unique application. Additional AF IT Services will be initially designated in the Target or Implementation Baseline as appropriate with requests and changes to the Baselines managed by the Air Force Consolidated Enterprise Information Technology Baseline (AF CEITB).

Figure 2. AF IT Services Framework.

# AF IT Services Framework



**5.1. AF IT Services Management (AF ITSM).** AF IT Service Management is established as IT components, infrastructure, and processes (e.g., Network Management, Vulnerability Management) enabling effective operations and defense of the AFIN and the IT services. AF IT Service Management creates a trusted environment capable of protecting and maintaining the integrity, quality, and availability of the AFIN. All terrestrial, space and airborne networks will inherit the capabilities of AF IT Service Management, reference AFPD 33-5, *Warfighting Integration* for establishment of a fully integrated, flexible and net-centric family of systems, networks and architectures bridging theater warfighting, combat support, global/functional capabilities and infrastructure enterprises. Non-traditional services that are being migrated onto the Internet Protocol (IP) network (e.g., IP telephony, video teleconferencing) will need to be managed for both non-standard or legacy systems and newer IP-based implementations until all legacy systems are removed from the AF.

**5.1.1. Vulnerability Management.** Vulnerability Management is established as the practice of identifying AFIN hardware and software vulnerabilities, performing risk analysis, prioritizing mitigation actions based on levels of risk deemed acceptable by an appropriate commander, and remediating and/or mitigating the vulnerabilities to proactively prevent exploitation. This service area includes all AFIN systems and components, and the complete cycle of identification, classification, remediation, and mitigation of vulnerabilities. Vulnerability Management also includes patching, tracking, and testing. *Note: Special precautions are taken with Command, Control, Intelligence, Surveillance, and Reconnaissance mission systems and non-standard or legacy systems to ensure automated vulnerability fix actions do not degrade operational missions.* Specific methods and procedures are in MPTO 00-33A-1109, *Vulnerability Management*.

**5.1.2. Network Management.** Network Management is established as the ability to monitor, control, configure, and optimize networks, systems, services and the underlying physical assets that provide end-user services, as well as connectivity to enterprise application services all in accordance with the applicable DISA Security Technical Implementation Guides (STIGs). Network Management includes the activities, methods, processes, procedures, capabilities, tools, and resources that pertain to the operation, administration, logging, maintenance, and provisioning of networked systems. Network Management begins with the background situational awareness of network configuration and performance of networks. Network Management shall have and use automated Configuration Management and PBNM according to DoDI 8410.03. Specific procedures are in MPTO 00-33A-1106, *Air Force Information Network (AFIN) Network Management*.

**5.1.3. Server Management.** Server Management is established as the activities, methods, processes, procedures, capabilities, tools, and resources that pertain to the operation, administration, monitoring, configuration, and maintenance of the hardware and software components of a server in accordance with the applicable DISA STIGs. Server Management includes coordination of server requirements for environmental and facility support, installation and deployment, monitoring, configuration, and security. Specific methods and procedures for Server Management are in MPTO 00-33A-1113, *AFIN Server/Storage Management and Application Hosting*.

**5.1.4. Storage Management.** Storage Management is established as the activities, methods, processes, procedures, capabilities, tools, and resources that provide for the storage, retrieval, availability, backup and recovery, destruction, labeling, quota management, security, and confidentiality of user data on the AFIN in accordance with the applicable STIGs. Storage Management also includes the administration, configuration, and monitoring of the storage media and devices. Specific methods and procedures for Storage Management are in MPTO 00-33A-1113, *AFIN Server/Storage Management and Application Hosting*.

**5.1.5. Service Incident Management.** Service Incident Management is established as the activities, methods, processes, procedures, capabilities, tools, and resources used to restore normal service operations as quickly as possible. A service incident is any event (network security, network management, etc.) which is not part of standard operations and causes an interruption or reduction of the quality of service. A service incident is categorized under three major ticket models as Standard (applications, services, networks, etc.), Major (accelerated workflow with reduced escalation timelines), or Security (handling follows security incident guidance) with separate procedures and workflows for each major type. The goal of Service Incident Management is to minimize the adverse effect on operations, ensuring the best possible levels of service and availability are maintained. Service Incident Management is directly linked to management of the physical infrastructure and should focus on identifying infrastructure issues and documenting corrective actions or changes needed to prevent incidents in the future. Specific procedures for Service Incident Management are in the MPTO 00-33A-1112, *Air Force Network Enterprise Service Desk Service Incident Management*. Security incident procedures will be published in MPTO 00-33B-5007, *Security Incident Management for Information Systems*. Cyber incident procedures will be published in AFI 10-1702, *Cyber Incident Handling*.

**5.1.6. Problem Management.** Problem Management is established as the activities, methods, processes, procedures, capabilities, tools, and resources used to identify and resolve the root causes of service incidents and prevent their recurrence. A “problem” is a condition typically identified as a result of multiple service incidents that exhibit common symptoms, share related mission impacts, or share a common root cause. Problem Management includes event correlation, trend analysis, problem diagnosis, root cause analysis, and knowledge basing to provide a user-level knowledge base of answers and resolutions to common user-level issues. Specific procedures for Problem Management are in MPTO 00-33A-1114, *AFIN Problem Management*.

**5.1.7. Change Management.** Change Management is established as standardized activities, methods, processes, and procedures used to effectively manage and control all changes to the AFIN Operational Baseline, minimizing risk, disruptions in service and adverse impacts to operational users. A “change” is the addition, modification or removal of anything that could have an effect on IT services, configuration, processes, security, etc. Change Management focuses on documenting changes to the network. This includes documenting updates made to maps, drawings, network layouts, Virtual Local Area Network (VLAN) Architectures, IP addresses, and network configurations. Linkages identified such as base level drawings must be included in the CSI blueprint. The change management process must begin at the base level and extend to the AF level

to ensure all requirements are contained in one process. Multiple change management processes must be consolidated and a governing group be formed to focus on change management. Change management and configuration management must be a dynamic process. Any change to the network must be automatically reflected in the visualization of the network configuration. It is critical to clarify the relationship between change management and vulnerability management. Vulnerability management is change management responsiveness to security-directed changes. Specific procedures for Change Management are published in MPTO 00-33A-1100, *AF-GIG Operational Change Management Process*.

**5.1.8. Configuration Management.** Configuration Management is established as the activities, methods, processes, procedures, capabilities, tools, and resources which establish and maintain thorough, documented baselines of the hardware and software configuration items of the AFIN, including the features, attributes, technical configuration, and documentation of the components. Configuration Management defines those items that are configurable, those items that require formal change control, and the process for controlling changes to such items. Configuration Management is vital to network and system stability and will be automated to support Network Management according to DoDI 8410.03. Before changes are introduced into a network or system, they must be properly reviewed, approved and documented following Change Management methods and procedures. Specific procedures for Configuration Management will be in the *Configuration Management MPTO*.

**5.1.9. End-to-End Performance Monitoring.** End-to-End Performance Monitoring is established as deliberate, proactive monitoring and capacity planning of all the hardware and software components of the AFIN which enables all AF IT Services including mission/functional unique applications. It supports mission assurance by including the end user experience and the warfighter's ability to access critical information. End-to-End Performance Monitoring includes the activities, methods, processes, procedures, capabilities, tools, and resources which allow cyber professionals to rapidly identify, isolate, and resolve service incidents before they cause significant degradation or poor performance resulting in mission impact. Monitoring, measuring, performance analysis, and optimizing networks and networked systems are included in the scope. Capacity Planning includes the long trend analysis of network devices including servers, and should be performed in order to identify future constraints with the results incorporated into either future Technical Baselines. Service and application performance is affected by both the performance of the network and performance of the servers and applications providing the service. As the operator of the network, 24 AF has the ultimate responsibility for determining the network elements to be monitored, the thresholds that must be established, and the appropriate responses to results that fall outside the established thresholds. 24 AF must coordinate with the network owner (e.g., DISA, Army, etc.) if monitoring spans networks outside of AF control. End-to-End Performance Monitoring applies to the NIPRNET and the SIPRNET, and all other terrestrial, space and airborne networks – anywhere a network can be hosted – for all entities (Active, Guard, & Reserve). Specific procedures for End-to-End Performance Monitoring will be in the *End-to-End Performance Monitoring MPTO*.

5.1.10. **Mission Assurance.** Mission Assurance is established as the actions taken to ensure operational users can leverage AFIN systems and command/functional unique systems to execute operational missions. This includes activities, methods, processes, procedures, capabilities, tools, and resources that protect and defend information and information systems by ensuring their availability, integrity, authentication, confidentiality, and non-repudiation. Continuity of operations, disaster recovery, risk management, and “fighting through an attack” are also critical aspects of Mission Assurance. Mission Assurance requires traceability of mission dependencies on cyberspace capabilities to provide prioritization of all other AFIN activities and provide the mission context for Situational Awareness. This applies to all components of the AF IT Services Framework. Specific procedures for Mission Assurance will be in the *Mission Assurance and Situational Awareness MPTO*.

5.1.11. **Situational Awareness.** Cyberspace Situational Awareness (SA) is the requisite current and predictive knowledge of cyberspace and the operating environment upon which cyberspace operations depend, including all factors affecting friendly and adversary cyberspace forces (JP 3-12). Situational Awareness is enabled by the activities, methods, processes, procedures, capabilities, tools, and resources which provide meaningful and relevant end-to-end visibility incorporating data from End-to-End Performance Monitoring and other management data into a common operational picture by providing the operating status, location, performance, and utilization of AFIN hardware and software, both (a) within context as AFIN resources and (b) within the context of the mission(s) those resources are supporting. Specific procedures for Situational Awareness will be in the *Mission Assurance & Situational Awareness MPTO*.

5.1.12. **Voice Systems Management.** Voice Systems Management is established as the ability to monitor, control, configure, and optimize voice systems. Voice Systems Management includes the activities, methods, processes, procedures, capabilities, tools, and resources that pertain to the operation, administration, maintenance, and provisioning of voice systems. Voice Systems Management will be undergoing significant change as a part of the DoD category of Unified Capabilities (UC), as stated in the AF UC Master Plan and DoDI 8100.04, *DoD Unified Capabilities (UC)*. To optimize support of real-time voice (video, etc.) requirements in the future, systems and data networks must be optimized to meet the unique requirements of UC while eliminating specific system stovepipes to provide quality of service (QoS) needs for Voice over Internet Protocol (VoIP) and UC. Additional guidance for Voice Systems Management is available in AFMAN 33-145, *Collaboration Services and Voice Systems Management*. Specific procedures for Voice Systems Management will be in MPTO 00-33A-1108 *Voice Systems Management*.

5.1.13. **End Device Management.** End Device Management is established as the installation and deployment, monitoring, configuration, maintenance, and security of end devices on the AFIN. End devices are items such as desktop PCs, laptops, notebooks, tablet PCs, smartphones, executive mobile devices, VoIP phones, IP-enabled sensors/alarms, etc. Specific procedures for End Device Management will be in the *End Device Management MPTO*.

**5.2. Enterprise Core Services.** Enterprise Core Services are standard IT capabilities available to all users on the AFIN. Enterprise Core Services support DoD Net-Centric strategies for data and services by enabling users to safeguard, compile, catalog, discover, cache, distribute, retrieve, and share data in a collaborative environment across the AF and DoD enterprises. As DoD establishes joint enterprise services under JIE, the AF will evaluate the transition of AF enterprise core services when appropriate. 24AF will operate AF enterprise services not provided by JIE, and/or those JIE enterprise services being provided by the AF to all DoD customers.

**5.2.1. Collaboration.** Collaboration services are established as the capabilities and resources that allow communications and interactions across the AFIN enterprise, including voice, video, data, and visual representation. This includes those capabilities which may be bundled into Unified Capabilities (UC). UC are defined as the integration of voice, video, and/or data services delivered ubiquitously across a secure and highly available network infrastructure, independent of technology, to provide increased mission effectiveness to the warfighter and business communities (DOD Unified Capabilities Requirements 2013). Examples may include web conferencing, application and desktop sharing, presence, chat, video teleconferencing, VoIP, white boarding, chat rooms, and online forums. Additional guidance for Collaboration is in AFMAN 33-145, *Collaboration Services and Voice Systems Management* and DoDI 8100.04, *DoD Unified Capabilities (UC)*.

**5.2.2. Messaging.** Messaging services are established as the exchange of electronic message traffic between all users and organizational entities on the AFIN. Messaging services include the ability to compose, read, store, forward, manage, prioritize, digitally sign/encrypt, and track delivery/receipt of electronic messages. The AF is transitioning messaging services to cloud services utilizing DISA Enterprise Email (DEE). Examples may include email, Instant Messaging and Voicemail. Specific user procedures for Messaging are in AFMAN 33-152, *User Responsibilities and Guidance for Information Systems* and incorporated in UC covered by AFMAN 33-145.

**5.2.3. Discovery.** Discovery services are established as the capabilities and resources that enable users to identify, search, locate, and retrieve information across the AFIN. Discovery services include the ability to catalog and index information, identify applicable data repositories, formulate search queries/criteria, and retrieve/deliver relevant information to users in a timely fashion. This is a critical capability enabler for change management, configuration management, policy based management, and performance analysis as described above. Specific procedures for Discovery will be in the *Discovery and Information Management MPTO*.

**5.2.4. Enterprise Information Services (EIS).** Enterprise Information Services will provide a solution across the entire AF by enabling organizations to communicate and collaborate vertically and horizontally with all EIS capabilities, optimizing the use of available bandwidth by using the most effective capabilities for the operational environment. Warfighters will utilize Knowledge Operations (KO) capabilities to drive operational effects through improved decision-making processes. Warfighters will pull required information and knowledge smartly, push information for continuous collaboration across the unified communications domain, and receive the right information at the right time and in the right format through advanced collaboration

techniques (i.e., integrated people, processes and technology) via a proactive push from all integrated operations and support functions. Enterprise Information Services effectively capitalize upon KO performed by commanders, who integrate all AF functional areas into refined staff organizations, internal battle rhythms, and routine interactive sessions with subordinate commanders worldwide. The KO vision of a “One AF—One Enterprise” to fundamentally change the way the AF uses, delivers, and manages knowledge to perform peacetime missions and wartime operations across an integrated AF enterprise recognizes the imperative for a proactive means to promote collaboration, the sharing of ideas, and to find solutions to common problems across the entire AF. It also promotes the ability to learn, innovate, decide, and act, faster than our adversaries while operating in a condition of persistent conflict. Enterprise Information Services are established as the capabilities and resources supporting the security, reliable storage, timely delivery and deduplication of information across the AFIN enterprise. Examples include common and private data/file service, workflow management service, and enterprise print service. These services will be implemented and sustained according to AFPD 33-3, *Information Management*. Specific procedures for Information Management will be in the *Discovery and Information Management MPTO*.

**5.2.5. Knowledge Management (KM).** Knowledge Management (KM) is the capturing, organizing, and storing of knowledge and experiences of individual workers and groups within an organization and making this information available to others in the organization. KM is the art of creating, organizing, applying, and transferring knowledge to facilitate situational understanding and decision making. (AFSPC Enabling Concept for Knowledge Operations, May 2011)

**5.2.6. Application Hosting.** Application Hosting services are established as hosting environments that are architecturally compliant, consistent, reliable, and secure computing environments (consisting of application software and associated utilities) supporting AF IT Services, Enterprise Core Services, Application Support Services, and mission/functional unique applications and systems. All Application Hosting will migrate to Common Computing Environments and Cloud Services, see [paragraph 5.3](#), no later than end of Fiscal Year (FY) 2018 (FY18) according to DoD guidance. Specific procedures for Application Hosting are in MPTO 00-33A-1113, *AFIN Server/Storage Management and Application Hosting*.

**5.2.7. User Assistant.** User Assistant services are established as the personnel, activities, methods, processes, procedures, capabilities, tools, and resources providing an interface to AFIN users for customer service functions, including service incident/problem reporting, IT service requests, service incident prioritization, operational impact reporting, and escalation to mission/functional unique application help desks. The primary AFIN organization designated for user assistance is the AF ESD. Specific Procedures are in the MPTO 00-33A-1112, *Air Force Network Enterprise Service Desk Service Incident Management*.

**5.2.8. Directory Services.** Directory Services are established as the activities, methods, processes, procedures, capabilities, tools, and resources that provide, operate, and maintain a global directory of AFIN users, objects, and resources. Directory services include appropriate identity and attribute information, allowing effective enterprise-wide identity management, authentication, and authorization to AFIN resources. Directory

Services are sourced from and rely on a number of AF and DoD organizations for account management and data accuracy. Specific procedures for Directory Services will be in the *Directory Services MPTO*.

### 5.3. Common Computing Environments, Cloud Security Requirements and Cloud Services.

5.3.1. The DoD CIO Cloud Computing Strategy (2012) provides Federal and DoD mandates for cloud computing adoption and identifies the three major benefits as efficiency, agility, and innovation. The DoD Cloud Computing Goal is to “*implement cloud computing as the means to deliver the most innovative, efficient, and secure information and IT services in support of the Department’s mission, anywhere, anytime, on any authorized device.*”

5.3.2. Common computing environments authorized for hosting AF core enterprise services, applications, and systems are limited to DoD Data Center, and commercially provided cloud services.

5.3.3. Cloud computing supports the Common Computing Environment (CCE) and provides capabilities for IaaS, PaaS, SaaS.

5.3.3.1. Infrastructure as a Service (IaaS) - Virtualized systems operated on fundamental computing resources (e.g., processing, storage, and network) managed as a cloud service with the AF retaining control of operating systems, storage, and deployed applications.

5.3.3.2. Platform as a Service (PaaS) - A cloud computing platform providing operating systems, database systems, web servers, security, etc. for hosting of AF unique applications. The AF is only retaining control of the hosted unique application(s) and not the operating systems, database systems, web servers, security, etc.

5.3.3.3. Software as a Service (SaaS) - All aspects of standard applications are provided as a cloud service to the AF. The AF does not retain control over the applications, platform or infrastructure.

5.3.4. DoD Security Requirements Guide (SRG) is security requirements applicable to a given technology family, product category, or an organization in general. Compliance with the SRG is a requirement and Mission Owners must comply with the requirements of the SRG for any commercial cloud environment, including government and commercial hosted cloud services. The SRG can be found at URL: [http://iase.disa.mil/cloud\\_security/Pages/index.aspx](http://iase.disa.mil/cloud_security/Pages/index.aspx).

5.3.4.1. Deleted.

5.3.4.2. Deleted.

5.3.4.3. Deleted.

5.3.5. Applications relocating to an approved DoD hosting environment must be vetted through the AF Application Rationalization process (see Figure 3). The AF application rationalization process is a four phase process that drives application reductions and data center closures to meet DoD goals. (2012 National Defense Authorization Act, section 2867, paragraph a.3.b.1.v).

5.3.5.1. Phase one of the AF Application Rationalization process (application discovery) requires the identification of applications residing on bases across the AF. Applications discovered by MAJCOMs, Forward Operating Agencies (FOAs), Direct Reporting Units (DRUs), Program Element Offices (PEOs), Mission Area Owners, and application owners must be registered to Enterprise Information Technology Data Repository (EITDR).

5.3.5.2. During the second phase (mid-level governance) MAJCOMs, FOAs, DRUs, PEOs, Mission Area Owners, and application owners identify the planned DoD hosting environment for their applications, submit their application disposition listings to SAF/CIO A6 to be included on the AF Application Disposition Listing, and present individual disposition listing(s) to the Information Technology Governance Executive Group and Board (ITGEG/B) for review and waiver approval.

5.3.5.3. In phase three (senior level governance) the ITGEG/B reviews MAJCOM, FOA, DRU, PEO or application owner migration plans and application hosting locations (application disposition listings) and approves waivers as required. MAJCOM, FOA, DRU, PEO and Functional application disposition listings will be combined to create the Air Force Application Disposition Listing.

5.3.5.4. Phase four (disposition) involves the movement of applications to a DoD approved hosting environment (e.g. IPN, CDC or MilCloud, SPPN, TPN, or the Commercial Cloud). Applications will be dispositioned and migrated per the AF Application Migration Execution Framework (see Figure 4) and the AF Application Migration Process (see Figure 5). The AF Application Rationalization Process, the AF Application Migration Execution Framework, the AF Application Migration Flowchart, and supplemental application migration documentation, can be found on the USAF Application Migration Website at URL: .

Figure 3. Air Force Application Rationalization Process.

# USAF Apps Rationalization Process

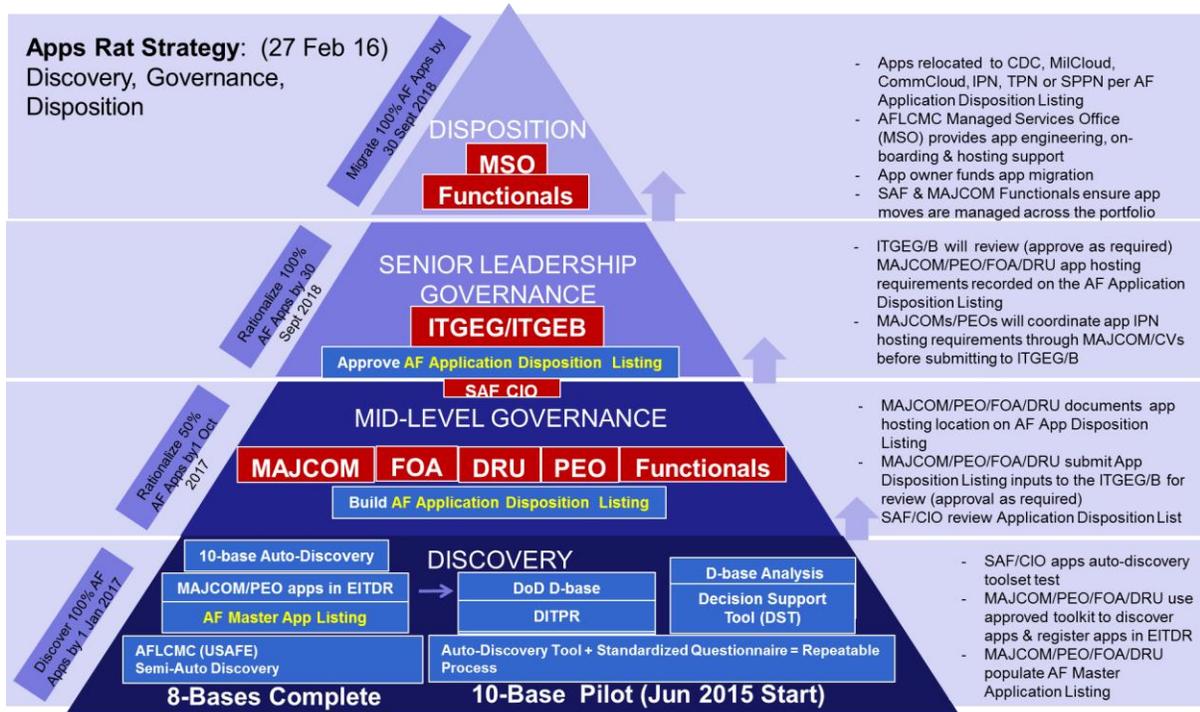


Figure 4. Air Force Application Migration Execution Framework.

# *Application Rationalization & Migration Execution Framework*

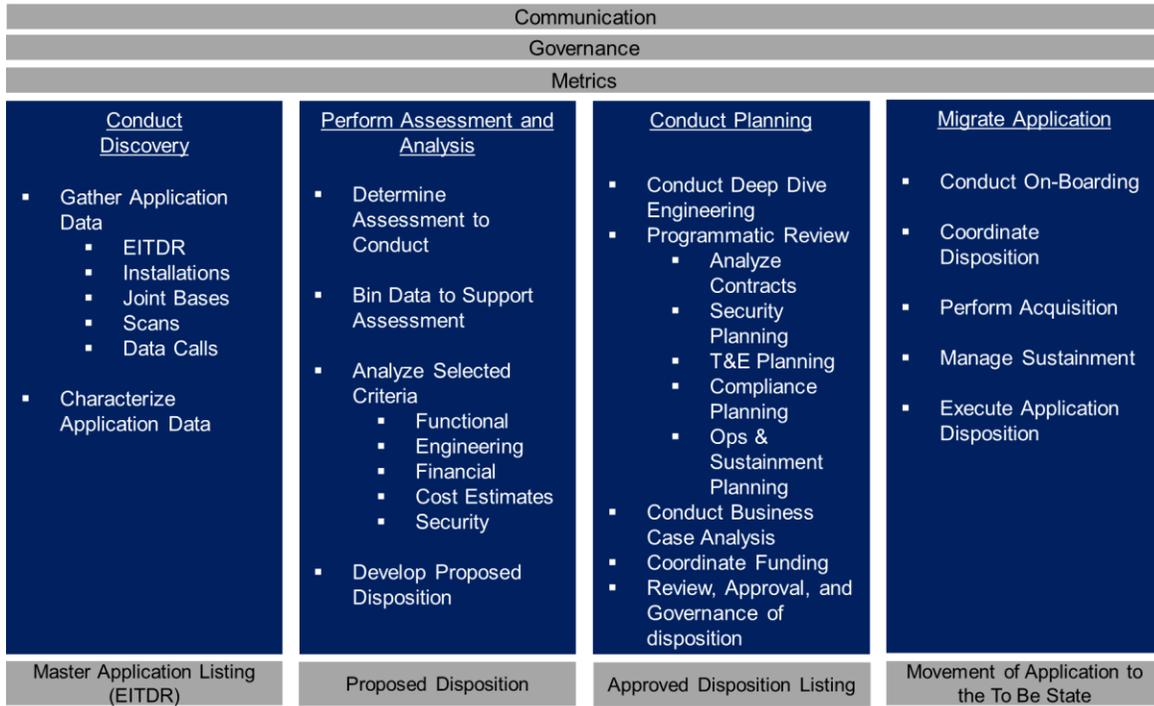
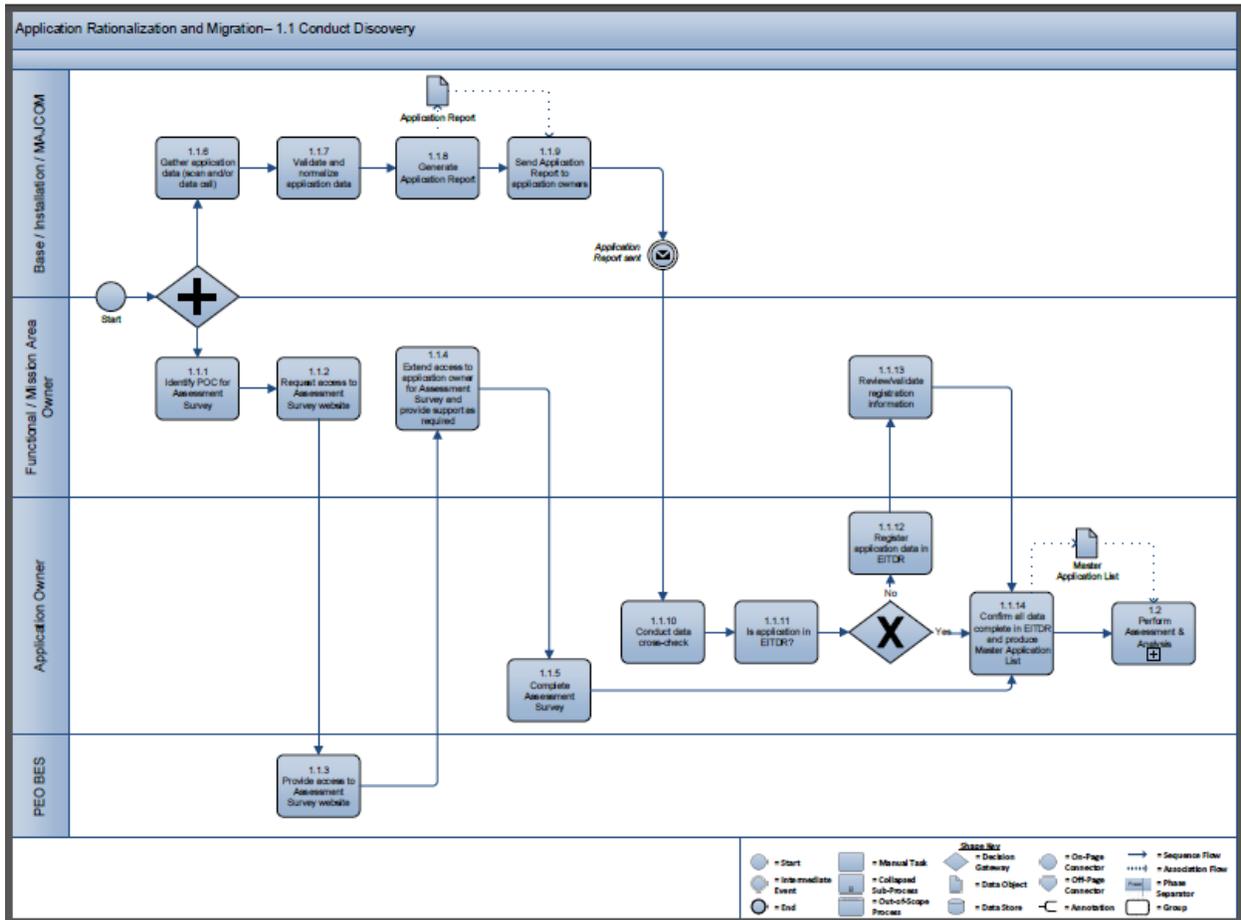
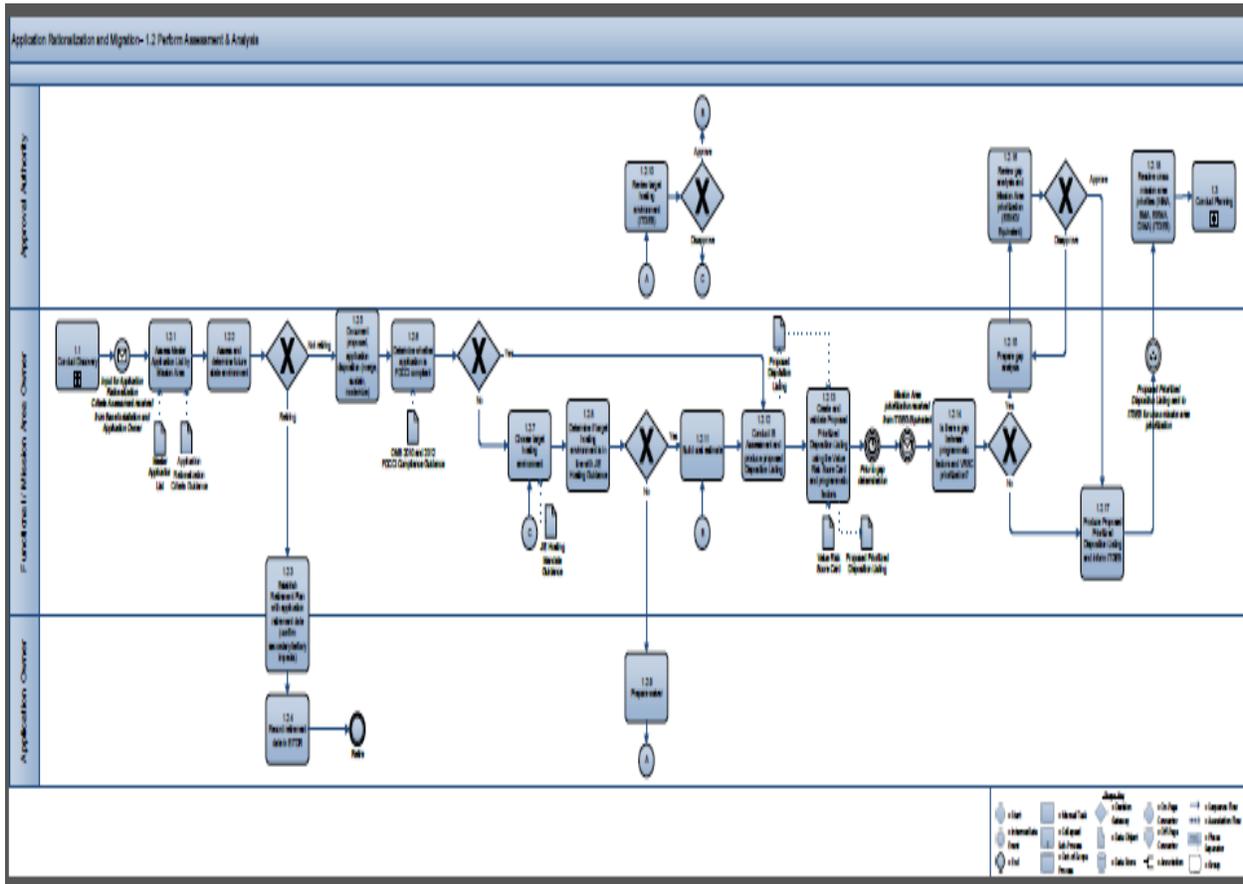


Figure 5. Air Force Application Migration Process Flowchart (DISCOVERY).



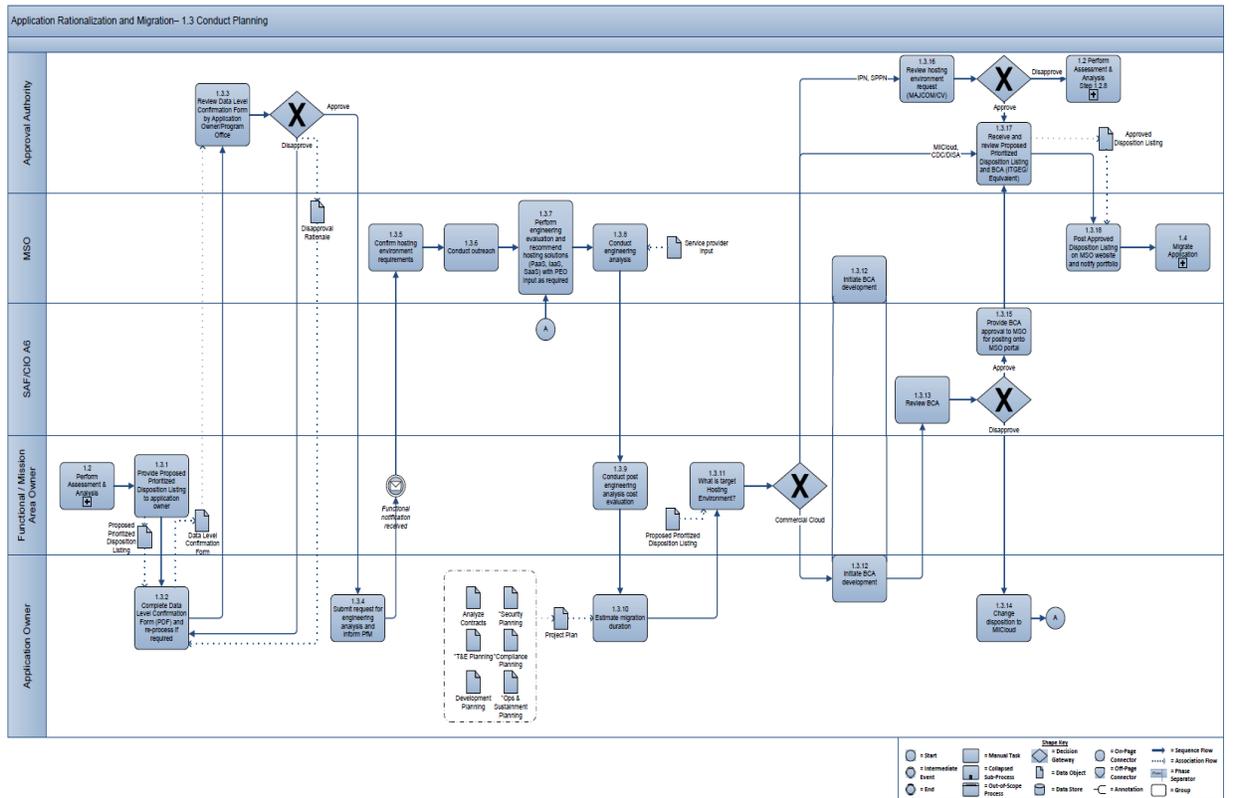
\*Note: This flowchart and a narrative for each step in DISCOVERY is provided at URL: <https://intelshare.intelink.gov/sites/afcce/SitePages/Home.aspx> (click: Application Management then Application Rationalization).

**Figure 5.1. Air Force Application Migration Process Flowchart (ASSESSMENT & ANALYSIS).**



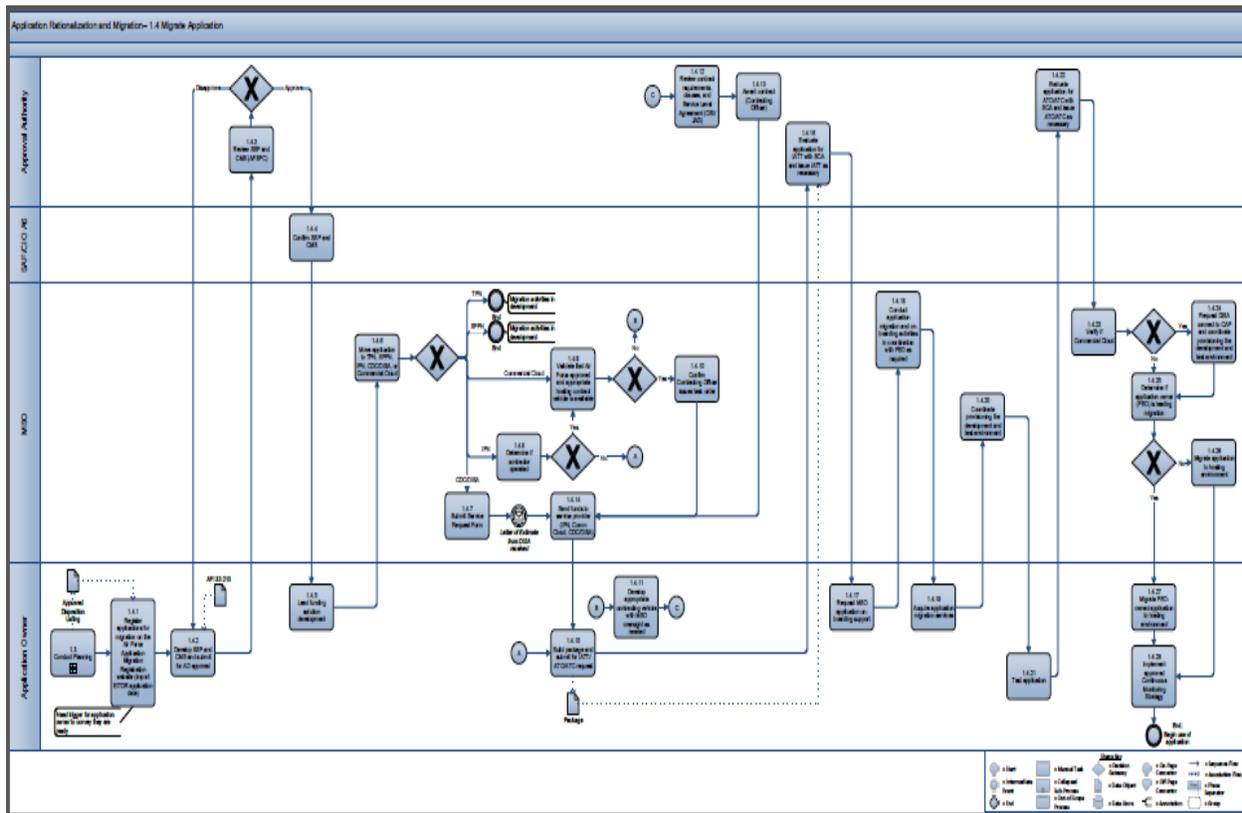
\*Note: This flowchart and a narrative for each step in ASSESSMENT & ANALYSIS is provided at URL: <https://intelshare.intelink.gov/sites/afcce/SitePages/Home.aspx> (click: Application Management then Application Rationalization).

Figure 5.2. Air Force Application Migration Process Flowchart (CONDUCT PLANNING).



\*Note: This flowchart and a narrative for each step in CONDUCT PLANNING is provided at URL: <https://intelshare.intelink.gov/sites/afcce/SitePages/Home.aspx> (click: Application Management then Application Rationalization).

**Figure 5.3. Air Force Application Migration Process Flowchart (MIGRATE APPLICATION).**



\*Note: This flowchart and a narrative for each step in MIGRATE APPLICATION is provided at URL: <https://intelshare.intelink.gov/sites/afcce/SitePages/Home.aspx> (click: Application Management then Application Rationalization).

5.3.6. Organizations will maintain responsibility for their application and capabilities built on a cloud service and/or identified as a government responsibility in any applicable documentation for cybersecurity or approvals to operate for the cloud service.

5.3.6.1. Maintain AFIN networkiness by complying with AF AO (previously known as DAA) direction for executing secure operations functions within their operated portions of the AFIN extending to cloud services.

5.3.6.2. Ensure Air Force Information Technology (IT) utilizing cloud computing services follow the DoD Provisional Authorization process and receive Assessment and Authorization from the AF AO or designated Functional AO according to AFI 33-210, The Risk Management Framework (RMF) for Air Force Information Technology (IT). The RMF will utilize security control inheritance for security controls provided by the cloud service.

5.3.6.3. Deleted.

5.3.6.4. Web servers, services, applications, or capabilities for processing non-public information to be hosted on commercial servers or services (including cloud computing services) outside of military or government cybersecurity boundaries

requires DoD Provisional Authorization and AF AO approval for use regardless of applicability of C&A requirements.

5.3.7. All Air Force data must be located on DoD or other USG premises or in an approved (having an appropriate PATO or ATO for its data level) government or commercial data center within the United States.

5.4. **Application Support Services.** Application Support Services should be provided by the Common Computing Environments. Application Support Services are the middleware and common services which enable cross-community of interest (COI) sharing of information and capabilities (exposure services, metadata repositories, mediation/translation, etc.). Application Support Services provide a set of tools, capabilities, processes, and methodologies to support enablement of a Service Oriented Architecture (SOA) for the AF and DoD enterprises.

5.4.1. **Mediation.** Mediation services are established as data aggregation, correlation, or transformation processing; data translation or fusion; negotiation services (brokering, trading and auctioning services); subscription and publication services, and workflow coordination services. Typically, mediation services intercept and modify messages that are passed between existing services (providers) and clients (requesters).

5.4.2. **Metadata.** Metadata is descriptive information about a particular data set, object, or resource, including how it is formatted, and when and by whom it was collected. Metadata services are established as procedures, guidelines, and methods for effective data planning, analysis, standards, modeling, configuration management, storage, retrieval, protection, validation, and documentation of metadata. Metadata will follow the DoD Metadata specification according to DoDI 8410.03. Although metadata most commonly refers to web resources, it can be about either physical or electronic resources.

5.4.3. **Exposure.** Exposure services are established as procedures, guidelines, and methods for making web services visible and discoverable. This exposure or visibility allows web services to be discovered or searched using service registries. Once web services are exposed and discovered or searched, a data or service consumer (person or machine user) can determine if the service/data is viable for consumption and use.

5.4.4. **Presentation.** Presentation services are established as the presentation layer for user access to an application. The presentation layer of an application can vary from a simple Web-based front end to a heavy client that has the user interface.

5.4.5. **Middleware.** Middleware services are established as the computer software that connects software components or people and their applications. The software consists of a set of services that allows multiple processes running on one or more machines to interact. This technology evolved to provide for interoperability in support of the move to coherent distributed architectures, which are most often used to support and simplify complex distributed applications. It includes web servers, application servers, and similar tools that support application development and delivery. Middleware is especially integral to modern information technology based on eXtensible Markup Language (XML), Simple Object Access Protocol (SOAP), Web Services, and Service Oriented Architecture (SOA).

5.4.6. **Enterprise Service Bus (ESB).** The Enterprise Service Bus is established as the construct for a standards-based integration platform that combines messaging, web services, data transformation, and intelligent routing to reliably connect and coordinate interactions of significant numbers of diverse applications across extended enterprises with transactional integrity. ESB integration fabric infrastructure shall include highly distributed, scalable service containers; event-driven change invocation; centralized management of distributed integration configurations; diverse client connectivity and support for multiple protocols; seamless, dynamic routing of data across physical deployment boundaries; unified security and access control model; distributed configuration and caching of deployment resources, such as Extensible Stylesheet Language Transformations (XSLT) documents and routing rules; scriptable and declarative environment.

5.5. **Mission/Functional Unique Applications (MFUAs).** Mission and Functional-Unique Applications are IT applications and/or systems which provide a mission-specific capability to one or more communities of interest, funded and managed by the requirements' owners. MFUAs rely on services from AF ITSM, Enterprise Core Services, and Application Support Services to function. Owners of MFUAs must use the information within this AFI and corresponding MPTOs to ensure their systems can efficiently interface with and leverage all applicable AF IT Services. MFUAs will adhere to applicable Baseline standards in accordance with [paragraph 6](#) and AFPD 33-4. MAJCOMs are responsible for managing and sustaining MAJCOM-unique systems. MFUA owners are responsible for reporting information, cost, plans, and status of applications to their respective MAJCOMs, SAF CIO, and Cyber CFL when requested.

**6. AFIN Baseline Management.** The Target, Implementation, and Operational Baselines address the technical standards, protocols and guidance to establish a consistent environment for IT capability engineering, development, deployment and support, see AFPD 33-4 for more information. The Baselines are prescriptive and include those things required to ensure a repeatable and predictable process by which to develop and deploy IT capabilities and of the infrastructure on which they operate. The Baselines apply to both AF-controlled portions of the NIPRNET and SIPRNET environments. Future technical standards, protocols, guidelines, and implementation constraints are provided by the Target Baseline. Selected products and their informed/allowed configurations are provided by the Implementation Baseline. Currently operational AF IT Services and their usage are provided by the Operational Baseline.

**6.1. HAF/SAF IT/Cyberspace Operational Baseline Modification Process.** Applies to new to the customer requirements.

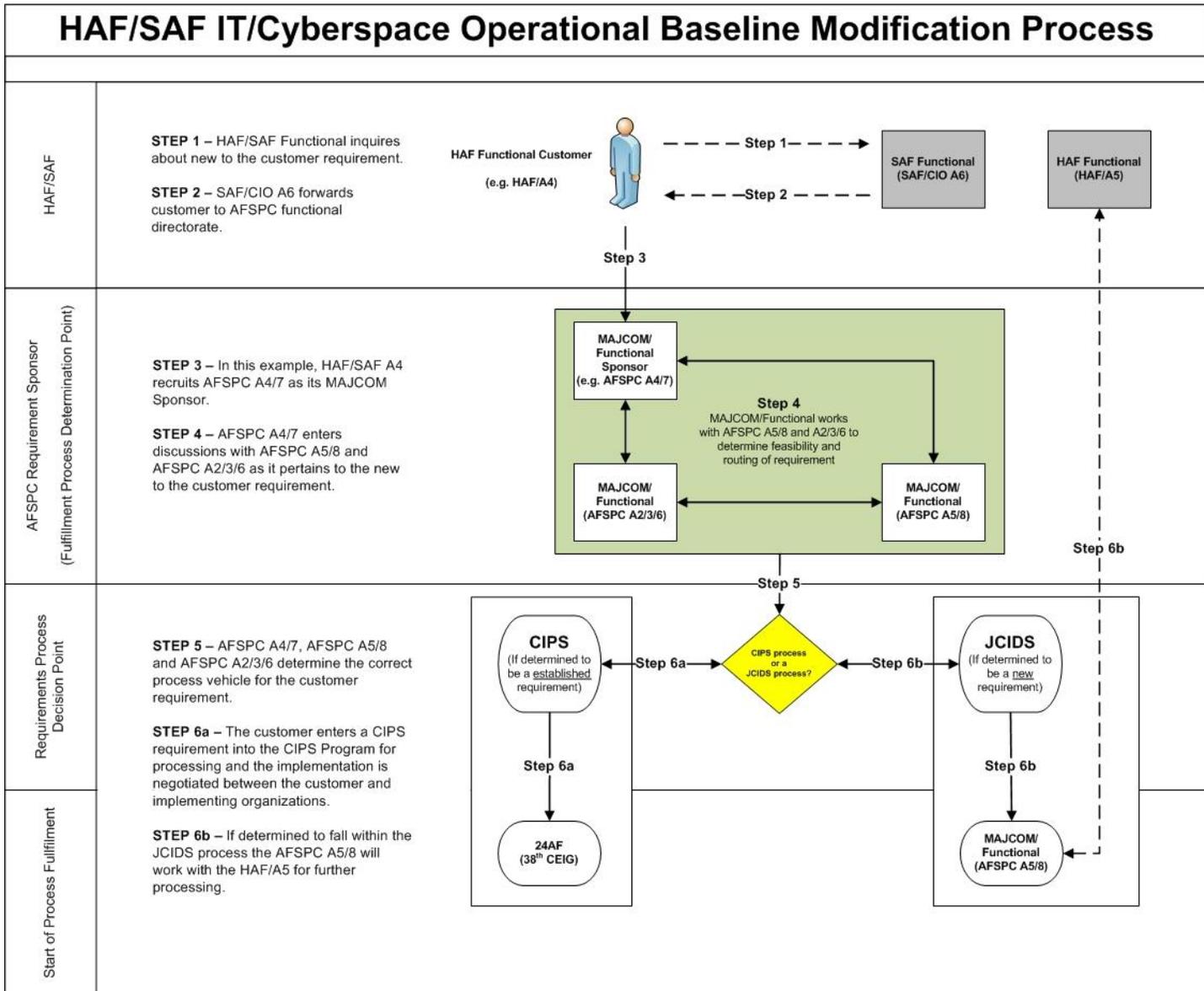
6.1.1. The HAF/SAF customer shall coordinate the requirement with the appropriate AFSPC functional directorate. That AFSPC functional directorate shall work with the AFSPC A5/8 and the AFSPC A2/3/6 to determine if the customer request falls under the AF Cyberspace Infrastructure Planning System (CIPS) process or the Joint Capabilities Integration and Development System (JCIDS) process.

6.1.2. The customer enters a CIPS requirement into the CIPS Program for processing and the implementation is negotiated between the customer and implementing organizations.

6.1.3. If it is determined that the customer requirement falls under the JCIDS process the requirement is further refined between the AFSPC A5/8 and the HAF/A5.

6.1.4. The Information Dominance Flight Plan provides the strategic framework to articulate the cyber challenges faced by the Air Force as well as specific actions for moving forward across all Air Force core functional areas. The plan guides the efforts of the future Enterprise Architecture as well as the systematic alignment of resources across all Air Force Components. The strategic framework shapes the Portfolio Management and Capital Planning and Investment Control Process that is addressed in AFI 33-141. As such, any IT solutions requested as a result of these AFIs or this AFGM must be aligned to the goals of this strategic framework. This Flight Plan may be found at <http://www.safcioa6.af.mil/>.

Figure 6. HAF/SAF IT/Cyberspace Operational Baseline Modification Process.



## 7. Operation of AF IT Services within the AFIN.

7.1. **Command and Control (C2) of the AFIN.** C2 of the AFIN is conducted to operate, secure, defend, maintain, and control the AFIN for the purposes of DoDIN Operations and Defensive Cyberspace Operations (DCO).

7.1.1. Operational type orders for C2 of the AFIN are defined and issued according to AFI 10-1701.

7.1.2. Operational type orders, AF TCTOs, and TCNOs issued for C2 of the AFIN take precedence over TOs, MPTOs, and TCTOs issued by PMOs, SPOs, and other organizations directing the standard operation and maintenance of the AFIN.

7.2. **Technical Orders (TOs).** The purpose of the Air Force Technical Order (TO) system in supporting AF IT Service Management is to provide clear and concise instructions for safe and reliable operation, inspection and maintenance of centrally acquired and managed AF systems and commodities.

7.2.1. Technical publications are essential for the proper function of AFIN Operations and to provide the operations activity with accurate information. Technical publications include TOs, MPTOs, commercial manuals, and specialized publications.

7.2.2. Technical publications for AF IT Service Management are developed and verified according to AFI 63-101, TO 00-5-1, *AF Technical Order System*, and TO 00-5-3, *AF Technical Order Life Cycle Management*.

7.2.3. All organizations supporting AF IT Service Management order TOs following procedures in TO 00-5-1.

7.2.4. Report any errors, contradictions, or procedures requiring clarification, by following procedures in TO 00-5-1 on preparing AFTO Form 22, *Technical Manual (TM) Change Recommendation and Reply*.

7.2.5. Compliance with AF IT Service Management TOs is mandatory, except as explained in TO 00-5-1.

7.3. **Method and Procedure Technical Orders (MPTOs).** Air Force 00-series MPTOs are procedure-oriented and provide general methods and procedures standardizing processes across the AF and are used to standardize AF IT Service Management. MPTOs are available for ordering through the Enhanced Technical Information Management System (ETIMS) application on the AF Portal, per TO 00-5-1. Contact unit Technical Order Distribution Office (TODO) for assistance.

7.3.1. AF IT Service Management MPTOs standardize AFIN ITSM processes and procedures and may integrate the operation of individual systems under AF IT Services. A full list of MPTOs directed by this AFI is located within [Attachment 1](#).

7.3.2. TOs published for specific systems take precedence over AF IT Services MPTOs.

7.4. **Time Compliance Technical Orders (TCTOs).** TCTOs document all permanent modifications, update changes and retrofit changes to standard Air Force systems and commodities.

7.4.1. TCTOs are managed and issued according to TO 00-5-15, *Air Force Time Compliance Technical Order Process*.

7.4.2. TCTOs are military orders issued by order of the SECAF and as such, shall be complied with as specified in the TCTO.

**7.5. Time Compliance Network Orders (TCNOs).** TCNOs are downward-directed security or vulnerability-related orders issued by the AF.

7.5.1. TCNOs are generated internally to the AF or in response to an Information Assurance Vulnerability Alert (IAVA) or Information Assurance Vulnerability Bulletin (IAVB) to direct the implementation of an operational or security vulnerability risk mitigation procedure or fix action (countermeasure).

7.5.2. TCNOs are managed and issued according to MPTO 00-33A-1109, *Vulnerability Management* and under the authority of AFI 10-1701.

**7.6. One AF-One Network.** The lead command for Cyberspace Operations directs the operation, maintenance, configuration, and control of AF network infrastructure with the goal and objective of providing a single network for the AF that is managed, commanded/controlled, and fully compatible with a seamless DoD network.

7.6.1. Core Data Center (CDC):

7.6.1.1. CDCs are highly capable, highly resilient data centers providing standardized hosting and storage services to the enterprise within the Single Security Architecture (SSA) now being implemented.

7.6.1.2. CDCs also enable a significant reduction in the total number of DoD data centers by serving as consolidation points for computing and storage services currently hosted across hundreds of Component Facilities in accordance with DoD CIO memorandum, *Department of Defense Joint Information Environment: Continental United States Core Data Centers and Application and System Migration*, 11 July, 2013.

7.6.1.3. Deleted.

7.6.2. 2 Deleted.

7.6.2.1. An APC is a facility which provides enterprise and regional computing and data centers supporting Enterprise Core Services.

7.6.2.2. Per DoD CIO guidance (1 Nov 2012), APCs will either convert to IPNs or close as approved by the ITGEB. APCs will meet DoD standards for facility and network infrastructure, security, technology and operations, and adhere to DoD enterprise governance, (T-0).

7.6.2.3. If not designated as a CDC, organizations will plan for transition of systems to a designated CDC under JIE construct, (T-0).

#### 7.6.3. Installation Processing Node (IPN):

7.6.3.1. An IPN is a facility which provides a consolidated base-level computing and data processing node for all NIPRNET and SIPRNET systems which are unable to be hosted at a DoD enterprise-level data center (e.g., CDC) based upon validated Disconnected, Intermittent, Limited (DIL) requirements.

7.6.3.2. IPNs will be designated by the ITGEB when sites are approved as an AF data center, (T-0).

7.6.3.3. IPNs will provide 24-hour, 7-days a week on-site hardware maintenance, environmental control, space utilization, and physical security of the base-level processing node.

7.6.3.4. IPNs will conform to the AF's implementation of FDCCI.

#### 7.6.4. Installation Services Node (ISN):

7.6.4.1. An ISN is the required localized equipment necessary to provide the minimum basic functionality to an installation should it become disconnected from the enterprise.

7.6.4.2. Potential services include anomaly detection, audit functions, Active Directory (AD), DNS, Assured Compliance Assessment Solution (ACAS), Host Based Security System (HBSS), and print services. In addition, ISNs may also host unified capabilities (UC) that must remain on the Installation to enable emergency services even when the connection is interrupted.

#### 7.6.5. Special Purpose Processing Node (SPPN):

7.6.5.1. A SPPN is a facility which provides a fixed processing node supporting data servers and special purpose functions that cannot be supported by a IPN, CDC, or other DoD enterprise-level data center due to its association with mission specific infrastructure or equipment.

7.6.5.2. SPPNs will be designated by the ITGEB when sites are approved as an AF data center, (T-0).

7.6.5.3. SPPNs will be supported and maintained by the functional community of interest requiring the SPPN.

**7.7. Cybersecurity (previously known as Information Assurance[IA]).** All systems (e.g., centrally managed applications) will comply with AF Cybersecurity program guidance in AFI 33-200, *Information Assurance (IA) Management*, DOD Cybersecurity program guidance, and U.S. Strategic Command (USSTRATCOM) warning and tactical directives/orders (e.g., Information Assurance Vulnerability Management (IAVM) program, security incident handling program, and other responsibilities outlined in CJCSI 6510.01, *Information Assurance (IA) and Support to Computer Network Defense (CND)*).

7.7.1. Authorizing Official (AO) (previously known as Designated Accrediting Authority [DAA]) Approval. All systems must receive accreditation and authorization to operate by the appropriate AO prior to operational use according to AFI 33-210.

7.7.2. Reciprocity, Reuse, and Inheritance. The AF recognizes and fully supports reciprocity and reuse according to AFI 33-210. In order to minimize certification and accreditation (C&A) workload and paperwork, AOs and Information Systems Security Manager (ISSM), (previously known as IAM) will fully embrace and support inheritance in which AF IT Services and mission/functional unique applications inherit security controls and other Cybersecurity attributes as reuse from other associated services, hosting environments, security solution, etc., as appropriate. Cybersecurity policy takes precedence if Cybersecurity policy provides specific guidance for inheritance in the future.

#### **7.8. Commercial Internet Service Provider (ISP) Connections and DoDIN Waiver Process.**

7.8.1. A DoDIN Waiver (previously known as DOD GIG Waiver) is required for any internet connection not utilizing the DoDIN infrastructure/transport services to allow a direct unfettered and non-attributable connection to the public Internet in the performance of DoD/AF missions. For more information about DoDIN Waivers and commercial ISPs refer to AFI 33-200. The commercial ISP connection cannot be connected to the NIPRNET (Use of an approved hardware/software secure tunnel across a commercial ISP circuit to connect to the NIPRNET/DoDIN is allowed).

7.8.2. **Quality-of-Life (QoL) Internet Services.** The QoL Internet Services may be established for “patron” activities such as the Family Support Center, library, dormitories, medical treatment facilities, lodging, and other services facilities.

7.8.2.1. For Morale, Welfare and Recreation (MWR) Category A, B, and C activities, refer to AFI 65-106, *Appropriated Fund Support of Morale, Welfare, and Recreation (MWR) and Nonappropriated Fund Instrumentalities (NAFIS)*.

7.8.2.2. For QoL internet access in Dormitories, refer to AFI 32-6005, *Unaccompanied Housing Management*.

7.8.2.3. These systems shall not be connected to the base network/NIPRNET with the privileges of “.mil” registered users.

7.8.2.4. Official business activities and administrative offices in these QoL locations may require and are authorized NIPRNET connectivity through the base network according to AFI 65-106. Refer to AFI 65-106 for the funding of NIPRNET installation, sustainment and management in MWR facilities.

7.8.2.5. Certification and Accreditation (C&A) is not required for QoL Internet Services.

7.8.2.6. Commercial ISPs used as Quality of Life (QoL) internet service for patrons are exempted from the DoDIN Waiver process.

7.8.3. Portions of the AF Services’ mission must be conducted outside of the NIPRNET to comply with AF Cybersecurity policies. Although some patron-based activities are supported by the QoL networks, the vast majority of services user base, systems support organizations, and management activities are not permitted to operate on the NIPRNET, but still require identity authentication. AFPC Services Directorate is authorized to

connect to commercial ISP nodes to support and manage the Services NAFIS that are not allowed on the NIPRNET according to AFI 65-106.

7.8.4. DOD Dependent Schools and Base Education Offices. Only government personnel and/or government contractors are authorized Internet access through NIPRNET. Internet access for classroom education or civilian education institutions must be through a commercial ISP (or DISA's Private ISP when available) and cannot be connected to the NIPRNET.

7.8.5. Headquarters Air Education and Training Command (HQ AETC) and the United States Air Force Academy (USAFA). HQ AETC and USAFA require academic networks that provide students, faculty, and staff IT services that are not available on the AFNET (i.e., conduct research and scientific collaborations). Consequently, HQ AETC and USAFA are authorized to operate networks specifically designed to IT enable their education and training missions.

7.8.6. Geographically Separated Unit (GSU). The GSU owning MAJCOM is required to provide funding to the supporting base, MAJCOM or AFSPC for any network circuit(s) required for the GSU connectivity. GSUs will comply with all policies and directives of their servicing AFIN Operations activities including the CFP supporting their network circuit.

7.8.7. When available, DISA's Private ISP Service (through AF Guest Network) will be the default method for obtaining direct, unfettered, and non-attributable access to the public Internet in the performance of DoD/AF missions (not MWR or QoL). DISA Private ISP connections will be exempt from the DoDIN Waiver requirements as DISA is the service provider.

**7.9. Sharing Data, Information, and Information Technology Services.** All Authoritative Data Sources (ADSs) should be exposed as Data-as-a-Service (DaaS).

7.9.1. Data shall remain as closely controlled as possible by the ADS steward to ensure its currency and accuracy.

7.9.2. Systems and services shall reference ADSs rather than duplicate or provision external source data for anything beyond short-term consumption or proxying for performance or security reasons.

7.9.3. Sharing of data, information, and IT services shall be managed according to DoDD 8320.02.

7.9.4. Data authentication and control shall be managed according to DoDI 8520.03, *Identity Authentication for Information Systems*.

**7.10. Service Level Agreements (SLA), Memorandums of Agreement (MOA), Memorandums of Understanding (MOU).** SLAs will be established by AFSPC for AF IT Services to define division of responsibilities for network operations and services to minimize duplication of effort between organizations.

7.10.1. Enterprise service SLAs will be established for ESUs and the AF ESD with approval by the ITGEB.

7.10.2. An MOA, MOU, or Operational Level Agreement (OLA) will be established as appropriate for organizations or users whose network support requirements exceed the standards of an enterprise service SLA.

7.10.3. Whenever possible, SLAs will identify the minimum levels of support required by the users rather than acceptable failure rates (uptime rates as opposed to downtime rates). SLAs will also describe the prioritization of systems and services to meet mission assurance requirements.

7.11. **AFIN Operations Training.** Refer to AFI 33-154, *Air Force On-The-Job Training Products for Cyberspace Support Enlisted Specialty Training* and MPTO 00-33A-1001, for policy and procedures for AFIN Operations training. Cyberspace Operations Training is covered under AFPD 10-17 and AFI 10-1703 Volume 1 *Cyberspace Operations Cyber Crew Training*.

WILLIAM J. BENDER, Lt Gen, USAF  
Chief, Information Dominance and  
Chief Information Officer

## Attachment 1

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MPTO 00-33A-1106, *Air Force Information Network (AFIN) Network Management*

MPTO 00-33A-1108, *AFIN Voice Systems Management*

MPTO 00-33A-1109, *Vulnerability Management*

MPTO 00-33A-1112, *Air Force Network Enterprise Service Desk Service Incident Management*

MPTO 00-33A-1113, *AFIN Server/Storage Management and Application Hosting*

MPTO 00-33A-1114, *AFIN Problem Management*

MPTO 00-33A-XXXX, *Directory Services*

MPTO 00-33A-XXXX, *Mission Assurance and Situational Awareness*

MPTO 00-33A-XXXX, *Discovery and Information Management*

MPTO 00-33A-XXXX, *End-to-End Performance Monitoring*

MPTO 00-33B-5007, *Security Incident Management for Information Systems*

MPTO 00-33D-2002, *Engineering Installation and Cyberspace Readiness Activities Management*

MPTO 00-33D-3003, *Managing the Cyberspace Infrastructure with the Cyberspace Infrastructure Planning System*

### ***Prescribed Forms***

No prescribed forms are implemented by this publication.

### ***Adopted Forms***

AFTO Form 22, *Technical Manual (TM) Change Recommendation and Reply*

AFTO Form 265, *Request For Change*

AF Form 847, *Recommendation for Change of Publication*

AF Form 1067, *Modification Proposal*.

### ***Abbreviations and Acronyms***

**ADS**—Authoritative Data Source

**AETC**—Air Education and Training Command

**AF—GIG**—Air Force-Global Information Grid

**AF CEITB**—Air Force Consolidated Enterprise Information Technology Baseline

**AFCAP**—Air Force Certification and Accreditation Program

**AFECMO**—Air Force Enterprise Configuration Management Office

**AF ESD**—Air Force Enterprise Service Desk

**AFFOR**—Air Force Forces  
**AFI**—Air Force Instruction  
**AFIN**—Air Force Information Networks  
**AFMAN**—Air Force Manual  
**AFMC**—Air Force Material Command  
**AFNET**—Air Force Network  
**AFNIC**—Air Force Network Integration Center  
**AFPD**—Air Force Policy Directive  
**AFR**—Air Force Reserves  
**AFSPC**—Air Force Space Command  
**AIRCOM**—Air Communications  
**AIS**—Automated Information Systems  
**ANG**—Air National Guard  
**AO**—Authorizing Official (previously known as DAA)  
**APC**—Area Processing Center  
**ASI**—Authorized Service Interruptions  
**C-NAF**—Component Number Air Force  
**C&A**—Certification and Accreditation  
**C2**—Command and Control  
**C3I&N**—Command, Control, Communications, Intelligence and Networks  
**CCB**—Configuration Control Board  
**CCMD**—Combatant Command  
**CDC**—Core Data Center  
**CEIG**—Cyberspace Engineering Installation Group  
**CFL**—Core Function Lead  
**CFP**—Communications Focal Point  
**CI**—Counter Intelligence  
**CIO**—Chief Information Officer  
**CIPS**—Cyberspace Infrastructure Planning System  
**CND**—Computer Network Defense  
**COI**—Community of Interest  
**COOP**—Continuity of Operations Plan

**COTS**—Commercial of the Shelf

**CSAF**—Chief of Staff of the Air Force

**CSI**—Cyber Systems Integrator

**DaaS**—Data-as-a-Service

**DAA**—Designated Accrediting Authority (now referred to as AO)

**DCO**—Defensive Cyberspace Operations

**DESMF**—Defense Enterprise Service Management Framework

**DIL**—Disconnected, Intermittent, Limited

**DIMA**—Defense Intelligence Mission Area

**DISA**—Defense Information Systems Agency

**DMZ**—Demilitarized Zone

**DNI**—Director of National Intelligence

**DNS**—Domain Name Service

**DoD**—Department of Defense

**DoDD**—Department of Defense Directive

**DoDI**—Department of Defense Instruction

**DoDIN**—Department of Defense Information Networks

**DOTMLPF**—Doctrine, Organization, Training, Material, Leadership & Education, Personnel & Facilities

**DRU**—Direct Reporting Unit

**DSCC**—Defense Server Core Configuration

**EA**—Enterprise Architecture

**ECSB**—Enterprise Cloud Service Broker

**EITSM**—Enterprise Information Technology Service Manager

**ESB**—Enterprise Service Bus

**ESD**—Enterprise Service Desk

**ESI**—Enterprise Software Initiative

**ESU**—Enterprise Services Unit

**FOA**—Field Operating Agency

**FSA**—Functional System Administrator

**GIG**—Global Information Grid

**GSU**—Geographically Separated Unit

**HQ**—Headquarters

**IA**—Information Assurance  
**IaaS**—Infrastructure-as-a Service  
**IAVA**—Information Assurance Vulnerability Alert  
**IAVB**—Information Assurance Vulnerability Bulletin  
**IAVM**—Information Assurance Vulnerability Management  
**IbC**—Internet-based Capabilities  
**IB**—Implementation Baseline  
**IC**—Intelligence Community  
**ILCM**—Integrated Life Cycle Management  
**IMDS**—Integrated Maintenance Data System  
**INFOCON**—Information Condition  
**I-NOSC**—Integrated Network Operations and Security Center  
**IP**—Internet Protocol  
**IPN**—Installation Processing Node  
**IS**—Information Systems  
**ISN**—Installation Services Node  
**IT**—Information Technology  
**ITGEB**—IT Governance Executive Board  
**ITIL**—Information Technology Infrastructure Library  
**ITS**—Information Transport System  
**ITSM**—Information Technology Service Management  
**JIE**—Joint Information Environment  
**JTF**—Joint Task Force  
**KO**—Knowledge Operations  
**MAJCOM**—Major Command  
**M/ACCC**—MAJCOM/Air Force Forces Command Coordination Center  
**MFUA**—Mission/Functional Unique Applications  
**MOA**—Memorandum of Agreement  
**MOU**—Memorandum of Understanding  
**MPA**—Military Personnel Appropriation  
**MPTO**—Methods and Procedures Technical Order  
**MWR**—Morale, Welfare, and Recreation

**NAF**—Numbered Air Force  
**NAFIS**—Non-Appropriated Fund Instrumentalities  
**NetD**—Network Defense  
**NetOps**—Network Operations  
**NIPRNET**—Non-Secure Internet Protocol Router Network  
**NM**—Network Management  
**NOS**—Network Operations Squadron  
**NS**—Name Server  
**NSS**—National Security System  
**OLA**—Operational Level Agreement  
**PA**—Public Affairs  
**PAO**—Public Affairs Officer  
**OPR**—Office of Primary Responsibility  
**PaaS**—Platform-as-a-Service  
**PBNM**—Policy Based Network Management  
**PEO**—Program Executive Office  
**PMO**—Program Management Office  
**QoL**—Quality of Life  
**QoS**—Quality of Service  
**RDS**—Records Disposition Schedule  
**SAF**—Secretary of the Air Force  
**SAP**—Special Access Program  
**SCCM**—Systems Center Configuration Manager  
**SCI**—Sensitive Compartmented Information  
**SDC**—Standard Desktop Configuration  
**SECAF**—Secretary of the Air Force  
**SDDP**—Service Development and Delivery Processes  
**SINE**—Single Integrated Network Environment  
**SIPRNET**—SECRET Internet Protocol Router Network  
**SLA**—Service Level Agreement  
**SOA**—Service Oriented Architecture  
**SOAP**—Simple Object Access Protocol

**SPO**—System Program Office  
**SPPN**—Special Purpose Processing Node  
**T.O.**—Technical Order  
**TB**—Target Baseline  
**TCM**—Technical Content Management  
**TCNO**—Time Compliance Network Order  
**TCTO**—Time Compliance Technical Order  
**TM**—Technical Manual  
**UC**—Unified Capabilities  
**USAF**—United States Air Force  
**USAFA**—United States Air Force Academy  
**USCYBERCOM**—United States Cyber Command  
**VLAN**—Virtual Local Area Network  
**VoIP**—Voice Over Internet Protocol  
**XML**—Extensible Markup Language  
**XSLT**—Extensible Stylesheet Language Transformation

### *Terms*

**Air Force Information Networks (AFIN)**—The globally interconnected, end-to-end set of AF unique information capabilities, and associated processes for collecting, processing, storing, disseminating, and managing information on-demand to warfighters, policy makers, and support personnel, including owned and leased communications and computing systems and services, software (including applications), data, and security.

**AFIN Operations**— Operations to design, build, configure, secure, operate, maintain, and sustain AF networks to create and preserve information assurance on the AF information networks.

**AF IT Services**—The IT networks, systems, processes, and capabilities which enable the seamless, secure, and reliable exchange of information across the AFIN.

**Air Force Network (AFNET)**—The AF's underlying Non-Secure Internet Protocol Router Network (NIPRNET) that enables AF operational capabilities and lines of business.

**AFNET-S**— The AF's underlying Secret Internet Protocol Router Network that enables AF operational capabilities and lines of business.

**Authoritative Data Source (ADS)**—A source of data or information that is recognized by members of a Community Of Interest to be valid or trusted because it is considered to be highly reliable or accurate or is from an official publication or reference.

**Core Data Center**—The backbone of the JIE, CDCs are highly capable, highly resilient data centers providing standardized hosting and storage services to the enterprise within the Single

Security Architecture (SSA). CDCs also enable a significant reduction in the total number of DoD data centers by serving as consolidation points for computing and storage services currently hosted across hundreds of Component Facilities. (DoD CIO memorandum, *Department of Defense Joint Information Environment: Continental United States Core Data Centers and Application and System Migration*, 11 July 2013)

**Cyber Incident**—Actions taken through the use of computer networks that result in an actual or potentially adverse effect on an information system and/or the information residing therein. (CNSSI 4009)

**Cyberspace Operations**—The employment of cyber capabilities where the primary purpose is to achieve military objectives or effects in or through cyberspace. (AFPD 10-17)

**Data Center**—Accordingly, under the FDCCI, a data center is now defined as a closet, room, floor or building for the storage, management, and dissemination of data and information. Such a repository houses computer systems and associated components, such as database, application, and storage systems and data stores.' A data center generally includes redundant or backup power supplies, redundant data communications connections, environmental control (air conditioning, fire suppression, etc.) and special security devices housed in leased (including by cloud providers), owned, collocated, or stand-alone facilities. Under this revised definition, neither square footage nor Uptime Institute tier classifications are required to define a facility as a data center. (OMB memorandum, *Implementation Guidance for the Federal Data Center Consolidation Initiative (FDCCI)*, 19 March 2012)

**Department of Defense Information Network (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, policy makers, and support personnel, including owned and leased communications and computing systems and services, software (including applications), data, and security (formerly known as GIG). (JP 3-12)

**DoDIN Operations**—Operations to design, build, configure, secure, operate, maintain, and sustain Department of Defense networks to create and preserve information assurance on the Department of Defense information networks. (JP 3-12)

**Enterprise Core Services**—Standard IT capabilities available to all users on the AFIN. Enterprise Core Services support DoD Net-Centric strategies for data and services by enabling users to safeguard, compile, catalog, discover, cache, distribute, retrieve, and share data in a collaborative environment across the AF and DoD enterprises.

**Implementation Baseline**—The Implementation Baseline is the baseline of acquisition selected products and their informed/allowed configurations that implement the architecture, standards and protocols and guidelines specified in the Target Baseline. The Implementation Baseline informs the Operational Baseline of the acquisition selected products and how they are to be configured to support deployment of user applications across the infrastructure topology. The Implementation Baseline governs the implementation of the Development and Integration/Test environments (AFPD 33-4).

**Information Environment (IE)**—The aggregate of individuals, organizations, and systems that collect, process, disseminate, or act on information. The information environment, which includes cyberspace, consists of three interrelated dimensions that continuously interact with

individuals, organizations, and systems. These dimensions are the physical, informational, and cognitive. (JP 3-13 and Draft DoDI 8115.02)

**Information Processing Node**—A fixed DoD data center serving a single DoD installation and local area (installations physically or logically behind the network boundary) with local services that cannot (technically or economically) be provided from a CDC. There will be no more than one IPN per DoD installation but each IPN may have multiple enclaves to accommodate unique installation needs (e.g., Joint Bases)

**Information Technology**—Any equipment or interconnected system or subsystem of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by the executive agency. For purposes of the preceding sentence, equipment is used by an executive agency if the equipment is used by the executive agency directly or is used by a contractor under a contract with the executive agency which (i) requires the use of such equipment or (ii) requires the use, to a significant extent, of such equipment in the performance of a service or the furnishing of a product. The term information technology includes computers, ancillary equipment, software, firmware and similar procedures, services (including support services), and related resources. (CNSSI 4009)

**Infrastructure—as-a-Service (IaaS)**—Virtualized systems operated on fundamental computing resources (e.g., processing, storage, network) managed as a cloud service with the AF retaining control of operating systems, storage, and deployed applications.

**Installation Services Node (ISN)**—An Installation services node is the required localized equipment necessary to provide the minimum basic functionality to an installation should it become disconnected from the enterprise. Potential services include anomaly detection, audit functions, Active Directory (AD), DNS, Assured Compliance Assessment Solution (ACAS), Host Based Security System (HBSS), and print services. In addition ISNs may also host unified capabilities (UC) that must remain on the Installation to enable emergency services even when the connection is interrupted.

**Internet**—An informal global collection of government, military, commercial, and educational computer networks. The global collection of interconnected local, mid-level, and wide area networks that use IP as the network layer protocol.

**Internet-based Capabilities**—All public information capabilities or applications available across the Internet from locations not directly or indirectly controlled by DoD or the Federal government (i.e., locations not owned or operated by DoD or another Federal agency or by contractors or others on behalf of DoD or another Federal agency).

**Internet Service Provider**—A commercial entity providing data connectivity into the Internet.

**Joint Information Environment**—A secure joint information environment, comprised of shared information technology (IT) infrastructure, enterprise services, and a single security architecture to achieve full spectrum superiority, improve mission effectiveness, increase security and realize IT efficiencies. JIE is operated and managed per the Unified Command Plan (UCP) using enforceable standards, specifications, and common tactics, techniques, and procedures (TTPs).

**Operational Baseline**—The Operational Baseline is the set of components of the Implementation Baseline appropriately configured and deployed across the topology of the AFIN infrastructure that implements the architecture, standards and protocols and guidelines specified in the Target Baseline and provide the required warfighter capabilities and performance. It specifies the exact laydown and configurations of hardware and software within all facilities in the AF infrastructure topology.

**Platform—as-a-Service (PaaS)**—A cloud computing platform providing operating systems, database systems, web servers, security, etc. for hosting of AF unique applications.

**Security Incident**—An assessed occurrence that actually or potentially jeopardizes the confidentiality, integrity, or availability of an information system; or the information the system processes, stores, or transmits; or that constitutes a violation or imminent threat of violation of security policies, security procedures, or acceptable use policies. (CNSSI 4009 - *Security Incident refers to Incident*)

**Server**—A hardware platform (computer) that houses software providing service to other computers or programs to satisfy client requests and needs.

**Service Incident**—Any event which is not part of the standard operation of a service and which causes or may cause an interruption to, or a reduction in, the quality of that service. (ISO 20000 – *ITSM definition of Incident*) An unplanned interruption to an IT service or reduction in the quality of an IT service. Failure of a configuration item that has not yet affected service is also an incident – for example, failure of one disk from a mirror set. (ITIL Version 3 Service Operation)

**Service Oriented Architecture**—A set of principles and methodologies for designing and developing software in the form of interoperable services.

**Service Request**—A request from a user for information, or advice, or for a standard change or for access to an IT Service. For example to reset a password, or to provide standard IT Services for a new user. Service Requests are usually handled by a Service Desk, and do not require an request for change to be submitted. (ITIL Version 3 Service Operation)

**Software—as-a-Service (SaaS)**—All aspects of standard applications are provided as a cloud service to the AF.

**Special Purpose Processing Node (SPPN)**—A fixed data center supporting special purpose functions that cannot (technically or economically) be supported by CDCs or IPNs due to association with infrastructure or equipment (e.g., communication and networking, manufacturing, training, education, meteorology, medical, modeling & simulation, test ranges, etc.). No general purpose processing or general purpose storage can be provided by or through a SPPN. SPPNs do not have direct connection to the Global Information Grid (GIG); they must connect through a CDC or IPN. (DoD CIO memorandum, “Department of Defense Joint Information Environment: Continental United States Core Data Centers and Application and System Migration,” 11 July, 2013)

**Target Baseline**—The Target Baseline specifies the standards, protocols, guidelines and implementation constraints for the future state of the AFIN infrastructure. It is used to inform the development of the Implementation Baseline. The Target Baseline is thoroughly documented and continually updated based upon emerging industry standards and the evolving AF enterprise architecture.

**Unified Capabilities (UC)**—The integration of voice, video, and/or data services delivered ubiquitously across a secure and highly available network infrastructure, independent of technology, to provide increased mission effectiveness to the warfighter and business communities. (DODI 8100.04)

**User**—The individual who operates the computer or uses application software.