Information Network Engineering Functional Area (FA 26).

1. Introduction.

- a. Purpose. Information Network Engineering (FA 26) is a functional area of the Signal Regiment with the mission to install, operate, maintain, secure, and defend the Army portion of the Department of Defense (DOD) information networks and services in a single end-to-end network from the strategic core to the tactical edge. FA 26 provides the Army with a professional corps of skilled communications systems engineering officers able to lead highly technical Soldiers, warrant officers, and civilians to manage complex information technology projects in support of unified land operations and provide consistent enterprise systems and services to all users. FA 26 contains three Areas of Concentration (AOC): AOC 26A Network Systems Engineering (CPT-LTC), AOC 26B Information Systems Engineering (CPT-LTC), and AOC 26Z Information Network Engineering (COL). (Effective 1 Oct 2023 (FY24), the title will change to Data Network Engineering (FA 26))
- b. Vision and Core Competencies. FA 26 officers provide innovative Mission Command Network communications solutions. FA 26 officers specialize in leading teams of technical experts to engineer secure and reliable information network systems to meet Army and Joint All Domain Operations (JADO) communication requirements.
- c. Proponent Information. Chief of Signal and commandant of the U.S. Army Signal School, Cyber Center of Excellence, Fort Gordon, GA. Obtain further information through https://cybercoe.army.mil/SIGNALSCH/index.html and by e-mailing usarmy.gordon.cybercoe.mbx.sigcoocosod-mailbox@mail.mil.
- d. Unique Functions Performed by FA 26.
- (1) Network Systems Engineering (AOC 26A). AOC 26A officers engineer networks that enhance Mission Command.
- (2) Information Systems Engineering (AOC 26B). AOC 26B officers engineer information technology (IT) systems and services which enhance Mission Command. (Effective 1 Oct 2023 (FY24), the title will change to Data Systems Engineering (AOC 26B)).
- (3) Information Network Engineering (AOC 26Z). AOC 26Z officers provide strategic leadership in the engineering networks and services that enhance Mission Command. (Effective 1 Oct 2023 (FY24), the title will change to Data Network Engineering (AOC 26Z).

2. Officer Characteristics Required.

- a. Characteristics Required of All Officers. Expect all officers to possess the base characteristics to develop into agile and adaptive leaders for the 21st century. In addition, the Army Values and Warrior Ethos grounds our leaders, knowledge, and skills ensure to competence in core proficiencies and obtain broad experiences to operate across the spectrum of conflict. Officers can reference further explanation of these characteristics in ADP 3–0 and Part Two of DA PAM 600-3.
- b. FA 26 Core Competencies. FA 26 Information Network Engineering officers must possess the technical and operational expertise to provide innovative solutions to meet complex and dynamic warfighter communications and information requirements. Officers must possess data literacy and be analytical thinkers that can solve complex data problem-sets across multiple disciplines. They must effectively articulate complex technical concepts into operational terms their supported commanders can understand and from which they can make effective decisions and direct action. They must be able to translate vast amounts of complex data into abstract concepts and solutions. FA 26 values officers with academic backgrounds from a select range of science, technology, engineering, and math (STEM) disciplines and majors identified in paragraph 3c(1). FA 26 officers operate in the following work categories of DOD Cyberspace Workforce Framework (DCWF) and DODD 8140.01: Operate and Maintain, Protect and Defend, Security Provision and Oversight, and Development. The National Initiative for Cyber Security Education (NICE) National Cybersecurity Workforce Framework (https://csrc.nist.gov/publications/sp800) drives the DCWF. The NICE National Cybersecurity

Workforce Framework provides a valuable template to describe the broad scope of knowledge, skills, and behaviors possessed by FA 26 officers. While not inclusive of all the knowledge, skills, and behaviors required, the paragraphs below outline key knowledge and skills needed in all FA 26 officers and highlights the different knowledge and skills possessed by AOC 26A and AOC 26B officers.

(1) FA 26 Information Network Engineering.

- (a) Knowledge of system administration and systems engineering theories, concepts, and methods. (DCWF Code 451)
- (b) Knowledge of local area network (LAN) and wide area network (WAN) principles and concepts, including bandwidth management. Knowledge of network protocols and how traffic flows across the network (e.g., Transmission Control Protocol and Internet Protocol (TCP/IP), Open System Interconnection model (OSI), Dynamic Host Configuration Protocol (DHCP)), and directory services (e.g., Domain Name System (DNS)). (DCWF Code 441/451)
- (c) Knowledge of emerging technologies (e.g., social, mobile, analytics, cloud, internet of things). Knowledge of virtualization theory and practice following industry standards. Understanding basic concepts, terminology, and operations of a wide range of communications media (e.g., computer networks, satellite, fiber, wireless). (DCWF Code 441/451)
- (d) Knowledge of cybersecurity principles and organizational requirements relevant to confidentiality, integrity, availability, authentication, and non-repudiation. Knowledge of IT security principles and methods (e.g., firewalls, demilitarized zones, encryption). (DCWF Code 621)
 - (e) Knowledge of scripting languages. (DCWF Code 621)
- (f) Knowledge of Accreditation and Authorization (A&A) and Risk Management Framework (RMF). (DCWF Code 612/641)
- (g) Knowledge of host/network access, identity access management (e.g., public key infrastructure (PKI), access control lists, and Intrusion Detection System (IDS) tools and applications. (DCWF Codes 511/521)
- (h) Knowledge of the IT enterprise architecture (EA) information security architecture system. (DCWF Code 651/652)
- (i) Knowledge of computer network defense (CND) and vulnerability assessment tools, including open-source tools and capabilities. (DCWF Code 541)
- (j) Knowledge of system and application security threats and vulnerabilities (e.g., buffer overflow, mobile code, cross-site scripting, Procedural Language/Structured Query Language (PL/SQL) and injections, race conditions, covert channel, replay, return-oriented attacks, malicious code). (DCWF Code 461)
- (k) Knowledge of the Army's acquisition and portfolio management processes in accordance with applicable national laws, DOD policies, and regulations. (DCWF Code 802/804)
- (I) Skill in project management IAW Project Management Institute's Project Management Book of Knowledge. (DCWF Code 802)

(2) Network Systems Engineering (AOC 26A).

- (a) Knowledge of critical telecommunication concepts (e.g., Routing Algorithms, Satellite Communications Link Budgeting). Understanding of communication methods, principles, and concepts (e.g., encoding, signaling, multiplexing) that support the network infrastructure. (DCWF Code 441)
- (b) Knowledge of network equipment capabilities and applications, including hubs, routers, switches, bridges, servers, transmission media, and related hardware. (DCWF Code 441)
 - (c) Knowledge of mathematics in logarithms, trigonometry, linear algebra, calculus, and statistics.

- (d) Skill in network mapping and recreating network topologies. Knowledge of network design processes, including security objectives, operational objectives, tradeoffs, and knowledge of network traffic and packet-level analysis method. (DCWF Code 441)
- (e) Skill in using network management tools to analyze network traffic patterns, capacity, and performance characteristics (e.g., simple network management protocol). Skill in performing packet-level analysis using appropriate tools (e.g., Wireshark, tcpdump). (DCWF Code 441)
- (f) Skill in configuring and utilizing network protection components (e.g., firewalls, Virtual Private Networks (VPNs), Network Intrusion Detection Systems (IDSs)). (DCWF Code 652)
- (g) Skill in developing, testing, and implementing network infrastructure contingency and recovery plans. (DCWF Code 441)
- (h) Skill in installing, configuring, and troubleshooting local area network (LAN) and wide area network (WAN). (DCWF Code 441)
 - (i) Skill in using network analysis tools to identify vulnerabilities. (DCWF Code 541)

(3) Information Systems Engineering (AOC 26B).

- (a) Knowledge of information administration and information standardization of policies and standards. (DCWF Code 421)
 - (b) Knowledge of application/operating system vulnerabilities. (DCWF Code 541)
- (c) Knowledge of information backup, types of backups (e.g., full, incremental), and recovery concepts and tools. (DCWF Code -422)
- (d) Knowledge of query languages such as Structured Query Language (SQL). (DCWF Code 421)
- (e) Knowledge of the capabilities and functionality of various technologies for organizing information and enabling knowledge management (e.g., databases, bookmarking engines, groupware, SharePoint). (DCWF Code -431)
- (f) Knowledge in data operations by ensuring data is visible, accessible, understandable, linked, trusted, interoperable, and secure (VAULTIS), ultimately achieving data-centricity by using speed and scale for operational advantage and increased efficiency across the warfighting functions and Army operations. (DCWF Code 651)
- (g) Skill with current data algorithms, data analysis tools, and techniques to efficiently process and transform data into an analyzed format. (DCWF Code 421)
- (h) Skill in developing, constructing, testing, optimizing, maintaining, and securing databases and large-scale data processing systems. Ensure quality, relevancy, and security of data that analysts and staff can effectively utilize. (DCWF Code 441)
- (i) Skill in supporting the data needs of multiple warfighting functions, systems, and products across a wide range of architectures and integrating them into a seamless data environment. (DCWF 431)
- (j) Skill in configuring and utilizing software-based computer protection tools (e.g., Host-Based Security System (HBSS) software firewalls, anti-virus software, and anti-spyware). (DCWF Code 511)
- (k) Skill in service management in accordance with (IAW) Information Technology Infrastructure Library (ITIL), including Service Strategy, Service Design, Service Operation, Service Transition, and Continuous Service Improvement. (DCWF Code 521/632)
- (I) Skill in identifying and anticipating server performance, availability, capacity, or configuration problems. Skill in monitoring and optimizing server and database performance. (DCWF Code 451)
 - (m) Skill in maintaining databases and directory services. (DCWF Code 421/451)

- (4) Information Network Engineering (AOC 26Z). AOC 26Z officers are expected to have an executive-level understanding of the knowledge, skills, and abilities possessed by AOC 26A and AOC 26B officers.
- c. *Special Qualifications Required of FA 26 Officers. All FA 26 officers must be eligible for and maintain a Top-Secret/Special Compartmented Information (TS/SCI) security clearance. FA 26 officers should immediately obtain a TSC/SCI security clearance upon functional designation into AOC 26A or AOC 26B functional area designation. Officers who cannot obtain this requirement will be transferred back to their basic branch.
- d. Regimental Affiliation. The Signal Regiment is organized under the "whole branch" regimental concept IAW AR 670-1. Therefore, all FA 26 officers are strongly encouraged to affiliate with the Signal Regiment upon graduation from their respective functional course and awarded AOC 26A or AOC 26B.

3. FA 26 Officer Development

- a. Officer Development Model. The officer development model focuses more on the quality and range of experience than the specific assignments required to progress. Therefore, there is no standard progression of duty positions or assignment locations.
- b. Lieutenant and Captain Development Prior to Functional Designation. There are no lieutenant positions within FA 26, and officers at this rank cannot transfer into the functional area until promotable to CPT. Officers considering a transfer to FA 26 should focus on job performance, gaining operational, and troop-leading experience during basic branch assignments as they serve as the foundation for future effectiveness. Officers are encouraged to seek out key positions within their basic branch that is considered core to their development as officers (e.g., platoon leader or company commander). Obtaining information technology certifications is beneficial, but demonstrated promotion potential is the primary factor in selecting a functional area. The best way to demonstrate promotion potential in the Army is through well-enumerated, superior evaluations.
- c. Accession into FA 26. For active component officers only, all transfers into FA 26 are executed through the Voluntary Transfer Incentive Program (VTIP). VTIP boards are held semi-annually by HRC for officers with between three and 14 years of active federal commissioned service (AFCS). Interested officers should refer to the most recent MILPER message for current information. Lieutenant colonels or majors with 14 years or more of AFCS or officers who must transfer out of their current branch due to medical limitations may apply to transfer into FA 26 as detailed in the exception to policy portion of the VTIP MILPER message. Additionally, civilians, enlisted personnel, and warrant officers can directly commission to FA 26. The Army established the Direct Commission program to fill critical gaps in our formation. The Signal Direct Commission selection panels are held as needed.
- (1) Prerequisites. Officers accessing FA 26 must possess an undergraduate or graduate degree in science, technology, engineering, or mathematics, or demonstrate a STEM aptitude with a Graduate Record Examination (GRE) Quantitative score of 153 or higher. This requirement demonstrates that the officer has the STEM aptitude necessary to complete FA 26 qualification training. Recommend one of the following disciplines for the undergraduate or graduate degrees for accession into FA 26: computer engineering, electrical engineering, software engineering, network engineering, computer science, cybersecurity, information systems management, data science, engineering analytics, artificial intelligence, machine learning, or a related science, technology, engineering, or mathematics discipline.
- (2) AOC Designation. The VTIP panel will designate officers accessing FA 26 AOC 26A (Network Systems Engineering) or AOC 26B (Information Systems Engineering) based on the officer's preference, academic background, technical certifications, and needs of the Army. Officers will be notified of AOC designation upon selection into FA 26.

(3) Captain.

(a) Education. Selected officers should attend functional area qualification training and serve in a utilization assignment in their assigned AOC as soon as possible after FA 26 designation. Functional area qualification training is successful completion of the Information Systems Operations Leveler (ISOL) course, followed by the Network Systems Engineering Course (NSEC) for AOC 26A and the Information Systems

Engineering Course phases one and two for AOC 26B. Recommended industry certificates include Information Technology Infrastructure Library (ITIL) Foundations and approved Information Assurance Manager (IAM) Level III baseline certification IAW DOD 8570.01-m. Officers, who have not previously completed a basic branch Captain's Career Course, will attend the Signal Captain's Career Course at Fort Gordon, GA.

(b) Typical Developmental Assignments. FA 26 candidates should typically transfer from their basic branch to begin functional area qualification within 12 months of designation. All FA 26 positions are Key Developmental (KD) assignments. Officers should strive to complete a minimum of 24 months in AOC 26A or AOC 26B assignments before considering captains' broadening opportunities. Typical developmental assignments at captain include:

(1) AOC 26A.

- (i) 60th Signal Battalion (Offensive Cyber Operations)
- (ii) Cyberspace Operations and Integration Center
- (iii) Network Sys Engr in a Signal Battalion, Brigade or Command; Military Intelligence Brigade, Division, Regional Cyber Center (RCC), NETCOM, Commands, AAMDC, ASCC
- (iv) US Military Academy (USMA), Instructor
- (v) Cyber Protection Team (CPT)
- (vi) USA Cyber Warfare Support Battalion, OIC, Infrastructure Support
- (vii) USA Information System Engineering Command, Network Sys Engr
- (viii) USA Operational Test Command, Test Officer
- (ix) White House Communications Agency (WHCA)

(2) AOC 26B.

- (i) 60th Signal Battalion (Offensive Cyber Operations)
- (ii) Cyberspace Operations and Integration Center
- (iii) Info Sys Engr in a Signal BN, BDE, or CMD; Military Intelligence BDE, Regional Cyber Center (RCC), NETCOM, ARCYBER, DISA
- (iv) Info Sys Engr in a SOF/GPF/CA/PSYOPS, FSB, MFSB, BCT, Division, Commands, AAMDC, ASCC
- (v) Knowledge Sys Engr in a Division, AAMDC, ASCC
- (vi) US Military Academy (USMA), Instructor
- (vii) 1st and 2nd Information Operations (IO) Battalion
- (viii) 2nd IO Battalion, Detachment Co Commander
- (ix) 75th Ranger Regiment, Info Sys Engr
- (x) Security Force Assistance Brigade (SFAB)
- (xi) USA Enterprise Cloud Management Agency
- (xii) USA Joint Modernization Command (JMC)
- (c) Broadening Assignments. Due to the technical nature and need for early development in this AOC, FA 26 captains usually will not serve in branch immaterial or other assignments outside the AOC. However, captains may be selected for fully funded Advanced Civilian Schooling (ACS) or Training with Industry (TWI) in an AOC 26A or AOC 26B related discipline upon being ready for the next promotion board. Graduates of either program will incur a follow-on utilization assignment in an Army Educational Requirements System (AERS) coded position. Additional education opportunities include the Computer Network Operations Development Program (CNODP) and other Army-supported education/fellowship programs.
- (d) Self-development. AOC 26A captains should pursue aggressive self-development through graduate-level education, industry certifications, and completion of online training related to networking, computer science, cyberspace operations, cybersecurity, and other relevant disciplines. Due to the rapid changes in technology, captains are encouraged to join professional organizations and subscribe to journals to stay current with industry trends and advancements. Captains are also encouraged to conduct research and write articles for professional and military publications. Obtaining the Certified Information Systems Security

Professional (CISSP) certification is highly encouraged for AOC 26A, and Certified Information Security Manager (CISM) for AOC 26B satisfies cybersecurity certification requirements for Information Assurance Technician (IAT) and Information Assurance Manager (IAM) Level III positions. No-cost IT training is available through Army eLearning (Skillport) (https://usarmy.skillport.com), LandWarNet (https://lwn.army.mil), the Federal Virtual Training Environment (https://edvte.usalearning.gov/), and Army Credentialing Opportunities On-Line (COOL) at https://www.cool.osd.mil/army/index.htm. Additional cost and no-cost civilian IT training and education courses are available via the internet.

(e) Desired Experience.

- (1) AOC 26A captains should demonstrate competency in basic network engineering, assessment, managing, and planning and experience in conducting current network operations, including dynamic network defense and security. Assignments should enable captains to gain knowledge, skills, and behaviors to accurately evaluate technologies and prepare technical specification documents based on those evaluations. Desired experience at the rank of captain is a minimum of 24 months in at least one AOC 26A typical developmental assignment to gain the necessary technical skills and operational background.
- (2) AOC 26B captains should demonstrate competency in information systems and services planning, analyzing, and management, and experience in conducting information systems security. Assignments should enable captains to acquire knowledge, skills, and abilities in information systems management, information security, and information dissemination management in support of an immediate headquarters. Desired experience at the rank of captain is 12 to 24 months in at least one AOC 26B typical developmental assignment to gain the necessary technical skills and operational background.

(4) Major.

- (a) Education. All FA 26 majors must complete Intermediate Level Education (ILE). ILE for functional area officers includes the ILE Common Core and the AOC 26A or AOC 26B qualification course. A limited number of AOC 26B officers from a cohort year group will be competitively selected to attend resident CGSC at Fort Leavenworth, KS. If not previously qualified as a captain, FA 26 majors must complete the functional area qualification training requirement outlined in paragraph 3c(1). Officers can complete functional area qualification training and ILE Common Core in any sequence.
- (b) Typical Developmental Assignments. All FA 26 positions are key developmental (KD) assignments. Officers should strive to complete an aggregate of 24 to 36 months in typical developmental assignments before considering more senior major broadening assignments. Typical developmental assignments at major include:

(1) AOC 26A.

- (i) AOC 26A Branch Manager, HRC
- (ii) AOC 26A Career Program Manager, U.S. Army Signal School
- (iii) 60th Signal BN (Offensive Cyber Operations)
- (iv) Cyberspace Operations and Integration Center
- (v) Instructor, 26A Course
- (vi) Network Cross Functional Team, Requirements Officer
- (vii) Sr Network Sys Engr in a Signal Brigade or Command, Military Intelligence Brigade, Division, RCC, ARCYBER, Corps, DISA, ASCC, COCOM, Joint, or higher commands
- (viii) US Military Academy (USMA), Instructor
- (ix) White House Communication Agency (WHCA)
- (x) North American Aerospace Defense Command
- (xi) PEO, Enterprise Info Sys, Sr Ntwk Sys Engr
- (xii) USA Artificial Intelligence Integration Center

(2) AOC 26B.

(i) AOC 26B Branch Manager, HRC

- (ii) AOC 26B Career Program Manager, U.S. Army Signal School
- (iii) 60th Signal BN (Offensive Cyber Operations)
- (iv) Cyberspace Operations and Integration Center
- (v) Instructor, 26B Course
- (vi) Network Cross Functional Team, Sr Info Sys Engr
- (vii) Sr Info Assurance Officer in a Division, Command, ASCC
- (viii) Sr Info Sys Engr in a Signal BDE, Division, RCC, NETCOM, ARCYBER, DISA, Commands, ASCC, or higher commands
- (ix) Sr Knowledge Sys Engr in a Corps, ASCC
- (x) US Military Academy (USMA), Instructor
- (xi) White House Communication Agency (WHCA)
- (xii) 2nd IO BN, EOC Team Lead
- (xiii) National Ground Intelligence Center (NGIC)
- (xiv) USA Enterprise Cloud Management Agency
- on network systems engineering. AOC 26B majors' training, education, and development should focus on information systems engineering. Due to the technical nature of these AOCs, AOC 26A and AOC 26B majors usually will not serve in branch immaterial or other assignments outside of the AOC. Generally, FA 26 majors should seek repetitive assignments as FA 26, striving for various experiences at different levels of operation (e.g., tactical, operational, strategic, joint, and multinational). Majors may be selected for fully funded ACS or TWI programs. Graduates of either program will incur a follow-on utilization assignment in an Army Educational Requirements System (AERS) coded position. In addition, some officers may attend Ph.D. programs with utilization assignments as a USMA professor. FA 26 officers are encouraged to seek opportunities that enhance the officer's understanding of the global network environment associated with JADO assignments. Successful completion of JPME II is encouraged. Additional education opportunities include the Defense Advanced Research Projects Agency Service Chiefs Internship and other Army-supported education/fellowship programs.
- (d) Self-development. FA 26 majors should pursue self-development programs to fully master all aspects of network information systems and information systems engineering, including JADO operations. FA 26 majors should pursue aggressive self-development through graduate-level education, industry certifications, and completion of online training related to networking, computer science, cyberspace operations, cybersecurity, and other relevant disciplines. Majors need to stay current on industry trends through trade associations, journals, and participation in DOD and industry-sponsored forums focused on evolving IT issues and advances. Majors are also encouraged to conduct research and write articles for professional and military publications. Obtaining the Certified Information Systems Security Professional (CISSP) certification is highly encouraged for AOC 26A and Certified Information Security Manager (CISM) for AOC 26B. In addition, they satisfy information assurance certification requirements for Information Assurance Technician (IAT) and Information Assurance Manager (IAM) Level III positions. No-cost IT training is available through Army eLearning (Skillport) (https://usarmy.skillport.com), LandWarNet (https://lwn.army.mil), the Federal Virtual Training Environment (https://fedvte.usalearning.gov/), and Army Credentialing Opportunities On-Line (COOL) at https://www.cool.osd.mil/army/index.htm. Additional cost and no-cost civilian IT training and education courses are available via the internet. In addition, some candidates may pursue a graduate degree in a STEM discipline but prefer an IT-related discipline.

(e) Desired Experience.

(1) AOC 26A majors should demonstrate competency and advanced skills in network engineering, assessment, managing, planning, and experience in conducting current network operations and defending/securing networks. In addition, field grade development should enable AOC 26As to hone knowledge, skills, and abilities in accurately evaluating technologies and preparing technical specification documents based on these evaluations. Successful completion of ILE and 24 to 36 months of experience in increasing responsibility and professional development assignments will prepare majors for service as a lieutenant colonel.

(2) AOC 26B majors should demonstrate advanced competency in implementing and maintaining local area networks, developing, and planning IT architectures, and implementing information assurance concepts and principles. Field grade development should enable AOC 26Bs to hone knowledge, skills, and abilities to perform system analysis, develop response procedures, perform accreditation processes, and integrate IT systems in all JADO environments. Successful completion of ILE and 24 to 36 months of experience in increasing responsibility and professional development assignments will prepare majors for service as a lieutenant colonel.

(5) Lieutenant Colonel.

- (a) *Education*. There is no additional educational requirement. However, a Master's of Science degree in an IT-related field is highly encouraged. Successful completion of JPME II is desired.
- (b) Typical Developmental Assignments. All FA 26 lieutenant colonel positions are considered key developmental (KD) assignments. Certain positions are designated as Key Nominative Billets (KNB) or Centralized Selection List (CSL) billets, and officers are centrally selected to fill these positions. Eligible officers will be notified by MILPER message, and all are encouraged to compete when in the zone of consideration for these assignments. Officers should strive to complete an aggregate of 24 to 36 months in typical developmental assignments before consideration for more senior lieutenant colonel broadening assignments. Typical developmental or KNB/CSL (*) assignments at lieutenant colonel include:
 - (1) AOC 26A and AOC 26B.
 - (i) *Commander, 2nd Information Operations Battalion
 - (ii) *Director, Regional Cyber Center (RCC)
 - (2) AOC 26A.
 - (i) 2d Information Operations Battalion
 - (ii) Chief Network Sys Engr in a Signal Brigade, Regional Cyber Center (RCC), NETCOM, ARCYBER, DISA, Corps, ASCC, COCOM, Joint, DOD Level
 - (iii) Cyberspace Operations and Integration Center
 - (iv) The Office of the Chief Information Officer
 - (v) USA Joint Modernization Command (JMC), Chief, Network & Cyber Branch
 - (vi) USA Operational Test Command, Sr Test Officer
 - (vii) USA Artificial Intelligence Integration
 - (3) AOC 26B.
 - (i) 2nd IO BN, Detachment Chief, Cyber OPFOR
 - (ii) Chief Info Assurance Officer at DISA, Corps
 - (iii) Chief Info Sys Engr in a Signal BDE, NETCOM, DISA, Corps, ASCC, or higher commands
 - (iv) Cyberspace Operations and Integration Center
 - (v) The Office of the Chief Information Officer
 - (vi) USA Joint Modernization Command (JMC), Branch Chief MSN CMD SYS & APPS
 - (vii) John F. Kennedy Special Warfare Center and School, G6/CIO
 - (viii) National Defense University Military Faculty
- (c) Broadening Assignments. Generally, FA 26 lieutenant colonels should continue to seek repetitive assignments in their AOC, striving for various experiences at different levels of operation and concentrating their professional development in network systems engineering and information systems engineering. At lieutenant colonel, FA 26 officers may obtain broadening experience through TWI and Army fellowships. Select AOC 26B officers may serve broadening assignments within branch immaterial positions or related cross-branch/FA positions within the Signal Regiment. Based upon requirements, AOC 26A lieutenant colonels might be selected as Professors of Military Science. In addition, some AOC 26B lieutenant colonels may be chosen to participate in an IT-related Ph.D. program. All FA 26 officers are encouraged to seek

broadening opportunities that enhance the officers' understanding of the global network environment associated with JADO assignments to include achieving Joint Qualified Officer status. Additional education opportunities include the Defense Advanced Research Projects Agency Service Chiefs Internship and other Army-supported education/fellowship programs.

(d) Self-development. AOC 26A Lieutenant colonels should pursue aggressive self-development through graduate-level education, industry certifications, and completion of online training and courses related to networking, computer science, cyberspace operations, cybersecurity, and other relevant disciplines. Lieutenant colonels need to stay current on industry trends through trade associations, journals, and participation in DOD and industry-sponsored forums focused on evolving IT issues and advancements. Lieutenant colonels are also encouraged to research and write articles for professional and military publications. AOC 26B lieutenant colonels should complete the CIO, or CISO course offered free by the National Defense University, iCollege either in resident or nonresident attendance. No-cost IT training is available through Army eLearning (Skillport) (https://usarmy.skillport.com), LandWarNet (https://www.army.mil), and the Federal Virtual Training Environment (https://isarmy.skillport.com). It is also encouraged that officers obtain the Information Technology Infrastructure Library Foundations certification. Additional cost and no-cost IT training and education courses are available via the internet and Army Credentialing Opportunities On-Line (COOL) at https://www.cool.osd.mil/army/index.htm. Some officers may pursue a Ph.D. in a STEM discipline but prefer an IT-related discipline.

(e) Desired Experience.

- (1) AOC 26A lieutenant colonels should demonstrate a high degree and mastery of telecommunications systems engineering. AOC 26A officers in the grade of lieutenant colonel serve as senior leaders and managers throughout the Army providing technical engineering guidance, applying network integration experience, emerging technology vision, and overall Soldier mentorship mastered over many years in uniform as a network engineer. It is expected that assignments of increasing responsibility will continue to enhance their leadership skills and technical competencies in leading, managing, and integrating enterprise-wide communications networks and information services for the Army and JADO organizations. Twenty-four (24) to thirty-six (36) months of experience in assignments of increasing responsibility will prepare lieutenant colonels for selection to colonel.
- (2) AOC 26B lieutenant colonels should continue to broaden their experiences and seek assignments that enhance their technical skills, knowledge, and executive leadership abilities. They are generally assigned to senior leadership and staff positions to fully use their Army knowledge and their information systems engineering experience. AOC 26B lieutenant colonels should strive to serve in assignments that will broaden their previous experience through leading organizations that provide information systems and services throughout the Army and JADO organizations. They should demonstrate competencies in performing system analysis, developing and planning IT architectures, implementing information assurance concepts and principles, developing response procedures, performing accreditation processes, and integrating IT systems with JADO organizations. Successful completion of ILE and 24 to 36 months of experience in increasing responsibility and professional development assignments will prepare AOC 26B lieutenant colonels for service as a colonel.

AOC 26A Network Systems Engineering Development Model (AC) 10 YRS SVC 20 21 22 - PZ LTC - PZ MA. PZLTC BOARD OS CSL BOARD · PZ COL Promotion CPT RETIREMENT ELIGIBLE BOARD BOARD Boards 1LT CPT 2LT MAJ · O6 C SL BOARD BOARD ·ILE BOARD COMPANY GRADE OFFICER FIELD GRADE OFFICER Institutional **Professional Military Education** BOLC SCCC ILE SSC NSEC **Functional Training** · Airborne | Air Assault | Ranger · S6 Staff Course Joint C4 Planners Course · Airborne | Air Assault | Ranger · How the Army Runs (HTAR) Joint Courses Mission CMD Digital Master Gunner Operational **Developmental Assignments** 60th Signal Battalion (Offensive Cyber Operations)
 Cyber Protection Team (CPT)
 Cyberspace Operations and Integration Center 60th Signal Bn (Offensive Cyber Operations)
 Cyberspace Operations and Integration 2d Information Operations Battalion
 Chief Network Sys Engrin a Signal Brigade,
 Regional Cyber Center(RCC), NETCOM,
 ARCYBER, DISA, Corps, ASCC, COCOM, Join VTIP Network Sys Engr in a Signal Battalion, Brigade or Command; Military Intelligence Brigade, Division, Regional Cyber Center (RCC), NETCOM, Commands, AAMDC, ASCC Network Cross Functional Team. Network Cross Functional Team, Requirements Officer Sr Network Sys Engrin a Signal Brigade or Command, Military Intelligence Brigade Division, RCC, ARCYBER, Corps, DISA, ASCC, COCOM, Joint, or higher commands 1LT (P) and Cyberspace Operations and Integration Cer The Office of the Chief Information Officer USA Information System Engineering Command, higher **Key Nominative Billets** Network Sys Engr White House Communications Agency (WHCA) WHCA Commander at 2nd Information Operations Bn Director, RCC **Broadening Assignments** ACS | Fellowships | Train with Industry AOC 26A Branch Manager, HRC AOC 26A Career Program Manager, CCoE Advance Civil Schooling (ACS) ACS DARPA Internship Fellowships | Train with Industry National Security Agency (NSA) Computer Network Operations Development Program NETCOM Headquarters USA Cyber Warfare Support Battalion, OIC, Infrastructure Support Fellowships DARPA Internship Instructor, 26A Course USA Artificial Intelligence Integration
USA Joint Modernization Command (JMC),
Chief, Network & Cyber Branch
USA Operational Test Command, SrTest North American Aerospace Defense Cmd PEO, Enterprise Info Sys, Sr Ntwk Sys Engr Infrastructure Support
USA Operational Test Command, Test C
US Military Academy (USMA), Instructor nand, Test Officer U SA Artificial Intelligence Integration Center
 U SMA, Instructor Officer Self-Development (Army IgnitED | Army COOL | Army eLearning (Skillport) | FedVTE | LWN eU | Civilian IT Conferences | Webinars | TechNet) • UNDERGRADUATE degree in STEM
• UNDERGRADUATE degree in STEM discipline discipline (IT degree preferred) GRADUATE degree in STEM discipline (IT degree preferred) · GRADUATE degree in STEM discipline(IT degree preferred) Recommended Credentialing ITIL Foundations
 L6 Sigma YellowBelt L6 Sigma Green Belt
 CISSP
 L6 Sigma Black Belt · Lean/Six(L6) Sigma White Belt (1LT)

Figure 1. AC AOC 26A Network Systems Engineering Development Model

For a comprehensive list of operational assignments, visit the Army Career Tracker (ACT) website https://actnow.army.mil/ and PAM 611-21.

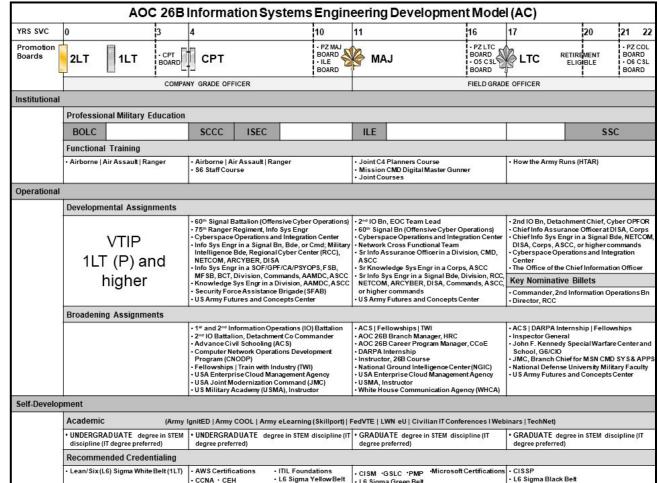


Figure 2. AC AOC 26B Information Systems Engineering Development Model

For a comprehensive list of operational assignments, visit the Army Career Tracker (ACT) website https://actnow.army.mil/ and PAM 611-21.

d. Information Network Engineering (AOC 26Z) Development.

(1) Colonels.

- (a) Education. Required industry certificates include Information Technology Infrastructure Library (ITIL) Foundations. AOC 26Z colonels should complete SSC either resident or nonresident. Successful completion of JPME II is desired.
- (b) Typical Developmental Assignments. All AOC 26Z colonel positions are considered key developmental (KD) assignments. Certain positions are designated as Key Nominative Billets (KNB), and officers are centrally selected to fill these positions. Eligible officers will be notified by MILPER message and are encouraged to compete within the zone of consideration for these assignments. Officers should strive to complete an aggregate of 24 to 36 months in typical developmental assignments before considering them for more senior colonel broadening assignments. Typical developmental or KNB (*) assignments at colonel include:
 - (i) *Commander, Command and Control Support Agency, HQDA G3/5/7.
 - (ii) *TRADOC Proponent Office Army Training Information Systems (TPO ATIS).
 - (iii) Chief, Tactical Network Integration Division, The Office of Deputy Chief of Staff, G6
 - (iv) CIO/CTO at Army Staff
 - (v) CIO/CTO at Joint Staff
 - (vi) Commander at NATO Communications and Information Agency

- (vii) Director/Deputy Director at ACOM / ASCC / DRU / HQDA / Joint / DOD level / Multinational
- (viii) Division Chief, Plans & Strategy, The Office of the Chief Information Officer (OCIO)
- (ix) Executive assistant at ACOM / ASCC / DRU / HQDA / Joint / DOD level / Multinational
- (x) G6, Cyber Center of Excellence (CCoE)
- (xi) Senior staff analyst at ACOM / ASCC / DRU / HQDA / Joint / DOD level / Multinational
- (xii) USA Communication Info System Activity, Pacific
- (xiii) USA Inspector General Agency
- (c) Broadening Assignments. AOC 26Z colonels should serve in AOC 26Z or AOC 25Z assignments striving to achieve a variety of engineering and executive-level leadership experiences in Army, joint, and multinational organizations. Additionally, selected officers may serve broadening assignments within branch immaterial positions or related cross-branch/FA positions. Joint experience is essential to the Army and is highly desirable for individual officers to compete for advancement into senior leadership positions.
- (d) Self-development. All AOC 26Z colonels should continue to pursue continuing graduate-level education and industry certifications. Officers also need to stay current on industry trends through trade associations, journals, and participation in DOD and industry-sponsored forums focused on evolving IT issues and advances. Some candidates may pursue completion of a Ph.D. in an IT-related discipline.
- (e) Desired Experience. As senior practitioners in AOC 26Z, colonels constitute the elite of the Information Network Engineering officer corps. Their years of accumulated training, education, and progressive assignments include a level of expertise that enables them to serve in executive-level leadership positions on ACOM/ASCC/DRU, HQDA, joint, and DOD staff. The AOC 26Z colonels should strive for assignments that balance and round out their field grade experience with a mix of tactical, operational, and strategic assignments. Selected officers may be assigned to high-performance AOC 26Z colonel positions as determined by the Chief of Staff of the Army. Successful completion of SSC plus 24 to 36 months of AOC 26Z experience will prepare colonels for service at the next higher grade. Field grade assignments should include Army Staff, joint, and operational deployment experiences to be competitive for selection to general officer.

AOC 26Z Information Network Engineering Professional Development Model (AC) YRS SVC 22 26 30 COL SENIOR FIELD GRADE OFFICER Institutional **Professional Military Education** SSC **Functional Training** Operational **Developmental Assignments Key Nominative Billets** Commander, Command and Control Support Agency, HQDA G3/5/7
 TRADOC Proponent Office (TPO) Army Training Information System (ATIS) · Chief, Tactical Network Integration Division, The Office of Deputy Chief of Staff, G6 Division Chief, Plans & Strategy, The Office of the Chief Information Officer (OCIO) G6, Cyber Center of Excellence(CCoE)
 USA Communication Info System Activity, Pacific **Broadening Assignments** CCoE Liaison Officer at Pentagon
 CIO/CTO at joint staffs Commander at NATO Communications and Information Agency Defense Advanced Research Project Agency (DARPA)
 Director/Deputy Director at ACOM / ASCC / DRU / HQDA / Joint / DOD level / Multinational
 Executive assistant at ACOM / ASCC / DRU / HQDA / Joint / DOD level / Multinational Senior staff analyst at ACOM / ASCC / DRU / HQDA / Joint / DOD level / Multinational
 USA Inspector General Agency Self-Development Academic (Army IgnitED | Army COOL | Army eLearning (Skillport) | FedVTE | LWN eU | Civilian IT Conferences | Webinars | TechNet) PhD degree in STEM discipline (IT degree preferred) Recommended Credentialing CISSP
 L6 Sigma Master Black Belt

Figure 3. AC AOC 26Z Information Network Engineering Development Model

For a comprehensive list of operational assignments, visit the Army Career Tracker (ACT) website https://actnow.army.mil/ and PAM 611-21.

4. Information Network Engineering Reserve Component Officers.

a. General Career Development. The Army National Guard (ARNG) and United States Army Reserve (USAR) Information Network Engineering officers serve the same role and mission as their active component (AC counterparts. However, the unique nature of the reserve component (RC) Soldier's role as a "Citizen Soldier" poses a significant professional development challenge. To fulfill their wartime mission of providing the communications network and information services necessary at all levels of command in support of the unified land operation, Functional Area (FA) 26 officers rely upon extensive interaction between the AC and the RC, maintaining skills through civilian education, industry organizations and certifications, and online collaboration tools.

b. FA 26 Qualification and Development Opportunities.

(1) Geographic Dispersion. The geographic dispersion of Information Network Engineering positions constrains RC career progression in FA 26. As a result, few RC FA 26 officers will achieve the minimum career progression goals of the AA. RC FA 26 officers should be willing to rotate between assignments with USAR Troop Program Units (TPU) organizations, ARNG units, and Individual Mobilization Augmentee (IMA) positions to meet professional development objectives. Typically, there will be an insufficient number of positions within a geographic area to serve continuously in FA 26 assignments. In the event geographic constraints are such that assignment to an FA 26 position is not possible, officers should seek an assignment in their basic branch or a related FA required in the geographic region.

- (2) Assignments. Information Network Engineering officer assignments in the RC are split almost evenly between TOE and TDA organizations. Their duties and responsibilities are fundamentally the same as their AC counterparts except for those personnel management, administrative and operational requirements unique to the ARNG and USAR. Officers may be assigned to the IRR when unable to accept a TPU or ARNG unit assignment. Officers in the IRR may request assignment to a reinforcement-training unit, an IMA position, a tour of active duty for special work, annual training, or active duty for training. Officers in the Individual Ready Reserve (IRR) may meet Professional Military Education (PME) requirements by requesting active duty for training. All RC officers, major and below with less than 15 years of active Federal service, may request Active Guard Reserve (AGR) assignment.
- (3) Guidance. USAR officers should seek the advice of the senior personnel management advisor for more information on current authorizations, schooling, and career development. In addition, the ARNG officers are advised to contact their respective state senior signal officer (J-6) and personnel management office. Another source of information is the Reserve Component Affairs Office (RCAO) Deputy Assistant Commandants for USAR and ARNG affairs located at Fort Gordon. This office maintains a Web page on the AKO with current information and points of contact.
- c. Professional Development. There are four phases of professional development for RC Information Network Engineering officers. The phases related to the military rank includes broadly based goals and career objectives at each rank so that an officer may expand capabilities and optimize performance. Information Network Engineering life-cycle development objectives, RC requirements, and an officer's strengths, priorities, civilian experience, private and service provided education, and performance influence their professional development. Additionally, all FA 26 RC Officers must qualify for a Top-Secret/Special Compartmented Information (TS/SCI) security clearance eligibility effective 1 October 2012 for all new accessions into FA 26. Current FA 26 RC officers must obtain a TS/SCI security eligibility effective 1 October 2017 for all officers classified in FA 26B prior to 1 October 2012. FA 26 officers should immediately obtain a TSC/SCI security clearance upon functional designation into Network Systems Engineering (AOC 26A) or Information Systems Engineer (AOC 26B) functional area designation. Officers will be transferred back to their basic branch who cannot obtain or maintain this requirement.

(1) Captain.

- (a) AOC 26A. The AOC 26A RC officer candidates have the exact prerequisites as the AC. In addition, they must have completed their basic branch CCC prior to development in AOC 26A, preferably the SCCC. Initial functional area qualification requires successful completion of the Information Systems Engineering Course (ISEC), followed by the Network Systems Engineering Course (NSEC). Attendance at the ISEC may be waived based on prior equivalent education/experience. Typical TOE positions include communication, electronics engineer, and systems engineer staff officer. Typical TDA positions include signal support officer, systems engineer, and communications-electronics staff officer. Note: The CCC is required for promotion to major.
- (b) AOC 26B. The AOC 26B RC officer candidates have the same perquisites as the AC. They must have an undergraduate or graduate degree in information systems management, computer systems management, information assurance, computer science, computer systems engineering, IT management, or a related discipline. They must also have completed their basic branch CCC prior to development in AOC 26B, preferably the Signal CCC. Initial functional area qualification requires successful completion of the Information Systems Management Course phases 1 and 2. Typical developmental assignments include Systems Engineering officer in tactical organizations at brigade, division, corps, higher levels, and strategic and sustainment organizations. Note: The CCC is required for promotion to major.

(2) Major.

(a) AOC 26A. The primary development objective of an AOC 26A major in the RC is to strengthen network systems engineering skills. During this phase, officers must complete ILE Common Core for promotion to lieutenant colonel. AOC 26A majors are highly encouraged to pursue a specialty-related graduate degree and obtain a professional engineering license. Network Systems Engineering majors should serve a minimum

of 24 months cumulative service in a Network Systems Engineering operations or operational support major position.

(b) AOC 26B. The primary professional development objective of an AOC 26B major in the RC is to strengthen information systems engineering knowledge, skills, and behaviors. During this phase, officers must complete ILE Common Core for promotion to lieutenant colonel. In addition, AOC 26B majors are highly encouraged to pursue a specialty-related graduate degree and obtain professional certifications from the IT industry. Information Systems Engineering majors should serve a minimum of 24 to 36 months of cumulative service in one or more AOC 26B positions.

(3) Lieutenant Colonel.

- (a) AOC 26A. Lieutenant colonels can assign senior staff positions in various diverse and challenging FA-related positions. AOC 26A officers should seek PME at the SSC level. Network Systems Engineering RC Lieutenant Colonels are eligible for selection to the rank of colonel upon completion of the requisite service requirements listed in Part One of DA PAM 600-3. Lieutenant colonels remain eligible for the promotion if they continue to serve active status and meet selection criteria. AOC 26A Lieutenant colonels should serve a minimum of 48 months cumulative service in a Network Systems Engineering Support position.
- (b) AOC 26B. Lieutenant colonels can assign senior staff positions in various diverse and challenging FA-related positions. AOC 26B officers should seek PME at the SSC level. Information Systems Engineering RC lieutenant colonels are eligible for selection to the rank of colonel upon completion of the requisite service requirements listed in Part One of DA PAM 600-3. Lieutenant colonels remain eligible for the promotion if they continue to serve active status and meet selection criteria. AOC 26B lieutenant colonels should serve a minimum of 48 to 60 months of cumulative service in AOC 26B positions.

AOC 26A Network Systems Engineering Development Model (RC) 10 YRS SVC 20 21 22 PZLTC BOARD O5 CSL LTC - PZ MAJ - PZ COL Promotion BOARD 🍣 - CPT BOARD RETIREMENT Boards 1LT CPT 2LT MAJ - ILE - 06 CSL BOARD COMPANY GRADE OFFICER FIELD GRADE OFFICER Institutional **Professional Military Education** BOLC SCCC NSEC ILE SSC **Functional Training** • Airborne | Air Assault | Ranger • S6 Staff Course · Airborne | Air Assault/ Ranger Joint C4 Planners Course · How the Army Runs (HTAR) Joint Courses Mission CMD Digital Master Gunner Operational **Developmental Assignments** Division Network Systems Engineer
 Information Tech Team Leader, USAR
 Network Plans Officer in a COCOM
 Senior Network Systems Engineer in a Signal Brigade, Theater Signal CMD, Division, COCOM, ASCC
 Telecom Systems Engineer, NGB Network Systems Engineer in a HQ/STB Sustainment CMD, Air Missile Def CMD, Division CE staff officer COCOM VTIP (AGR) Network Systems Engineer in a HQ/S1B Sustainment CMD, Air Missie Def CMD, Division, COCOM Network Systems Engineer in Joint Chief of Staff Network Systems Engineer in a Signal Battalion, Theater Signal CMD, Psychological Operations White House Communications Agency (WHCA) Chief, Engineering Branch in a Theater Sign CMD
Chief, Exercise C4 Support Branch in Joint
Chief of Staff
Chief Network Systems Engineer in Mission
Support Element **COMPO 2 & 3** contact Signal (COMPO 2 & 3) Staff Officer in CIO/G6 Career Manager **Broadening Assignments** DARPA Internship (Reserve | AGR) DARPA Internship (Reserve | AGR) USAR Emergency Preparedness Liaison Offic Self-Development Academic (Army IgnitED | Army COOL | Army eLearning (Skillport) | FedVTE | LWN eU | Civilian IT Conferences | Webinars | TechNet) • UNDERGRADUATE degree in STEM discipline (IT degree preferred) GRADUATE degree in STEM discipline (IT degree preferred) • GRADUATE degree in STEM discipline (IT degree preferred) Recommended Credentialing Lean/Six(L6) Sigma White Belt (1LT) - CCNA • L6 Sigma YellowBelt - CCNP · CISSP CEH
ITIL Foundations · L6 Sigma Black Belt

Figure 4. RC AOC 26A Network Systems Engineering Development Model

For a comprehensive list of operational assignments, visit the Army Career Tracker (ACT) website https://actnow.army.mil/.

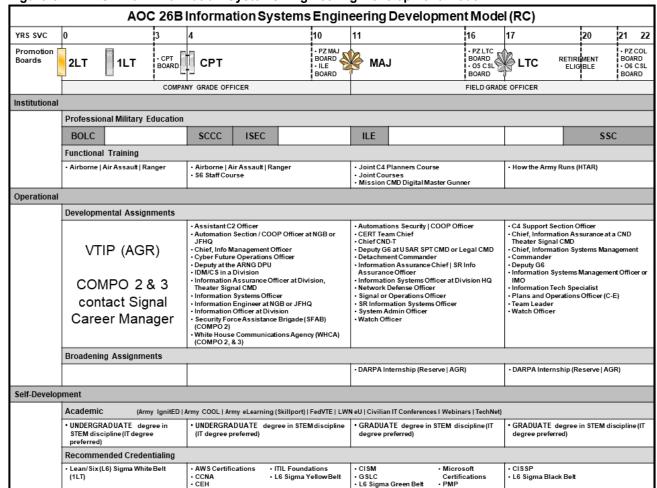


Figure 5. RC AOC 26B Information Systems Engineering Development Model

For a comprehensive list of operational assignments, visit the Army Career Tracker (ACT) website https://actnow.army.mil/.

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(4) Colonel.

(a) AOC 26Z Colonel. During this phase, the primary objective for officers is maximum use of the officer's technical and tactical capabilities, managerial skills, and executive skills in positions of higher responsibility. RC Information Systems Engineering colonels should serve a minimum of 72 months of cumulative service in AOC 26A or AOC 26B positions.

AOC 26Z Information Network Engineering Professional Development Model (RC)

YRS SVC 22 26

COL

SENIOR FIELD GRADE OFFICER

Institutional

Professional Military Education
SSC

Functional Training

Operational

Figure 6. RC AOC 26Z Information Network Engineering Development Model

Developmental Assignments

Recommended Credentialing

L6 Sigma Master Black Belt
 PMP

Self-Development

Academic

· CISSP

• Enterprise Operations Officer, USAR Broadening Assignments

PhD degree in STEM discipline (IT degree preferred)

For a comprehensive list of operational assignments, visit the Army Career Tracker (ACT) website https://actnow.army.mil/.

(Army IgnitED | Army COOL | Army eLearning (Skillport) | FedVTE | LWN eU | Civilian IT Conferences | Webinars | TechNet)

d. Constructive Credit. RC officers (captain and above) who acquire 26A Network System Engineering or 26B Information Systems Engineering knowledge, skills, and behaviors through civilian industry experience or education and training may apply for constructive credit and award of the AOC 26A or AOC 26B functional designation. Officers may apply for constructive credit through the Office Chief of Signal (Proponent Office) at Fort Gordon, GA.

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